

113TH CONGRESS  
2D SESSION

# S. 2719

To emphasize manufacturing in engineering programs by directing the National Institute of Standards and Technology, in coordination with other appropriate Federal agencies including the Department of Defense, Department of Energy, and National Science Foundation, to designate United States manufacturing universities.

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## IN THE SENATE OF THE UNITED STATES

JULY 31, 2014

Mr. COONS (for himself and Mr. GRAHAM) 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 emphasize manufacturing in engineering programs by directing the National Institute of Standards and Technology, in coordination with other appropriate Federal agencies including the Department of Defense, Department of Energy, and National Science Foundation, to designate United States manufacturing universities.

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 “Manufacturing Univer-  
5 sities Act of 2014”.

1 **SEC. 2. MANUFACTURING UNIVERSITIES.**

2 (a) DEFINITIONS.—In this section:

3 (1) DIRECTOR.—The term “Director” means  
4 the Director of the Institute of Standards and Tech-  
5 nology.

6 (2) INSTITUTION OF HIGHER EDUCATION.—The  
7 term “institution of higher education” has the  
8 meaning given the term in section 101(a) of the  
9 Higher Education Act of 1965 (20 U.S.C. 1001(a)).

10 (3) MANUFACTURING INDUSTRY.—The term  
11 “manufacturing industry” means an industry de-  
12 fined in North American Industry Classification Sys-  
13 tem codes 31, 32, and 33.

14 (4) UNITED STATES MANUFACTURING UNIVER-  
15 SITY.—The term “United States manufacturing uni-  
16 versity” means an institution of higher education  
17 that receives a designation from the Director under  
18 subsection (b)(1).

19 (b) MANUFACTURING UNIVERSITY PROGRAM.—

20 (1) AUTHORIZATION.—The Director is author-  
21 ized to establish a program to designate an institu-  
22 tion of higher education as a United States manu-  
23 facturing university. The Director, in coordination  
24 with the heads of other Federal agencies (including  
25 the Secretary of Defense, the Secretary of Energy,  
26 and the Director of the National Science Founda-

1 tion), shall designate not more than 25 institutions  
2 of higher education as United States manufacturing  
3 universities. The Director shall award designations  
4 not earlier than January 1, 2015, and not later than  
5 March 31, 2015.

6 (2) FUNDS PROVIDED.—An institution of high-  
7 er education that receives a designation under para-  
8 graph (1) shall be awarded \$5,000,000 for each fis-  
9 cal year for a 4-year period beginning in the fiscal  
10 year in which the institution of higher education re-  
11 ceives the designation under paragraph (1).

12 (3) USE OF FUNDS.—Funds provided to an in-  
13 stitution of higher education under this subsection  
14 shall be used to carry out the goals and meet the  
15 targets described in subsection (c)(2)(B).

16 (c) APPLICATION.—

17 (1) IN GENERAL.—An institution of higher edu-  
18 cation desiring a designation under subsection (b)(1)  
19 shall submit an application to the Director at such  
20 time, in such manner, and accompanied by such in-  
21 formation as the Director may reasonably require.

22 (2) CONTENTS.—Each application submitted  
23 pursuant to paragraph (1) shall—

24 (A) submit data describing, as of the date  
25 of submission of the application—

1 (i) the engineering programs offered  
2 by the institution of higher education, in-  
3 cluding any focus on manufacturing engi-  
4 neering and curricula related to manufac-  
5 turing industries;

6 (ii) current joint projects relating to  
7 engineering between firms in the manufac-  
8 turing industry and the institution of high-  
9 er education;

10 (iii) the percentage of students in the  
11 engineering program of the institution of  
12 higher education who participated in for-  
13 credit internship, cooperative education, or  
14 other similar programs with manufacturing  
15 firms in the most recent academic year for  
16 which information is available;

17 (iv) the percentage of students en-  
18 rolled at the institution of higher education  
19 who received a bachelor's degree, a mas-  
20 ter's degree, or a doctoral degree in engi-  
21 neering in the most recent academic year  
22 for which information is available, and a  
23 description of which engineering discipline  
24 each recipient of such degree studied;

1 (v) the amount and purpose of re-  
2 search and development funding that man-  
3 ufacturing firms have provided to the insti-  
4 tution of higher education for each of the  
5 3 years preceding the date of submission of  
6 the application;

7 (vi) the percentage of recent master's  
8 degree or doctoral degree graduates of the  
9 institution of higher education who have  
10 begun careers related to manufacturing  
11 and a description of—

12 (I) the institution's involvement  
13 in manufacturing startups; and

14 (II) any new manufacturing busi-  
15 nesses created by recent master's de-  
16 gree or doctoral degree graduates in  
17 the 3 years preceding the date of sub-  
18 mission of the application; and

