

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.

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## 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.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Endless Frontier Act”.

5 **SEC. 2. FINDINGS.**

6 Congress finds the following:

1           (1) For over 70 years, the United States has  
2           been the unequivocal global leader in scientific and  
3           technological innovation, and as a result the people  
4           of the United States have benefitted through good-  
5           paying jobs, economic prosperity, and a higher qual-  
6           ity of life. Today, however, this leadership position  
7           is being eroded and challenged by foreign competi-  
8           tors, some of whom are stealing intellectual property  
9           and trade secrets of the United States and aggres-  
10          sively investing in fundamental research and com-  
11          mercialization to dominate the key technology fields  
12          of the future. While the United States once led the  
13          world in the share of our economy invested in re-  
14          search, our Nation now ranks 9th globally in total  
15          research and development and 12th in publicly fi-  
16          nanced research and development.

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

1 vanced communications, and advanced manufac-  
2 turing—will be the superpower of the future.

3 (3) The Federal Government must catalyze  
4 United States innovation by boosting fundamental  
5 research investments focused on discovering, cre-  
6 ating, commercializing, and producing new tech-  
7 nologies to ensure the leadership of the United  
8 States in the industries of the future.

9 (4) The distribution of innovation jobs and in-  
10 vestment in the United States has become largely  
11 concentrated in just a few locations, while much of  
12 the Nation has been left out of growth in the innova-  
13 tion sector. More than 90 percent of the Nation’s in-  
14 novation sector employment growth in the last 15  
15 years was generated in just 5 major cities. The Fed-  
16 eral Government must address this imbalance in op-  
17 portunity by partnering with the private sector to  
18 build new technology hubs across the country,  
19 spreading innovation sector jobs more broadly, and  
20 tapping the talent and potential of the entire Nation  
21 to ensure the United States leads the industries of  
22 the future.

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

1 is a primary driver of the economy of the United  
2 States and enhances the Nation’s security.

3 **SEC. 3. NATIONAL SCIENCE AND TECHNOLOGY FOUNDA-**  
4 **TION.**

5 (a) REDESIGNATION OF NATIONAL SCIENCE FOUN-  
6 DATION AS NATIONAL SCIENCE AND TECHNOLOGY FOUN-  
7 DATION.—

8 (1) IN GENERAL.—Section 2 of the Act of May  
9 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C.  
10 1861), is amended—

11 (A) in the section heading, by inserting  
12 “AND TECHNOLOGY” after “SCIENCE”; and

13 (B) by striking “the National Science  
14 Foundation” and inserting “the National  
15 Science and Technology Foundation”.

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

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

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

3 (2) in the first sentence—

4 (A) by striking “a Deputy Director” and  
5 inserting “2 Deputy Directors”; and

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

9 (3) in the third sentence, by striking “The Dep-  
10 uty Director shall receive” and inserting “Each Dep-  
11 uty Director shall receive”;

12 (4) by inserting after the third sentence the fol-  
13 lowing: “The Deputy Director for Technology shall  
14 oversee, and perform duties relating to, the Direc-  
15 torate for Technology of the Foundation, as estab-  
16 lished under section 8A, and the Deputy Director for  
17 Science shall oversee, and perform duties relating to,  
18 the other activities and directorates supported by the  
19 Foundation.”; and

20 (5) in the last sentence, by striking “The Dep-  
21 uty Director shall act” and inserting “The Deputy  
22 Director for Science shall act”.

23 (c) ESTABLISHMENT OF DIRECTORATE FOR TECH-  
24 NOLOGY.—The Act of May 10, 1950 (64 Stat. 149, chap-  
25 ter 171; 42 U.S.C. 1861 et seq.), is amended—

1           (1) in section 8 (42 U.S.C. 1866), by inserting  
2           at the end the following: “Such divisions shall in-  
3           clude the Directorate for Technology established  
4           under section 8A.”; and

5           (2) by inserting after section 8 the following:

6   **“SEC. 8A. DIRECTORATE FOR TECHNOLOGY.**

7           “(a) DEFINITIONS.—In this section:

8           “(1) DEPUTY DIRECTOR.—The term ‘Deputy  
9           Director’ means the Deputy Director for Tech-  
10          nology.

11          “(2) DESIGNATED COUNTRY.—The term ‘des-  
12          ignated country’ means a country that has been ap-  
13          proved and designated in writing by the President  
14          for purposes of this section, after providing—

15                 “(A) not less than 30 days of advance noti-  
16                 fication and explanation to the relevant con-  
17                 gressional committees before the designation;  
18                 and

19                 “(B) in-person briefings to such commit-  
20                 tees, if requested during the 30-day advance no-  
21                 tification period described in subparagraph (A).

22          “(3) DIRECTORATE.—The term ‘Directorate’  
23          means the Directorate for Technology established  
24          under subsection (b).

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

5           “(5) KEY TECHNOLOGY FOCUS AREAS.—The  
6           term ‘key technology focus areas’ means the areas  
7           included on the most recent list under subsection  
8           (c)(2).

9           “(6) RELEVANT CONGRESSIONAL COMMIT-  
10          TEES.—The term ‘relevant congressional commit-  
11          tees’ means—

12                 “(A) the Committee on Armed Services,  
13                 the Committee on Commerce, Science, and  
14                 Transportation, the Committee on Appropria-  
15                 tions, the Committee on Foreign Relations, and  
16                 the Select Committee on Intelligence of the  
17                 Senate; and

18                 “(B) the Committee on Armed Services,  
19                 the Committee on Science, Space, and Tech-  
20                 nology, the Committee on Appropriations, the  
21                 Committee on Foreign Affairs, and the Perma-  
22                 nent Select Committee on Intelligence of the  
23                 House of Representatives.

24          “(b) ESTABLISHMENT.—

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

7           “(A) Strengthening the leadership of the  
8 United States in critical technologies through  
9 fundamental research in the key technology  
10 focus areas.

11           “(B) Enhancing the competitiveness of the  
12 United States in the key technology focus areas  
13 by improving education in the key technology  
14 focus areas and attracting more students to  
15 such areas.

16           “(C) Consistent with the operations of the  
17 Foundation, fostering the economic and societal  
18 impact of federally funded research and devel-  
19 opment through an accelerated translation of  
20 fundamental advances in the key technology  
21 focus areas into processes and products that  
22 can help achieve national goals related to eco-  
23 nomic competitiveness, domestic manufacturing,  
24 national security, shared prosperity, energy and



1 the environment, health, education and work-  
2 force development, and transportation.

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

5 “(3) ORGANIZATION AND ADMINISTRATIVE  
6 MATTERS.—

7 “(A) HIRING AUTHORITY.—

8 “(i) EXPERTS IN SCIENCE AND ENGI-  
9 NEERING.—The Director shall have the au-  
10 thority to carry out a program of personnel  
11 management authority for the Directorate  
12 in the same manner, and subject to the  
13 same requirements, as the program of per-  
14 sonnel management authority authorized  
15 for the Director of the Defense Advanced  
16 Research Projects Agency under section  
17 1599h of title 10, United States Code, for  
18 the Defense Advanced Research Projects  
19 Agency.

20 “(ii) HIGHLY QUALIFIED EXPERTS IN  
21 NEEDED OCCUPATIONS.—In addition to  
22 the authority provided under clause (i), the  
23 Director shall have the authority to carry  
24 out a program of personnel management  
25 authority for the Directorate in the same

1 manner, and subject to the same require-  
2 ments, as the program to attract highly  
3 qualified experts carried out by the Sec-  
4 retary of Defense under section 9903 of  
5 title 5, United States Code.

6 “(iii) ADDITIONAL HIRING AUTHOR-  
7 ITY.—To the extent needed to carry out  
8 the duties in paragraph (1), the Director  
9 shall utilize hiring authorities under sec-  
10 tion 3372 of title 5, United States Code, to  
11 staff the Directorate with employees from  
12 other Federal agencies, State and local  
13 governments, Indian tribes and tribal orga-  
14 nizations, institutions of higher education,  
15 and other organizations, as described in  
16 that section, in the same manner and sub-  
17 ject to the same conditions, that apply to  
18 such individuals utilized to accomplish  
19 other missions of the Foundation.

20 “(B) PROGRAM MANAGERS.—The employ-  
21 ees of the Directorate may include program  
22 managers for the key technology focus areas,  
23 who shall perform a role similar to programs  
24 managers employed by the Defense Advanced  
25 Research Projects Agency for the oversight and

1 selection of programs supported by the Direc-  
2 torate.

3 “(C) SELECTION OF RECIPIENTS.—Recipi-  
4 ents of support under the programs and activi-  
5 ties of the Directorate shall be selected by pro-  
6 gram managers or other employees of the Di-  
7 rectorate. The Directorate may use a peer re-  
8 view process to inform the decisions of program  
9 managers or other employees.

