

116TH CONGRESS
2D SESSION

S. 3704

To amend the Scientific and Advanced-Technology Act of 1992 to further support advanced technological manufacturing, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MAY 13, 2020

Mr. WICKER (for himself and Ms. CANTWELL) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

A BILL

To amend the Scientific and Advanced-Technology Act of 1992 to further support advanced technological manufacturing, 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 “Advanced Techno-
5 logical Manufacturing Act”.

6 **SEC. 2. HARNESSING OUR NATION’S RESEARCH POTEN-**
7 **TIAL.**

8 (a) ESTABLISHMENT.—The Director of the National
9 Science Foundation shall conduct multiple pilot programs

1 within the Foundation to expand the number of institu-
 2 tions of higher education (including such institutions that
 3 are community colleges), and other eligible entities that
 4 the Director determines appropriate, that are able to suc-
 5 cessfully compete for National Science Foundation grants.

6 (b) COMPONENTS.—Each pilot program described in
 7 subsection (a) shall include at least one of the following
 8 elements:

9 (1) A mentorship program.

10 (2) Grant writing technical assistance.

11 (3) Targeted outreach.

12 (4) Programmatic support or solutions for insti-
 13 tutions or entities that do not have an experienced
 14 grant management office.

15 (5) Appropriate reduction of administrative
 16 burdens.

17 (6) An increase in the number of grant review-
 18 ers from institutions of higher education that have
 19 not traditionally received funds from the National
 20 Science Foundation.

21 (c) AGENCY-WIDE PROGRAMS.—Not later than 5
 22 years after the date of enactment of this Act, the Director
 23 of the National Science Foundation shall—

24 (1) review the results of the pilot programs de-
 25 scribed in subsection (a); and

1 (2) include agency-wide best practices from the
 2 pilot programs when implementing the criteria re-
 3 quired under section 203(c) of the Academic Re-
 4 search Facilities Modernization Act of 1988 (42
 5 U.S.C. 1862b(c)).

6 (d) INSTITUTION OF HIGHER EDUCATION.—In this
 7 section, the term “institution of higher education” has the
 8 meaning given the term in section 101 of the Higher Edu-
 9 cation Act of 1965 (20 U.S.C. 1001).

10 **SEC. 3. ADVANCED SCIENTIFIC AND TECHNICAL MANUFAC-**
 11 **TURING.**

12 (a) FINDINGS AND PURPOSE.—Section 2 of the Sci-
 13 entific and Advanced-Technology Act of 1992 (42 U.S.C.
 14 1862h) is amended—

15 (1) in subsection (a)—

16 (A) in paragraph (3), by striking “science,
 17 mathematics, and technology” and inserting
 18 “science, technology, engineering, and mathe-
 19 matics or STEM”;

20 (B) in paragraph (4), by striking
 21 “trained” and inserting “educated”; and

22 (C) in paragraph (5), by striking “sci-
 23 entific and technical education and training”
 24 and inserting “STEM education and training”;
 25 and

1 (2) in subsection (b)—

2 (A) in paragraph (2), by striking “mathe-
3 matics and science” and inserting “STEM
4 fields”; and

5 (B) in paragraph (4), by striking “mathe-
6 matics and science instruction” and inserting
7 “STEM instruction”.

8 (b) MODERNIZING REFERENCES TO STEM.—Section
9 3 of the Scientific and Advanced-Technology Act of 1992
10 (42 U.S.C. 1862i) is amended—

11 (1) in the section heading, by striking “**SCI-**
12 **ENTIFIC AND TECHNICAL EDUCATION**” and in-
13 serting “**STEM EDUCATION**”;

14 (2) in subsection (a)—

15 (A) in the subsection heading, by striking
16 “SCIENTIFIC AND TECHNICAL EDUCATION”
17 and inserting “STEM EDUCATION”;

18 (B) in the matter preceding paragraph
19 (1)—

20 (i) by striking “core education courses
21 in science and mathematics” and inserting
22 “core education courses in STEM fields”;
23 and

1 (ii) by inserting “veterans and individ-
 2 uals engaged in” before “work in the
 3 home”;

4 (C) in paragraph (1)—

5 (i) by inserting “and study” after
 6 “development”; and

7 (ii) by striking “core science and
 8 mathematics courses” and inserting “core
 9 STEM courses”;

10 (D) in paragraph (2), by striking “science,
 11 mathematics, and advanced-technology fields”
 12 and inserting “STEM and advanced-technology
 13 fields”;

14 (E) in paragraph (3)—

15 (i) in subparagraph (A), by inserting
 16 “to support the advanced-technology indus-
 17 tries that drive the competitiveness of the
 18 United States in the global economy” be-
 19 fore the semicolon at the end; and

20 (ii) by striking subparagraph (B) and
 21 inserting the following:

22 “(B) provide for private sector donations,
 23 faculty opportunities to have short-term assign-
 24 ments with industry, equipment loans, and the
 25 cooperative use of laboratories, plants, and

other facilities, and provision for state-of-the-art work experience opportunities for students enrolled in such programs; and”;

(F) in paragraph (4), by striking “scientific and advanced-technology fields” and inserting “STEM and advanced-technology fields”; and