10 “(D) ASSISTANT DIRECTORS.—The Direc-  
11 tor may appoint 1 or more Assistant Directors  
12 for the Directorate as the Director determines  
13 necessary, in the same manner as other Assist-  
14 ant Directors of the Foundation are appointed.

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

20 “(c) DUTIES AND FUNCTIONS OF THE DIREC-  
21 TORATE.—

22 “(1) DEVELOPMENT OF TECHNOLOGY FOCUS  
23 OF THE DIRECTORATE.—The Director, acting  
24 through the Deputy Director, shall—

1           “(A) advance innovation in the key tech-  
2 nology focus areas through fundamental re-  
3 search and other activities described in this sec-  
4 tion; and

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

13           “(2) KEY TECHNOLOGY FOCUS AREAS.—

14           “(A) INITIAL LIST.—The initial key tech-  
15 nology focus areas are—

16                   “(i) artificial intelligence and machine  
17 learning;

18                   “(ii) high performance computing,  
19 semiconductors, and advanced computer  
20 hardware;

21                   “(iii) quantum computing and infor-  
22 mation systems;

23                   “(iv) robotics, automation, and ad-  
24 vanced manufacturing;

1           “(v) natural or anthropogenic disaster  
2 prevention;

3           “(vi) advanced communications tech-  
4 nology;

5           “(vii) biotechnology, genomics, and  
6 synthetic biology;

7           “(viii) cybersecurity, data storage, and  
8 data management technologies;

9           “(ix) advanced energy; and

10           “(x) materials science, engineering,  
11 and exploration relevant to the other key  
12 technology focus areas described in this  
13 subparagraph.

14           “(B) REVIEW OF KEY TECHNOLOGY FOCUS  
15 AREAS AND SUBSEQUENT LISTS.—

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

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

1                   “(II) as part of that review, may  
2                   add or delete key technology focus  
3                   areas if the competitive threats to the  
4                   United States have shifted (whether  
5                   because the United States or other  
6                   nations have advanced or fallen be-  
7                   hind in a technological area), subject  
8                   to clause (ii).

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

14                  “(iii) UPDATING FOCUS AREAS AND  
15                  DISTRIBUTION.—Upon the completion of  
16                  each review under this subparagraph, the  
17                  Director shall make the list of key tech-  
18                  nology focus areas readily available and  
19                  publish the list in the Federal Register,  
20                  even if no changes have been made to the  
21                  prior list.

22                  “(3) ACTIVITIES.—

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

1 rector, acting through the Deputy Director,  
2 may—

3 “(i) award grants, cooperative agree-  
4 ments, and contracts to—

5 “(I) individual institutions of  
6 higher education for work at centers  
7 or by individual researchers;

8 “(II) not-for-profit entities; and

9 “(III) consortia that—

10 “(aa) shall include and be  
11 led by an institution of higher  
12 education, and may include 1 or  
13 more additional institutions of  
14 higher education;

15 “(bb) may include 1 or more  
16 entities described in subclause (I)  
17 or (II) and, if determined appro-  
18 priate by the Director, for-profit  
19 entities, including small busi-  
20 nesses; and

21 “(cc) may include 1 or more  
22 entities described in subclause (I)  
23 or (II) from treaty allies and se-  
24 curity partners of the United  
25 States;

1           “(ii) provide funds to other divisions  
2 of the Foundation, including—

3                   “(I) to the other directorates of  
4 the Foundation to pursue basic ques-  
5 tions about natural and physical phe-  
6 nomena that could enable advances in  
7 the key technology focus areas;

8                   “(II) to the Directorate for So-  
9 cial, Behavioral, and Economic  
10 Sciences to study questions that could  
11 affect the design, operation, deploy-  
12 ment, or the social and ethical con-  
13 sequences of technologies in the key  
14 technology focus areas; and

15                   “(III) to the Directorate for  
16 Education and Human Resources to  
17 further the creation of a domestic  
18 workforce capable of advancing the  
19 key technology focus areas;

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



1           “(iv) make awards under the SBIR  
2           and STTR programs (as defined in section  
3           9(e) of the Small Business Act (15 U.S.C.  
4           638(e)) in the same manner as awards  
5           under such programs are made by the Di-  
6           rector of the Foundation;

7           “(v) administer prize challenges under  
8           section 24 of the Stevenson-Wydler Tech-  
9           nology Innovation Act of 1980 (15 U.S.C.  
10          3719) in the key technology focus areas, in  
11          order to expand public-private partnerships  
12          beyond direct research funding; and

13          “(vi) enter into and perform such con-  
14          tracts, including cooperative research and  
15          development arrangements and grants and  
16          cooperative agreements or other trans-  
17          actions, as may be necessary in the con-  
18          duct of the work of the Directorate and on  
19          such terms as the Deputy Director con-  
20          siders appropriate, in furtherance of the  
21          purposes of this Act.

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

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

4 “(i) a plan to seek out additional in-  
5 vestments from—

6 “(I) certain designated countries;

7 and

8 “(II) if appropriate, private sec-  
9 tor entities; and

10 “(ii) the planned activities of the Di-  
11 rectorate to secure federally funded science  
12 and technology pursuant to section 1746 of  
13 the National Defense Authorization Act for  
14 Fiscal Year 2020 (Public Law 116–92).

15 “(C) ANNUAL BRIEFING.—Each year, the  
16 Director shall formally request a briefing from  
17 the Director of the Federal Bureau of Inves-  
18 tigation and the Director of the National Coun-  
19 terintelligence and Security Center regarding  
20 their efforts to preserve the United States ad-  
21 vantages generated by the activity of the Direc-  
22 torate.

23 “(4) INTERAGENCY COOPERATION.—In carrying  
24 out this section, the Director and other Federal re-  
25 search agencies shall work cooperatively with each

1 other to further the goals of this section in the key  
2 technology focus areas. Each year, the Director shall  
3 prepare and submit a report to Congress, and shall  
4 simultaneously submit the report to the Director of  
5 the Office of Science and Technology Policy, describ-  
6 ing the interagency cooperation that occurred during  
7 the preceding year pursuant to this paragraph, in-  
8 cluding a list of—

9 “(A) any funds provided under paragraph  
10 (3)(A)(ii) to other divisions of the Foundation;  
11 and

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

14 “(5) PROVIDING SCHOLARSHIPS, FELLOWSHIPS,  
15 AND OTHER STUDENT SUPPORT.—

16 “(A) IN GENERAL.—The Director, acting  
17 through the Directorate, shall fund under-  
18 graduate scholarships, graduate fellowships and  
19 traineeships, and postdoctoral student awards  
20 in the key technology focus areas.

21 “(B) IMPLEMENTATION.—The Director  
22 may carry out subparagraph (A) by providing  
23 funds—

1                   “(i) to the Directorate for Education  
2                   and Human Resources of the Foundation  
3                   for—

4                               “(I) awards directly to students;  
5                   and

6                               “(II) grants or cooperative agree-  
7                   ments to institutions of higher edu-  
8                   cation, including those institutions in-  
9                   volved in operating university tech-  
10                   nology centers established under para-  
11                   graph (6); and

12                              “(ii) to programs in Federal research  
13                   agencies that have experience awarding  
14                   such scholarships, fellowships, traineeships,  
15                   or postdoctoral awards.

16                              “(C) SUPPLEMENT, NOT SUPPLANT.—The  
17                   Director shall ensure that funds made available  
18                   under this paragraph shall be used to create ad-  
19                   ditional support for postsecondary students and  
20                   shall not displace funding for any other avail-  
21                   able support.

22                              “(6) UNIVERSITY TECHNOLOGY CENTERS.—

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

1 process, award grants to or enter into coopera-  
2 tive agreements with institutions of higher edu-  
3 cation or consortia described in paragraph  
4 (3)(A)(i)(III) to establish university technology  
5 centers.

6 “(B) USES OF FUNDS.—

7 “(i) IN GENERAL.—A center estab-  
8 lished under a grant or cooperative agree-  
9 ment under subparagraph (A)—

10 “(I) shall use support provided  
11 under such subparagraph—

12 “(aa) to carry out funda-  
13 mental research to advance inno-  
14 vation in the key technology  
15 focus areas; and

16 “(bb) to further the develop-  
17 ment of innovations in the key  
18 technology focus areas, includ-  
19 ing—

20 “(AA) innovations de-  
21 rived from research carried  
22 out under item (aa), through  
23 such activities as proof-of-  
24 concept development and  
25 prototyping, in order to re-

1                   duce the cost, time, and risk  
2                   of commercializing new tech-  
3                   nologies; and

4                   “(BB) through the use  
5                   of public-private partner-  
6                   ships; and

7                   “(II) may use support provided  
8                   under such subparagraph—

9                   “(aa) for the costs of equip-  
10                  ment, including mid-tier infra-  
11                  structure, and the purchase of  
12                  cyberinfrastructure resources, in-  
13                  cluding computer time; or

14                  “(bb) for other activities or  
15                  costs necessary to accomplish the  
16                  purposes of this section.