(G) in paragraph (5), by striking “advanced scientific and technical education” and inserting “advanced STEM and advanced-technology”;

(3) in subsection (b)—

(A) by striking the subsection heading and inserting the following: “CENTERS OF SCIENTIFIC AND TECHNICAL EDUCATION.—”;

(B) in the matter preceding paragraph (1), by striking “not to exceed 10 in number” and inserting “in advanced-technology fields”;

(C) in paragraph (2), by striking “education in mathematics and science” and inserting “STEM education”; and

(D) in the flush matter following paragraph (2), by striking “in the geographic region served by the center”;

(4) in subsection (c)—

1 (A) in paragraph (1)—

2 (i) in subparagraph (A)—

3 (I) by striking the matter pre-
 4 ceding clause (i) and inserting the fol-
 5 lowing: “The Director shall make
 6 grants to eligible partnerships to en-
 7 courage the development of career and
 8 educational pathways with multiple
 9 entry and exit points leading to cre-
 10 dentials and degrees, and to assist
 11 students pursuing pathways in STEM
 12 fields to transition from associate-de-
 13 gree-granting colleges to bachelor-de-
 14 gree-granting institutions, through
 15 such means as—”;

16 (II) in clause (i), by striking “to
 17 ensure” and inserting “to develop ar-
 18 ticulation agreements that ensure”;
 19 and

20 (III) in clause (ii), by striking
 21 “courses at the bachelor-degree-grant-
 22 ing institution” and inserting “the ca-
 23 reer and educational pathways sup-
 24 ported by the articulation agree-
 25 ments”;

1 (ii) in subparagraph (B)—

2 (I) in clause (i), by inserting
3 “veterans and individuals engaged in”
4 before “work in the home”;

5 (II) in clause (iii)—

6 (aa) by striking “bachelor’s-
7 degree-granting institutions” and
8 inserting “institutions or work
9 sites”; and

10 (bb) by inserting “or indus-
11 try internships” after “summer
12 programs”; and

13 (III) by striking the flush text
14 following clause (iv); and

15 (iii) by striking subparagraph (C);

16 (B) in paragraph (2)—

17 (i) by striking “mathematics and
18 science” and inserting “STEM”;

19 (ii) by striking “mathematics and
20 science education” and inserting “STEM
21 education”;

22 (iii) by striking “science and ad-
23 vanced-technology fields” and inserting
24 “STEM and advanced-technology fields”;
25 and

1 (iv) by striking “agreements with local
 2 educational agencies” and inserting “ar-
 3 ticulation agreements or dual credit
 4 courses with local secondary schools”; and
 5 (C) by striking paragraph (3) and insert-
 6 ing the following:

7 “(3) MENTOR TRAINING GRANTS.—The Direc-
 8 tor shall establish a program to encourage and make
 9 grants available to institutions of higher education
 10 that award associate degrees to recruit and train in-
 11 dividuals from STEM fields to mentor students who
 12 are described in section 33 or 34 of the Science and
 13 Engineering Equal Opportunities Act (42 U.S.C.
 14 1885a or 1885b) in order to assist those students in
 15 identifying, qualifying for, and entering higher-pay-
 16 ing technical jobs in those fields.”;

17 (5) in subsection (g), by striking the second
 18 sentence;

19 (6) in subsection (i)—

20 (A) by striking paragraph (3); and

21 (B) by redesignating paragraphs (4) and
 22 (5) as paragraphs (3) and (4), respectively; and
 23 (7) in subsection (j)—

24 (A) by striking paragraph (1) and insert-
 25 ing the following:

1 “(1) the term ‘advanced-technology’ includes
2 technological fields such as advanced manufacturing,
3 agricultural-, biological- and chemical-technologies,
4 energy and environmental technologies, engineering
5 technologies, information technologies, micro- and
6 nano-technologies, cybersecurity technologies, geo-
7 spatial technologies, and new, emerging technology
8 areas;”;

9 (B) by striking paragraph (2) and insert-
10 ing the following:

11 “(2) the term ‘associate-degree-granting college’
12 means an institution of higher education (as defined
13 in section 102 of the Higher Education Act of 1965
14 (20 U.S.C. 1002)) that offers a 2-year associate-de-
15 gree program or 2-year certificate program;”;

16 (C) in paragraph (3), by striking “as de-
17 termined under section 101 of the Higher Edu-
18 cation Act of 1965” and inserting “as defined
19 in section 102 of the Higher Education Act of
20 1965 (20 U.S.C. 1002)”;

21 (D) in paragraph (4), by striking “sepa-
22 rate bachelor-degree-granting institutions” and
23 inserting “other entities”;

24 (E) by striking paragraph (7);

1 (F) by redesignating paragraphs (8) and
2 (9) as paragraphs (7) and (8), respectively; and

3 (G) in paragraph (8), as redesignated by
4 subparagraph (F)—

5 (i) by striking “mathematics, science,
6 engineering, or technology” and inserting
7 “science, technology, engineering, or math-
8 ematics”; and

9 (ii) by inserting “and cybersecurity”
10 after “computer science”.

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