17                  “(ii) SUPPORT OF REGIONAL TECH-  
18                  NOLOGY HUBS.—Each center established  
19                  under subparagraph (A) may support and  
20                  participate in, as appropriate, the activities  
21                  of any regional technology hub designated  
22                  under section 27(d) of the Stevenson-  
23                  Wydler Technology Innovation Act of 1980  
24                  (15 U.S.C. 3722(d)).

1           “(C) REQUIREMENTS.—The Director shall  
2 ensure that any institution of higher education  
3 or consortium receiving a grant or cooperative  
4 agreement under subparagraph (A) has dem-  
5 onstrated an ability to advance the goals de-  
6 scribed in subsection (b)(1).

7           “(7) MOVING TECHNOLOGY FROM LABORATORY  
8 TO MARKET.—

9           “(A) PROGRAM AUTHORIZED.—The Direc-  
10 tor shall establish a program in the Directorate  
11 to award grants, on a competitive basis, to in-  
12 stitutions of higher education or consortia de-  
13 scribed in paragraph (3)(A)(i)(III)—

14           “(i) to build capacity at an institution  
15 of higher education and in its surrounding  
16 region to increase the likelihood that new  
17 technologies in the key technology focus  
18 areas will succeed in the commercial mar-  
19 ket; and

20           “(ii) with the goal of promoting ex-  
21 periments with a range of models that in-  
22 stitutions of higher education could use  
23 to—

24           “(I) enable new technologies to  
25 mature to the point where the tech-

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

3 “(II) reduce the risks to commer-  
4 cial success for new technologies ear-  
5 lier in their development.

6 A grant awarded under this subparagraph for a  
7 purpose described in clause (i) or (ii) may also  
8 enable the institution of higher education or  
9 consortium to provide training and support to  
10 scientists and engineers who are interested in  
11 research and commercialization, if the use is in-  
12 cluded in the proposal submitted under sub-  
13 paragraph (B).

14 “(B) PROPOSALS.—An institution of high-  
15 er education or consortium desiring a grant  
16 under this paragraph shall submit a proposal to  
17 the Director at such time, in such manner, and  
18 containing such information as the Director  
19 may require. The proposal shall include a de-  
20 scription of—

21 “(i) the steps the applicant will take  
22 to reduce the risks for commercialization  
23 for new technologies;

24 “(ii) why such steps are likely to be  
25 effective; and



1           “(iii) how such steps differ from pre-  
2           vious efforts to reduce the risks for com-  
3           mercialization for new technologies.

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

9                   “(i) creating and funding competitions  
10                  to allow entrepreneurial ideas from institu-  
11                  tions of higher education to illustrate their  
12                  commercialization potential;

13                   “(ii) facilitating mentorships between  
14                  local and national business leaders and po-  
15                  tential entrepreneurs to encourage success-  
16                  ful commercialization;

17                   “(iii) creating and funding for-profit  
18                  or not-for-profit entities that could enable  
19                  researchers at institutions of higher edu-  
20                  cation to further develop new technology  
21                  prior to seeking commercial financing,  
22                  through patient funding, advice, staff sup-  
23                  port, or other means;

1                   “(iv) providing off-campus facilities  
2                   for start-up companies where technology  
3                   maturation could occur; and

4                   “(v) revising institution policies to ac-  
5                   complish the goals of this paragraph.

6                   “(8) TEST BEDS.—

7                   “(A) PROGRAM AUTHORIZED.—The Direc-  
8                   tor, acting through the Deputy Director, shall  
9                   establish a program in the Directorate to award  
10                  grants, on a competitive basis, to institutions of  
11                  higher education or consortia described in para-  
12                  graph (3)(A)(i)(III) to establish test beds and  
13                  fabrication facilities to advance the operation,  
14                  integration and, as appropriate, manufacturing  
15                  of new, innovative technologies in the key tech-  
16                  nology focus areas, which may include hardware  
17                  or software. The goal of such test beds and fa-  
18                  cilities shall be to accelerate the movement of  
19                  innovative technologies into the commercial  
20                  market through existing and new companies.

21                  “(B) PROPOSALS.—A proposal submitted  
22                  under this paragraph shall, at a minimum, de-  
23                  scribe—

1           “(i)(I) the 1 or more technologies that  
2 will be the focus of the test bed or fabrica-  
3 tion facility;

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

6           “(III) the expected schedule for com-  
7 pleting that work;

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

11           “(iii) how the applicant will ensure  
12 that work in the test bed or facility will  
13 contribute to the commercial viability of  
14 any technologies, which may include col-  
15 laboration and funding from industry part-  
16 ners;

17           “(iv) how the applicant will encourage  
18 the participation of entrepreneurs and the  
19 development of new businesses; and

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

22           “(C) AWARDS.—Grants made under this  
23 paragraph—

24           “(i) shall be for 5 years, with the pos-  
25 sibility of one 3-year extension; and

1                   “(ii) may be used for the purchase of  
2                   equipment, the support of graduate stu-  
3                   dents and postdoctoral researchers, and  
4                   the salaries of staff.

5                   “(D) REQUIREMENTS.—As a condition of  
6                   receiving a grant under this paragraph, an in-  
7                   stitution of higher education or consortium  
8                   shall publish and share with the public the re-  
9                   sults of the work conducted under this para-  
10                  graph.

11                  “(9) INAPPLICABILITY.—Section 5(e)(1) shall  
12                  not apply to grants, contracts, or other arrange-  
13                  ments made under this section.

14                  “(d) BOARD OF ADVISORS.—

15                  “(1) IN GENERAL.—There is established in the  
16                  Foundation a Board of Advisors for the Directorate  
17                  (referred to in this section as the ‘Board of Advi-  
18                  sors’), which shall provide advice to the Deputy Di-  
19                  rector pursuant to this subsection. The Board of Ad-  
20                  visors shall not have any decision-making authority.

21                  “(2) MEMBERSHIP.—

22                  “(A) COMPOSITION.—The Board of Advi-  
23                  sors shall be comprised of 12 members rep-  
24                  resenting scientific leaders and experts from in-  
25                  dustry and academia, of whom—

1                   “(i) two shall be appointed by the ma-  
2                   jority leader of the Senate;

3                   “(ii) two shall be appointed by the mi-  
4                   nority leader of the Senate;

5                   “(iii) two shall be appointed by the  
6                   Speaker of the House of Representatives;

7                   “(iv) two shall be appointed by the  
8                   minority leader of the House of Represent-  
9                   atives; and

10                  “(v) four shall be appointed by the  
11                  Director.

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

19                  “(C) QUALIFICATIONS.—

20                  “(i) IN GENERAL.—Each member ap-  
21                  pointed under subparagraph (A) shall—

22                                 “(I) have extensive experience in  
23                                 a field related to the work of the Di-  
24                                 rectorate or other expertise relevant to  
25                                 developing technology roadmaps; and

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

5                   “(ii) EXPEDITED SECURITY CLEAR-  
6                   ANCES.—The process of obtaining a secu-  
7                   rity clearance under clause (i)(II) may be  
8                   expedited by the head of the appropriate  
9                   Federal agency to enable the Board to re-  
10                  ceive classified briefings on the current and  
11                  future technological capacity of other na-  
12                  tions, and on the military implications of  
13                  civilian technologies.

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

18                  “(3) PERIOD OF APPOINTMENT; VACANCIES.—

19                  “(A) IN GENERAL.—A member of the  
20                  Board of Advisors shall be appointed for a 3-  
21                  year term, except that the Deputy Director  
22                  shall adjust the terms for the first members of  
23                  the Board of Advisors so that, within each ap-  
24                  pointment category described in clauses (i)

1 through (v) of paragraph (2)(A), the terms ex-  
2 pire on a staggered basis.

3 “(B) TERM LIMITS.—A member of the  
4 Board of Advisors shall not serve for more than  
5 2 full consecutive terms.

6 “(C) VACANCIES.—Any vacancy in the  
7 Board of Advisors—

8 “(i) shall not affect the powers of the  
9 Board of Advisors; and

10 “(ii) shall be filled in the same man-  
11 ner as the original appointment.

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

15 “(5) MEETINGS.—

16 “(A) INITIAL MEETING.—Not later than  
17 180 days after the date of enactment of the  
18 Endless Frontier Act, the Board of Advisors  
19 shall hold the first meeting of the Board of Ad-  
20 visors.

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

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

3           “(C) MEETING WITH THE NATIONAL  
4           SCIENCE BOARD.—The Board of Advisors shall  
5           hold a joint meeting with the National Science  
6           Board on at least an annual basis, on a date  
7           mutually selected by the chairperson of the  
8           Board of Advisors and the Chairman of the Na-  
9           tional Science Board.

10          “(D) QUORUM.—A majority of the mem-  
11          bers of the Board of Advisors shall constitute a  
12          quorum, but a lesser number of members may  
13          hold hearings.

14          “(6) DUTIES OF BOARD OF ADVISORS.—

15          “(A) IN GENERAL.—The Board of Advi-  
16          sors shall provide advice—

17                  “(i) to the Deputy Director on pro-  
18                  grams that could best be carried out to ac-  
19                  complish the purposes of this section;

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

23                  “(iii) on other issues relating to the  
24                  purposes and responsibilities of the Direc-



1           torate, as requested by the Deputy Direc-  
2           tor.

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

9           “(7) POWERS OF BOARD OF ADVISORS.—

10           “(A) HEARINGS.—The Board of Advisors  
11           may hold public or private hearings, sit and act  
12           at such times and places, take such testimony  
13           and receive such evidence (including classified  
14           testimony and evidence), and administer such  
15           oaths as may be necessary to carry out the  
16           functions of the Board of Advisors under para-  
17           graph (6).

18           “(B) INFORMATION FROM FEDERAL AGEN-  
19           CIES.—

20           “(i) IN GENERAL.—Each Federal de-  
21           partment or agency shall, in accordance  
22           with applicable procedures for the handling  
23           of classified information, provide reason-  
24           able access to documents, statistical data,  
25           and other such information that the Dep-

1           uty Director, in consultation with the  
2           chairperson of the Board of Advisors, de-  
3           termines necessary to carry out its func-  
4           tions under paragraph (6).

5           “(ii) OBTAINING CLASSIFIED INFOR-  
6           MATION.—If the Board of Advisors, acting  
7           through the chairperson, seeks classified  
8           information from a Federal department or  
9           agency, the Deputy Director shall submit a  
10          written request to the head of the Federal  
11          department or agency for access to classi-  
12          fied documents and statistical data, and  
13          other classified information described in  
14          clause (i), that is under the control of such  
15          agency.

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

23          “(8) BOARD OF ADVISORS PERSONNEL AND  
24          OPERATIONAL MATTERS.—

25          “(A) COMPENSATION OF MEMBERS.—

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

11          “(ii) NO FEDERAL EMPLOYEE MEM-  
12          BERS.—No member of the Board of Advi-  
13          sors may be an officer or employee of the  
14          United States during the member’s term  
15          on the Board of Advisors.

16          “(B) TRAVEL EXPENSES.—A member of  
17          the Board of Advisors shall be allowed travel  
18          expenses, including per diem in lieu of subsist-  
19          ence, at rates authorized for employees of agen-  
20          cies under subchapter I of chapter 57 of title 5,  
21          United States Code, while away from their  
22          home or regular places of business in the per-  
23          formance of services for the Board of Advisors.

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

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

4 “(D) GOVERNMENT EMPLOYEES.—

5 “(i) IN GENERAL.—Any Federal Gov-  
6 ernment employee may be detailed to the  
7 Board of Advisors without reimbursement,  
8 and such detail shall be without interrup-  
9 tion or loss of civil service status or privi-  
10 lege.

11 “(ii) EMPLOYEES OF THE LEGISLA-  
12 TIVE BRANCH.—The Deputy Director shall  
13 establish procedures and policies to enable  
14 an employee of an office, agency, or other  
15 entity in the legislative branch of the Gov-  
16 ernment to support the activities of the  
17 Board of Advisors.

18 “(E) PROCUREMENT OF TEMPORARY AND  
19 INTERMITTENT SERVICES.—The chairperson of  
20 the Board of Advisors, with approval from the  
21 Deputy Director, may procure temporary and  
22 intermittent services under section 3109(b) of  
23 title 5, United States Code, at rates for individ-  
24 uals which do not exceed the daily equivalent of  
25 the annual rate of basic pay prescribed for level

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

3 “(F) ASSISTANCE FROM FEDERAL AGEN-  
4 CIES.—A Federal department or agency may  
5 provide to the Board of Advisors such services,  
6 funds, facilities, staff, and other support serv-  
7 ices as the department or agency may deter-  
8 mine advisable and as may be authorized by  
9 law.

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

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

16 “(1) not less than 35 percent of funds provided  
17 to the Directorate for such year to carry out sub-  
18 section (c)(6);

19 “(2) not less than 15 percent of such funds to  
20 carry out subsection (c)(5) with the goal of award-  
21 ing, across the key technology focus areas—

22 “(A) not fewer than 1,000 post-doctorate  
23 fellowships;

24 “(B) not fewer than 2,000 graduate fellow-  
25 ships and traineeships;

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

3           “(D) if funds remain after carrying out  
4           subparagraphs (A) through (C), grants to insti-  
5           tutions of higher education to enable the insti-  
6           tutions to fund the development and establish-  
7           ment of new or specialized courses of education  
8           for graduate, undergraduate, or technical col-  
9           lege students;

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

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

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

18          “(f) AUTHORIZATION OF APPROPRIATIONS.—

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

24                         “(A) \$2,000,000,000 is authorized for fis-  
25                         cal year 2021;

1           “(B) \$8,000,000,000 is authorized for fis-  
2 cal year 2022;

3           “(C) \$20,000,000,000 is authorized for fis-  
4 cal year 2023;

5           “(D) \$35,000,000,000 is authorized for  
6 fiscal year 2024; and

7           “(E) \$35,000,000,000 is authorized for  
8 fiscal year 2025.

9           “(2) APPROPRIATIONS LIMITATIONS.—

10           “(A) HOLD HARMLESS.—No funds shall be  
11 appropriated to the Directorate or to carry out  
12 this section for any fiscal year in which the  
13 total amount appropriated to the Foundation  
14 (not including amounts appropriated for the Di-  
15 rectorate) is less than the total amount appro-  
16 priated to the Foundation (not including such  
17 amounts), adjusted by the rate of inflation, for  
18 the previous fiscal year.

19           “(B) NO TRANSFER OF FUNDS.—The Di-  
20 rector shall not transfer any funds appropriated  
21 to any other directorate or office of the Foun-  
22 dation to the Directorate.”.

23           (d) ANNUAL REPORT ON UNFUNDED PRIORITIES.—

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

1 for a fiscal year is submitted to Congress pursuant  
2 to section 1105 of title 31, United States Code, the  
3 Director shall submit to the President and to Con-  
4 gress a report on the unfunded priorities of the Na-  
5 tional Science and Technology Foundation.

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

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

11 (i) the proposal success rate;

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

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

18 (B) a list, in order of priority, of the next  
19 activities that should be undertaken in the  
20 Major Research Equipment and Facilities Con-  
21 struction account.

22 **SEC. 4. REGIONAL TECHNOLOGY HUB PROGRAM.**

23 (a) DEFINITIONS.—

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



1 Technology Innovation Act of 1980 (15 U.S.C.  
2 3722) is amended—

3 (A) by redesignating paragraphs (2)  
4 through (4) as paragraphs (3) through (5), re-  
5 spectively; and

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

8 “(2) KEY TECHNOLOGY FOCUS AREAS.—The  
9 term ‘key technology focus areas’ means the areas  
10 included on the most recent list under section  
11 8A(c)(2) of the Act of May 10, 1950 (64 Stat. 149,  
12 chapter 171; 42 U.S.C. 1861 et seq.).”

13 (2) VENTURE DEVELOPMENT ORGANIZA-  
14 TIONS.—Paragraph (5) of such subsection, as reded-  
15 igned by paragraph (1) of this subsection, is  
16 amended by striking “purposes of” and all that fol-  
17 lows through the period at the end and inserting the  
18 following: “purposes of—

19 “(A) accelerating the commercialization of  
20 research;

21 “(B) strengthening the competitive posi-  
22 tion of industry through the development, com-  
23 mercial adoption, or deployment of technology;  
24 and

1           “(C) providing financial grants, loans, or  
2           direct financial investment to commercialize  
3           technology.”.

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

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

8                   (A) by redesignating subsections (d)  
9                   through (h) as subsections (e) through (i), re-  
10                   spectively; and

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

13           “(d) DESIGNATION OF AND GRANTS IN SUPPORT OF  
14           REGIONAL TECHNOLOGY HUBS.—

15                   “(1) PROGRAM REQUIRED.—

16                           “(A) IN GENERAL.—As part of the pro-  
17                           gram established under subsection (b), the Sec-  
18                           retary shall carry out a program—

19                                   “(i) to designate eligible consortia as  
20                                   regional technology hubs that create the  
21                                   conditions, within a region, to facilitate ac-  
22                                   tivities that—

23   “(I) enable United States leader-  
24   ship in a key technology focus area,  
25   complementing the Federal research

1 and development investments under  
2 section 8A of the Act of May 10,  
3 1950 (64 Stat. 149, chapter 171; 42  
4 U.S.C. 1861 et seq.); and

5 “(II) support regional economic  
6 development that diffuses innovation  
7 capacity around the United States,  
8 enabling better broad-based growth  
9 and competitiveness in key technology  
10 focus areas; and

11 “(ii) to support regional technology  
12 hubs designated under clause (i).

13 “(B) ELIGIBLE CONSORTIA.—For purposes  
14 of this section, an eligible consortium is a con-  
15 sortium that—

16 “(i) includes—

17 “(I) an institution of higher edu-  
18 cation;

19 “(II) a local or Tribal govern-  
20 ment or other political subdivision of  
21 a State;

22 “(III) a government of a State or  
23 the economic development representa-  
24 tive of a State; and

1           “(IV) an economic development  
2 organization or similar entity that is  
3 focused primarily on improving  
4 science, technology, innovation, or en-  
5 trepreneurship; and  
6           “(ii) may include 1 or more—  
7           “(I) nonprofit entities with rel-  
8 evant expertise;  
9           “(II) venture development orga-  
10 nizations;  
11           “(III) financial institutions;  
12           “(IV) educational institutions, in-  
13 cluding career and technical education  
14 schools;  
15           “(V) workforce training organiza-  
16 tions;  
17           “(VI) industry associations;  
18           “(VII) firms in the key tech-  
19 nology focus areas;  
20           “(VIII) Federal laboratories;  
21           “(IX) Centers (as defined in sec-  
22 tion 25(a) of the National Institute of  
23 Standards and Technology Act (15  
24 U.S.C. 278k(a)));

1           “(X) Manufacturing USA insti-  
2           tutes (as described in section 34(d) of  
3           the National Institute of Standards  
4           and Technology Act (15 U.S.C.  
5           278s(d))); and

6           “(XI) institutions receiving an  
7           award under paragraph (6) or (7) of  
8           section 8A(c) of the Act of May 10,  
9           1950 (64 Stat. 149, chapter 171; 42  
10          U.S.C. 1861 et seq.).

11          “(C) ADMINISTRATION.—The Secretary  
12          shall carry out this subsection through the As-  
13          sistant Secretary of Commerce for Economic  
14          Development and the Under Secretary of Com-  
15          merce for Standards and Technology, jointly.

16          “(2) DESIGNATION OF REGIONAL TECHNOLOGY  
17          HUBS.—

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

22          “(B) NUMBER OF REGIONAL TECHNOLOGY  
23          HUBS.—During the 5-year period beginning on  
24          the date of the enactment of the Endless Fron-  
25          tier Act, the Secretary shall designate not fewer

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

4 “(C) GEOGRAPHIC DISTRIBUTION.—In  
5 conducting the competitive process under sub-  
6 paragraph (A), the Secretary shall ensure geo-  
7 graphic distribution in the designation of re-  
8 gional technology hubs—

9 “(i) aiming to designate regional tech-  
10 nology hubs in as many regions of the  
11 United States as possible; and

12 “(ii) focusing on localities that have  
13 clear potential and relevant assets for de-  
14 veloping a key technology focus area but  
15 have not yet become leading technology  
16 centers.

17 “(3) GRANTS.—

18 “(A) IN GENERAL.—The Secretary shall  
19 carry out clause (ii) of paragraph (1)(A)  
20 through the award of grants to eligible con-  
21 sortia designated under clause (i) of such para-  
22 graph.

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

1 years, but may be renewed once for an addi-  
2 tional period of 5 years.

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

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

12 “(ii) In fiscal year 2022, 85 percent  
13 of the total funding of the regional tech-  
14 nology hub in that fiscal year.

15 “(iii) In fiscal year 2023, 80 percent  
16 of the total funding of the regional tech-  
17 nology hub in that fiscal year.

18 “(iv) In fiscal year 2024 and in each  
19 fiscal year thereafter, 75 percent of the  
20 total funding of the regional technology  
21 hub in that fiscal year.

22 “(D) USE OF GRANT FUNDS.—The recipi-  
23 ent of a grant awarded under subparagraph (A)  
24 shall use the grant for multiple activities deter-

1           mined appropriate by the Secretary, includ-  
2           ing—

3                   “(i) the permissible activities set forth  
4                   under subsection (c)(2); and

5                   “(ii) activities in support of key tech-  
6                   nology focus areas—

7                           “(I) to develop the region’s  
8                           skilled workforce through the training  
9                           and retraining of workers and align-  
10                           ment of career technical training and  
11                           educational programs in the region’s  
12                           elementary and secondary schools and  
13                           institutions of higher education;

14                           “(II) to develop regional strate-  
15                           gies for infrastructure improvements  
16                           and site development in support of the  
17                           regional technology hub’s plans and  
18                           programs;

19                           “(III) to support business activ-  
20                           ity that develops the domestic supply  
21                           chain and encourages the creation of  
22                           new business entities;

23                           “(IV) to attract new private,  
24                           public, and philanthropic investment  
25                           in the region for developing innovation



1 capacity, including establishing re-  
2 gional venture and loan funds for fi-  
3 nancing technology commercialization,  
4 new business formation, and business  
5 expansions;

6 “(V) to further the development  
7 of innovations in the key technology  
8 focus areas, including innovations de-  
9 rived from research conducted at in-  
10 stitutions of higher education or other  
11 research entities, including research  
12 conducted by 1 or more university  
13 technology centers established under  
14 section 8A(c)(6) of the Act of May 10,  
15 1950 (64 Stat. 149, chapter 171; 42  
16 U.S.C. 1861 et seq.), through activi-  
17 ties that may include—

18 “(aa) proof-of-concept devel-  
19 opment and prototyping;

20 “(bb) public-private partner-  
21 ships in order to reduce the cost,  
22 time, and risk of commercializing  
23 new technologies;

24 “(cc) creating and funding  
25 competitions to allow entrepre-

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

4 “(dd) facilitating mentor-  
5 ships between local and national  
6 business leaders and potential en-  
7 trepreneurs to encourage success-  
8 ful commercialization;

9 “(ee) creating and funding  
10 for-profit or not-for-profit entities  
11 that could enable researchers at  
12 institutions of higher education  
13 and other research entities to  
14 further develop new technology  
15 prior to seeking commercial fi-  
16 nancing, through patient funding,  
17 advice, staff support, or other  
18 means; and

19 “(ff) providing facilities for  
20 start-up companies where tech-  
21 nology maturation could occur;  
22 and

23 “(VI) to carry out such other ac-  
24 tivities as the Secretary considers ap-  
25 propriate to improve United States

1                   competitiveness and regional economic  
2                   development to support a key tech-  
3                   nology focus area and that would fur-  
4                   ther the purposes of the Endless  
5                   Frontiers Act.

6                   “(4) APPLICATIONS.—

7                   “(A) IN GENERAL.—An eligible consortium  
8                   seeking designation as a regional technology  
9                   hub under clause (i) of paragraph (1)(A) and  
10                  support under clause (ii) of such paragraph  
11                  shall submit to the Secretary an application  
12                  therefor at such time, in such manner, and con-  
13                  taining such information as the Secretary may  
14                  specify.

15                  “(B) CONSULTATION WITH NATIONAL  
16                  SCIENCE FOUNDATION UNIVERSITY TECH-  
17                  NOLOGY CENTERS.—In preparing an applica-  
18                  tion for submittal under subparagraph (A), an  
19                  applicant shall, to the extent practicable, con-  
20                  sult with one or more university technology cen-  
21                  ters established under section 8A(c)(6) of the  
22                  Act of May 10, 1950 (64 Stat. 149, chapter  
23                  171; 42 U.S.C. 1861 et seq.), that are either  
24                  geographically relevant or are conducting re-  
25                  search on relevant key technology focus areas.

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

7           “(A) The potential of the eligible consor-  
8 tium to advance the development of new tech-  
9 nologies in a key technology focus area.

10           “(B) The likelihood of positive regional  
11 economic effect, including increasing the num-  
12 ber of high wage jobs, and creating new eco-  
13 nomic opportunities for economically disadvan-  
14 taged populations.

15           “(C) How the eligible consortium plans to  
16 integrate with and leverage the resources of one  
17 or more university technology centers estab-  
18 lished under section 8A(c)(6) of the Act of May  
19 10, 1950 (64 Stat. 149, chapter 171; 42 U.S.C.  
20 1861 et seq.), in a related key technology focus  
21 area.

22           “(D) How the eligible consortium will en-  
23 gage with the private sector, including small-  
24 and medium-sized enterprises to commercialize  
25 new technologies and develop new supply chains

1 in the United States in a key technology focus  
2 area.

3 “(E) How the eligible consortium will  
4 carry out workforce development and skills ac-  
5 quisition programming, including through the  
6 use of apprenticeships, mentorships, and other  
7 related activities authorized by the Secretary, to  
8 support the development of a key technology  
9 focus area.

10 “(F) How the eligible consortium will im-  
11 prove science, technology, engineering, and  
12 mathematics education programs in the identi-  
13 fied region in elementary and secondary school  
14 and higher education institutions located in the  
15 identified region to support the development of  
16 a key technology focus area.

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

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

1 support of the proposed regional technology  
2 hub, including the development of necessary in-  
3 frastructure improvements and site preparation.

4 “(I) How the eligible consortium plans to  
5 address economic inclusion, including ensuring  
6 that skill development, entrepreneurial assist-  
7 ance, and other activities focus on economically  
8 disadvantaged populations.

9 “(6) COORDINATION WITH NATIONAL INSTI-  
10 TUTE OF STANDARDS AND TECHNOLOGY PRO-  
11 GRAMS.—

12 “(A) DEFINITIONS.—In this paragraph:

13 “(i) MANUFACTURING EXTENSION  
14 CENTER.—The term ‘manufacturing exten-  
15 sion center’ has the meaning given the  
16 term ‘Center’ in section 25(a) of the Na-  
17 tional Institute of Standards and Tech-  
18 nology Act (15 U.S.C. 278k(a)).

19 “(ii) MANUFACTURING USA INSTI-  
20 TUTE.—The term ‘Manufacturing USA in-  
21 stitute’ means a Manufacturing USA insti-  
22 tute described in section 34(d) of the Na-  
23 tional Institute of Standards and Tech-  
24 nology Act (15 U.S.C. 278s(d)).

1           “(B) COORDINATION REQUIRED.—The  
2 Secretary shall coordinate the activities of re-  
3 gional technology hubs designated under this  
4 subsection, the Hollings Manufacturing Extension  
5 Partnership, and the Manufacturing USA  
6 Program with each other to the degree that  
7 doing so does not diminish the effectiveness of  
8 the ongoing activities of a manufacturing extension  
9 center or a Manufacturing USA institute.

10           “(C) CONDITION OF SUPPORT.—In order  
11 to coordinate activities under subparagraph  
12 (B), the Secretary may condition the award of  
13 a grant or support under this subsection or section  
14 25 or 34 of the National Institute of  
15 Standards and Technology Act (15 U.S.C. 278k  
16 and 278s) upon submittal to the coordination  
17 efforts of the Secretary under subparagraph  
18 (B) of this paragraph.

19           “(D) ELEMENTS.—Coordination by the  
20 Secretary under subparagraph (B) may include  
21 the following:

22           “(i) The alignment of activities of the  
23 Hollings Manufacturing Extension Part-  
24 nership with the activities of regional tech-

1 nology hubs designated under this sub-  
2 section, if applicable.

3 “(ii) The alignment of activities of the  
4 Manufacturing USA Program and the  
5 Manufacturing USA institutes with the ac-  
6 tivities of regional technology hubs des-  
7 ignated under this subsection, if applicable.

8 “(7) INTERAGENCY COLLABORATION.—In as-  
9 sisting regional technology hubs designated under  
10 paragraph (1)(A)(i), the Secretary—

11 “(A) shall collaborate with Federal depart-  
12 ments and agencies whose missions contribute  
13 to the goals of the regional technology hub;

14 “(B) may accept funds from other Federal  
15 agencies to support grants and activities under  
16 this subsection; and

17 “(C) may establish interagency agreements  
18 with other Federal departments or agencies to  
19 provide preferential consideration for financial  
20 or technical assistance to a regional technology  
21 hub designated under this subsection if all ap-  
22 plicable requirements for the financial or tech-  
23 nical assistance are met.

24 “(8) PERFORMANCE MEASUREMENT, TRANS-  
25 PARENCY, AND ACCOUNTABILITY.—



1           “(A) METRICS, STANDARDS, AND ASSESS-  
2           MENT.—For each grant awarded under para-  
3           graph (3) for a regional technology hub, the  
4           Secretary shall—

5                   “(i) develop metrics to assess the ef-  
6                   fectiveness of the activities funded in mak-  
7                   ing progress toward the purposes set forth  
8                   under paragraph (1)(A);

9                   “(ii) establish standards for the per-  
10                  formance of the regional technology hub  
11                  that are based on the metrics developed  
12                  under clause (i); and

13                  “(iii) 2 years after the initial award  
14                  under paragraph (3) and each year there-  
15                  after until Federal financial assistance  
16                  under this subsection for the regional tech-  
17                  nology hub is discontinued, conduct an as-  
18                  sessment of the regional technology hub to  
19                  confirm whether the performance of the re-  
20                  gional technology hub is meeting the  
21                  standards for performance established  
22                  under clause (ii).

23           “(B) ANNUAL REPORT.—Not less fre-  
24           quently than once each year, the Secretary shall  
25           submit to the Committee on Commerce,

1 Science, and Transportation of the Senate, the  
2 Committee on Appropriations of the Senate, the  
3 Committee on Science, Space, and Technology  
4 of the House of Representatives, and the Com-  
5 mittee on Appropriations of the House of Rep-  
6 resentatives an annual report on the results of  
7 the assessments conducted by the Secretary  
8 under subparagraph (A)(iii) during the period  
9 covered by the report.”.

10 (2) INITIAL DESIGNATIONS AND AWARDS.—

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

18 (B) DESIGNATION AND AWARD.—Not later  
19 than 1 year after the date of the enactment of  
20 this Act, if the Secretary has received at least  
21 1 application under paragraph (4) of such sec-  
22 tion from an eligible consortium whom the Sec-  
23 retary considers suitable for designation under  
24 paragraph (1)(A)(i) of such section, the Sec-  
25 retary shall—

1 (i) designate at least 1 regional tech-  
2 nology hub under paragraph (1)(A)(i) of  
3 such section; and

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

8 (c) AUTHORIZATION OF APPROPRIATIONS.—Sub-  
9 section (i) of such section, as redesignated by subsection  
10 (c)(1)(A) of this section, is amended—

11 (1) by striking “From amounts” and inserting  
12 the following:

13 “(1) IN GENERAL.—From amounts”;

14 (2) in paragraph (1), as redesignated by para-  
15 graph (1) of this subsection, by striking “this sec-  
16 tion” and inserting “the provisions of this section  
17 other than subsection (d)”;

18 (3) by adding at the end the following:

19 “(2) REGIONAL TECHNOLOGY HUBS.—There is  
20 authorized to be appropriated to the Secretary to  
21 carry out subsection (d) \$10,000,000,000 for the pe-  
22 riod of fiscal year 2021 through 2025.”.

1 **SEC. 5. STRATEGY AND REPORT ON ECONOMIC SECURITY,**  
2 **SCIENCE, RESEARCH, AND INNOVATION TO**  
3 **SUPPORT THE NATIONAL SECURITY STRAT-**  
4 **EGY.**

5 (a) DEFINITIONS.—In this section:

6 (1) APPROPRIATE COMMITTEES OF CON-  
7 GRESS.—The term “appropriate committees of Con-  
8 gress” means—

9 (A) the Committee on Appropriations, the  
10 Committee on Armed Services, the Committee  
11 on Banking, Housing, and Urban Affairs, the  
12 Committee on Commerce, Science, and Trans-  
13 portation, the Committee on Energy and Nat-  
14 ural Resources, the Committee on Finance, the  
15 Committee on Foreign Relations, and the Select  
16 Committee on Intelligence of the Senate; and

17 (B) the Committee on Appropriations, the  
18 Committee on Armed Services, the Committee  
19 on Energy and Commerce, the Committee on  
20 Financial Services, the Committee on Foreign  
21 Affairs, the Committee on Ways and Means,  
22 and the Permanent Select Committee on Intel-  
23 ligence of the House of Representatives.

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

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

3 (3) NATIONAL SECURITY STRATEGY.—The term  
4 “national security strategy” means the national se-  
5 curity strategy required by section 108 of the Na-  
6 tional Security Act of 1947 (50 U.S.C. 3043).

7 (b) STRATEGY AND REPORT.—

8 (1) IN GENERAL.—In 2021 and in each year  
9 thereafter before the applicable date set forth under  
10 paragraph (2), the Director of the Office of Science  
11 and Technology Policy, in coordination with the Di-  
12 rector of the National Economic Council, the Direc-  
13 tor of the National Science Foundation, the Sec-  
14 retary of Commerce, the National Security Council,  
15 and the heads of other relevant Federal agencies,  
16 shall—

17 (A) review such strategy, programs, and  
18 resources as the Director of the Office of  
19 Science and Technology Policy determines per-  
20 tain to United States national competitiveness  
21 in science, research, and innovation to support  
22 the national security strategy;

23 (B) develop a strategy for the Federal  
24 Government to improve the national competi-  
25 tiveness of the United States in science, re-

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

3 (C) submit to the appropriate committees  
4 of Congress—

5 (i) a report on the findings of the Di-  
6 rector with respect to the review conducted  
7 under paragraph (1); and

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

10 (2) APPLICABLE DATES.—In each year, the ap-  
11 plicable date set forth under this paragraph is as fol-  
12 lows:

13 (A) In 2021, December 31, 2021.

14 (B) In 2022 and every year thereafter—

15 (i) in any year in which a new Presi-  
16 dent is inaugurated, October 1 of that  
17 year; and

18 (ii) in any other year, the date that is  
19 90 days after the date of the transmission  
20 to Congress in that year of the national se-  
21 curity strategy.

22 (c) ELEMENTS.—

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

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

6           (B) A description of the prioritized eco-  
7 nomic security interests and objectives of the  
8 United States relating to science, research, and  
9 innovation and an assessment of how invest-  
10 ment in civilian and military science and tech-  
11 nology can advance those objectives.

12           (C) An assessment of how regional efforts  
13 are contributing and could contribute to the in-  
14 novation capacity of the United States, includ-  
15 ing—

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

18                 (ii) regional factors that are contrib-  
19 uting or could contribute positively to inno-  
20 vation.

21           (D) An assessment of barriers to competi-  
22 tiveness in key technology focus areas and bar-  
23 riers to the development and evolution of start-  
24 ups, small and mid-sized business entities, and  
25 industries in key technology focus areas.

1           (E) An assessment of the effectiveness of  
2           the Federal Government, federally funded re-  
3           search and development centers, and national  
4           labs in supporting and promoting technology  
5           commercialization and technology transfer, in-  
6           cluding an assessment of the adequacy of Fed-  
7           eral research and development funding in pro-  
8           moting competitiveness and the development of  
9           new technologies.

10           (F) An assessment of manufacturing ca-  
11           pacity, logistics, and supply chain dynamics of  
12           major export sectors, including access to a  
13           skilled workforce, physical infrastructure, and  
14           broadband network infrastructure.

15           (2) STRATEGY.—Each strategy submitted  
16           under subsection (b)(1)(C)(ii) shall include the fol-  
17           lowing:

18           (A) A plan to utilize available tools to ad-  
19           dress or minimize the leading threats and chal-  
20           lenges and to take advantage of the leading op-  
21           portunities, including the following:

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



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

9           (iii) Specific plans to promote environ-  
10          mental stewardship and fair competition  
11          for United States workers.

12          (iv) A description of—

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

16               (II) how the strategy submitted  
17               under such subsection is integrated  
18               and coordinated with the most recent  
19               national defense strategy under sec-  
20               tion 113(g) of title 10, United States  
21               Code.

22          (v) A plan to encourage the govern-  
23          ments of countries that are allies or part-  
24          ners of the United States to cooperate with  
25          the execution of the strategy submitted

1 under subsection (b)(3)(B), where appro-  
2 priate.

3 (vi) A plan to encourage certain inter-  
4 national and multilateral organizations to  
5 support the implementation of such strat-  
6 egy.

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

11 (viii) A plan for strengthening the in-  
12 dustrial base of the United States.

13 (B) An identification of additional re-  
14 sources, administrative action, or legislative ac-  
15 tion recommended to assist with the implemen-  
16 tation of such strategy.

17 (d) FORM OF REPORTS AND STRATEGIES.—Each re-  
18 port and strategy submitted under subsection (b) shall be  
19 submitted in unclassified form, but may include a classi-  
20 fied annex.

21 **SEC. 6. CONFORMING AMENDMENTS.**

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

1           (1) in section 2(a)(5) (42 U.S.C. 1862h(a)(5)),  
2           by striking “National Science Foundation” and in-  
3           serting “National Science and Technology Founda-  
4           tion”; and

5           (2) in section 3 (42 U.S.C. 1862i), by striking  
6           “National Science Foundation” each place the term  
7           appears and inserting “National Science and Tech-  
8           nology Foundation”.

9           (b) NATIONAL SCIENCE FOUNDATION AUTHORIZA-  
10          TION ACT OF 1998.—The National Science Foundation  
11          Authorization Act of 1998 (42 U.S.C. 1862k et seq.) is  
12          amended—

13           (1) in each of paragraphs (1) and (2) of section  
14           2 (112 Stat. 869), by striking “National Science  
15           Foundation established” and inserting “National  
16           Science and Technology Foundation established”;  
17           and

18           (2) in section 101(a)(6) (42 U.S.C.  
19           1862k(a)(6)), by striking “National Science Founda-  
20           tion” each place the term appears and inserting  
21           “National Science and Technology Foundation”.

22           (c) NATIONAL SCIENCE FOUNDATION AUTHORIZA-  
23          TION ACT OF 2002.—The National Science Foundation  
24          Authorization Act of 2002 (42 U.S.C. 1862n et seq.) is  
25          amended—

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

5           (2) in each of paragraphs (4) and (7) of section  
6 4 (42 U.S.C. 1862n note), by striking “National  
7 Science Foundation established” and inserting “Na-  
8 tional Science and Technology Foundation estab-  
9 lished”; and

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

11           (A) in the section heading, by inserting  
12 “**AND TECHNOLOGY**” after “**NATIONAL**  
13 **SCIENCE**”;

14           (B) in the subsection heading of subsection  
15 (e), by inserting “AND TECHNOLOGY” after  
16 “NATIONAL SCIENCE”; and

17           (C) by striking “National Science Founda-  
18 tion” each place the term appears and inserting  
19 “National Science and Technology Founda-  
20 tion”.

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

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

1 5003(b)(1), by striking “National Science Founda-  
2 tion” and inserting “National Science and Tech-  
3 nology Foundation”;

4 (2) in section 7001(5) (42 U.S.C. 1862o note),  
5 by striking “National Science Foundation” and in-  
6 serting “National Science and Technology Founda-  
7 tion”; and

8 (3) in the title heading for title VII, by insert-  
9 ing “**AND TECHNOLOGY**” after “**NA-**  
10 **TIONAL SCIENCE**”.

11 (e) NATIONAL SCIENCE AND TECHNOLOGY POLICY,  
12 ORGANIZATION, AND PRIORITIES ACT OF 1976.—The Na-  
13 tional Science and Technology Policy, Organization, and  
14 Priorities Act of 1976 (42 U.S.C. 6601 et seq.) is amend-  
15 ed—

16 (1) in section 205(b)(2) (42 U.S.C.  
17 6614(b)(2)), by striking “National Science Founda-  
18 tion” and inserting “National Science and Tech-  
19 nology Foundation”; and

20 (2) in section 206 (42 U.S.C. 6615), by striking  
21 “National Science Foundation” each place the term  
22 appears and inserting “National Science and Tech-  
23 nology Foundation”.

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

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

3 (1) in the subtitle heading of subtitle A of title  
4 V, by inserting “**and Technology**” after “**Na-**  
5 **tional Science**”;

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

7 (A) in paragraph (1), by striking “Na-  
8 tional Science Foundation” and inserting “Na-  
9 tional Science and Technology Foundation”;  
10 and

11 (B) in paragraph (3), by striking “Na-  
12 tional Science Foundation established” and in-  
13 serting “National Science and Technology  
14 Foundation established”;

15 (3) in the section heading of section 506 (42  
16 U.S.C. 1862p–1), by inserting “**AND TECH-**  
17 **NOLOGY**” after “**NATIONAL SCIENCE**”;

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

19 (A) in paragraph (2) of subsection (a), by  
20 striking “National Science Foundation” each  
21 place the term appears and inserting “National  
22 Science and Technology Foundation”; and

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

1           tion” and inserting “National Science and  
2           Technology Foundation”;

3           (5) in section 518 (124 Stat. 4015), by striking  
4           “Foundation.” and inserting “and Technology Foun-  
5           dation.”;

6           (6) in section 519 (124 Stat. 4015)—

7           (A) in the section heading, by inserting  
8           “**AND TECHNOLOGY**” after “**NATIONAL**  
9           **SCIENCE**”; and

10          (B) by striking “National Science Founda-  
11          tion” each place the term appears and inserting  
12          “National Science and Technology Founda-  
13          tion”;

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

15          (A) by striking “National Science Founda-  
16          tion” each place the term appears and inserting  
17          “National Science and Technology Founda-  
18          tion”; and

19          (B) in the subsection heading of subsection  
20          (b), by striking “NSF” and inserting “NSTF”;

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

22          (A) in the section heading, by striking  
23          “**NSF**” and inserting “**NSTF**”; and

1 (B) by striking “National Science Founda-  
2 tion” and inserting “National Science and  
3 Technology Foundation”;

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

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

11 (g) STEM EDUCATION ACT OF 2015.—Each of sec-  
12 tions 2 and 3 of the STEM Education Act of 2015 (42  
13 U.S.C. 6621 note; 1862q) are amended by striking “Na-  
14 tional Science Foundation” and inserting “National  
15 Science and Technology Foundation”.

16 (h) RESEARCH EXCELLENCE AND ADVANCEMENTS  
17 FOR DYSLEXIA ACT.—The Research Excellence and Ad-  
18 vancements for Dyslexia Act (Public Law 114–124; 130  
19 Stat. 120) is amended by striking “National Science” each  
20 place the term appears and inserting “National Science  
21 and Technology”.

22 (i) AMERICAN INNOVATION AND COMPETITIVENESS  
23 ACT.—The American Innovation and Competitiveness Act  
24 (42 U.S.C. 1862s et seq.) is amended—



1           (1) in section 2 (42 U.S.C. 1862 note), by in-  
2           serting “and Technology” after “National Science”;  
3           and

4           (2) in section 601(a)(1) (42 U.S.C. 1862s-  
5           8(a)(1)), by striking “National Science” each place  
6           the term appears and inserting “National Science  
7           and Technology”.

8           (j) NATIONAL SCIENCE FOUNDATION AUTHORIZA-  
9           TION ACT, 1976.—The National Science Foundation Au-  
10          thorization Act, 1976 (Public Law 94–86) is amended—

11          (1) in section 2(b) (42 U.S.C. 1869a), by strik-  
12          ing “National Science Foundation” each place the  
13          term appears and inserting “National Science and  
14          Technology Foundation”; and

15          (2) in section 6(a) (42 U.S.C. 1881a(a)), by  
16          striking “National Science Foundation” and insert-  
17          ing “National Science and Technology Foundation”.

18          (k) NATIONAL SCIENCE FOUNDATION AUTHORIZA-  
19          TION ACT, 1977.—Section 8 of the National Science  
20          Foundation Authorization Act, 1977 (42 U.S.C. 1883) is  
21          amended by striking “National Science Foundation” each  
22          place the term appears and inserting “National Science  
23          and Technology Foundation”.

24          (l) NATIONAL SCIENCE FOUNDATION AUTHORIZA-  
25          TION ACT, FISCAL YEAR 1978.—Section 8 of the National

1 Science Foundation Authorization Act, Fiscal Year 1978  
2 (42 U.S.C. 1869b) is amended by inserting “and Tech-  
3 nology” after “National Science”.

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

7 (n) NATIONAL SCIENCE FOUNDATION AUTHORIZA-  
8 TION ACT FOR FISCAL YEAR 1980.—Section 9 of the Na-  
9 tional Science Foundation Authorization Act for Fiscal  
10 Year 1980 (42 U.S.C. 1882) is amended by striking “Na-  
11 tional Science Foundation” each place the term appears  
12 and inserting “National Science and Technology Founda-  
13 tion”.

14 (o) NATIONAL AERONAUTICS AND SPACE ADMINIS-  
15 TRATION AUTHORIZATION ACT OF 2005.—Section 721 of  
16 the National Aeronautics and Space Administration Au-  
17 thorization Act of 2005 (42 U.S.C. 1886a) is amended  
18 by striking “The National Science Foundation” and in-  
19 serting “The National Science and Technology Founda-  
20 tion”.

21 (p) NATIONAL SCIENCE FOUNDATION AUTHORIZA-  
22 TION ACT FOR FISCAL YEAR 1986.—Section 108 of the  
23 National Science Foundation Authorization Act for Fiscal  
24 Year 1986 (42 U.S.C. 1886) is amended by inserting “and  
25 Technology” after “National Science”.

1 (q) NATIONAL QUANTUM INITIATIVE ACT.—The Na-  
2 tional Quantum Initiative Act (Public Law 115–368) is  
3 amended—

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

“TITLE III—NATIONAL SCIENCE AND TECHNOLOGY FOUNDATION  
QUANTUM ACTIVITIES”;

7 (2) in section 102(a)(2)(A) (15 U.S.C.  
8 8812(a)(2)(A)), by inserting “and Technology” after  
9 “National Science”;

10 (3) in section 103 (15 U.S.C. 8813), by striking  
11 “National Science Foundation” each place the term  
12 appears and inserting “National Science and Tech-  
13 nology Foundation”;

14 (4) in the title heading for title III, by inserting  
15 “**AND TECHNOLOGY**” after “**NATIONAL**  
16 **SCIENCE**”; and

17 (5) in each of sections 301 and 302 (15 U.S.C.  
18 8841, 8842), by striking “National Science Founda-  
19 tion” each place the term appears and inserting  
20 “National Science and Technology Foundation”.

21 (r) CYBERSECURITY ENHANCEMENT ACT OF 2014.—  
22 The Cybersecurity Enhancement Act of 2014 (15 U.S.C.  
23 7421 et seq.) is amended—

1           (1) in section 201 (15 U.S.C. 7431), by striking  
2           “National Science Foundation” each place the term  
3           appears and inserting “National Science and Tech-  
4           nology Foundation”; and

5           (2) in each of sections 301 and 302 (15 U.S.C.  
6           7441, 7442), by striking “National Science Founda-  
7           tion” each place the term appears and inserting  
8           “National Science and Technology Foundation”.

9           (s) HIGH-PERFORMANCE COMPUTING ACT OF  
10          1991.—The High-Performance Computing Act of 1991  
11          (15 U.S.C. 5501 et seq.) is amended—

12           (1) in section 101(a)(3)(C)(xi) 15 U.S.C.  
13           5511(a)(3)(C)(xi)), by inserting “and Technology”  
14           after “National Science”; and

15           (2) in section 201 (15 U.S.C. 5521)—

16           (A) in the section heading, by inserting  
17           “**AND TECHNOLOGY**” after “**NATIONAL**  
18           **SCIENCE**”; and

19           (B) by striking “National Science Founda-  
20           tion” each place the term appears and inserting  
21           “National Science and Technology Founda-  
22           tion”.

23           (t) ARCTIC RESEARCH AND POLICY ACT OF 1984.—  
24          The Arctic Research and Policy Act of 1984 (15 U.S.C.  
25          4101 et seq.) is amended—

1 (1) in each of sections 102(b)(3) and 103(b)(1)  
2 (15 U.S.C. 4101(b)(3), 4102(b)(1)), by inserting  
3 “and Technology” after “National Science”; and

4 (2) in section 107 (15 U.S.C. 4106)—

5 (A) in the subsection heading of subsection  
6 (a), by inserting “AND TECHNOLOGY” after  
7 “NATIONAL SCIENCE”; and

8 (B) by striking “National Science Founda-  
9 tion” each place the term appears and inserting  
10 “National Science and Technology Founda-  
11 tion”.

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

15 (1) in each of sections 4(5), 5(a)(2)(A), 20, and  
16 21(d) (15 U.S.C. 3703(5), 3704(a)(2)(A), 3712, and  
17 3713(d)), by inserting “and Technology” after “Na-  
18 tional Science”;

19 (2) in section 9 (15 U.S.C. 3707)—

20 (A) in the section heading, by inserting  
21 “**AND TECHNOLOGY**” after “**NATIONAL**  
22 **SCIENCE**”;

23 (B) in each of subsections (a) and (b), by  
24 striking “National Science Foundation” and in-

1           serting “National Science and Technology  
2           Foundation”; and

3           (C) in subsection (c)—

4           (i) by striking “National Science  
5           Foundation in” and inserting “National  
6           Science and Technology Foundation in”;  
7           and

8           (ii) by striking “National Science  
9           Foundation under” and inserting “Na-  
10          tional Science and Technology Foundation  
11          under”; and

12          (3) in section 10 (15 U.S.C. 3708), by striking  
13          “National Science Foundation” each place the term  
14          appears and inserting “National Science and Tech-  
15          nology Foundation”.

16          (v) **CYBER SECURITY RESEARCH AND DEVELOP-**  
17 **MENT ACT.**—The Cyber Security Research and Develop-  
18 ment Act (15 U.S.C. 7401 et seq.) is amended—

19          (1) in section 3(1) (15 U.S.C. 7402(1)), by in-  
20          serting “and Technology” after “National Science”;

21          (2) in section 5 (15 U.S.C. 7404)—

22                (A) in the section heading, by inserting  
23                “**AND TECHNOLOGY**” after “**NATIONAL**  
24                **SCIENCE**”;

1 (B) in subsection (c)(4), by inserting “and  
2 Technology” after “National Science”; and

3 (C) in subsection (d), by striking “Na-  
4 tional Science Foundation’s” and inserting  
5 “National Science and Technology Founda-  
6 tion’s”; and

7 (3) in section 13 (15 U.S.C. 7409), by striking  
8 “National Science Foundation” each place the term  
9 appears and inserting “National Science and Tech-  
10 nology Foundation”.

11 (w) NATIONAL SUPERCONDUCTIVITY AND COMPETI-  
12 TIVENESS ACT OF 1988.—Section 6 of the National  
13 Superconductivity and Competitiveness Act of 1988 (15  
14 U.S.C. 5205) is amended by inserting “and Technology”  
15 after “National Science”.

16 (x) WEATHER RESEARCH AND FORECASTING INNO-  
17 VATION ACT OF 2017.—Each of sections 105 and  
18 402(a)(1) of the Weather Research and Forecasting Inno-  
19 vation Act of 2017 (15 U.S.C. 8515, 8542(a)(1)) are  
20 amended by inserting “and Technology” after “National  
21 Science”.

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