19 (vii) the extent and a description of  
20 other programs at the institution of higher  
21 education related to manufacturing and  
22 entrepreneurship; and

23 (B) submit a plan, including specific tar-  
24 gets and goals to be achieved not later than 4

1 years after the date of designation under sub-  
2 section (b)(1), describing—

3 (i) how the engineering programs of-  
4 fered by the institution of higher education  
5 will be improved to emphasize manufac-  
6 turing engineering and curricula related to  
7 manufacturing industries;

8 (ii) how the institution of higher edu-  
9 cation will increase the number of joint  
10 projects relating to engineering between  
11 manufacturing firms and the institution of  
12 higher education;

13 (iii) how the institution of higher edu-  
14 cation will increase the number of students  
15 in the engineering program of the institu-  
16 tion who participate in for-credit intern-  
17 ship, cooperative education, or other simi-  
18 lar programs in manufacturing firms;

19 (iv) how the institution of higher edu-  
20 cation will increase the number of students  
21 who are United States citizens or perma-  
22 nent residents enrolled at the institution  
23 who receive a bachelor's degree, a master's  
24 degree, or a doctoral degree in engineering  
25 or applied science, in particular disciplines

1 related to manufacturing, including chem-  
2 ical, electrical, mechanical, industrial,  
3 mechatronics, computer, biomedical, and  
4 nano engineering, as well as materials  
5 science, computer science, and applied  
6 mathematics;

7 (v) how the institution of higher edu-  
8 cation will cover the costs of equipment  
9 and facilities related to its proposal and  
10 how it will increase funding from industry  
11 for research and development related to  
12 manufacturing;

13 (vi) how the institution of higher edu-  
14 cation will increase the number of students  
15 who receive a degree from the institution  
16 of higher education who launch a new  
17 manufacturing business, as defined by the  
18 Bureau of Economic Analysis as the North  
19 American Industry Classification System  
20 code 3111 to 3399;

21 (vii) how the institution of higher edu-  
22 cation will oversee interdisciplinary pro-  
23 grams relating to advancing manufacturing  
24 productivity and innovation across various

1 university colleges, departments, and pro-  
2 grams;

3 (viii) how the institution of higher  
4 education will designate an appropriate in-  
5 dividual to oversee and coordinate the ac-  
6 tivities committed to as a part of the uni-  
7 versities outlined “manufacturing univer-  
8 sity” plan who may be designated as a  
9 “Chief Manufacturing Officer”;

10 (ix) how the manufacturing engineer-  
11 ing program can positively impact local  
12 and regional economic development; and

13 (x) how the participating institutions  
14 and departments, particularly within engi-  
15 neering and business, will recognize and  
16 reward faculty, including through decisions  
17 of tenure, for developing innovative new  
18 means to increase interactions with manu-  
19 facturing companies.

20 (d) ADMINISTRATION OF PROGRAM.—

21 (1) GENERAL POLICIES.—The Director shall es-  
22 tablish and publish general policies regarding—

23 (A) review of applications;



1 (B) criteria for selection of institutions of  
2 higher education to receive a designation under  
3 subsection (b)(1);

4 (C) procedures and criteria for the review  
5 required in paragraph (2); and

6 (D) such other matters as the Director  
7 may prescribe.

8 (2) REVIEW.—

9 (A) IN GENERAL.—Not later than 2 years  
10 after the date an institution of higher education  
11 receives a designation under subsection (b)(1),  
12 the Director shall conduct a review of the  
13 progress the institution of higher education has  
14 made toward the targets and goals described in  
15 subsection (c)(2)(B). If the Director determines  
16 that the institution of higher education is mak-  
17 ing adequate progress toward such targets and  
18 goals, funds provided under subsection (b)(1)  
19 shall continue for the remainder of the designa-  
20 tion period.

21 (B) PROGRESS REPORT.—Each institution  
22 of higher education receiving a designation  
23 under subsection (b)(1) shall submit a report  
24 each year that includes information on the  
25 progress the institution is making toward the

1 targets and goals described in subsection  
2 (c)(2)(B).

3 (C) RENEWAL.—An institution of higher  
4 education receiving a designation under sub-  
5 section (b)(1) shall not be eligible to receive  
6 funds under subsection (b)(2) after the expira-  
7 tion of the 4-year period.

8 (3) REPORT REQUIRED.—Not later than Sep-  
9 tember 30 of each year, the Director shall submit to  
10 Congress a report that includes—

11 (A) a list of the institutions of higher edu-  
12 cation that have received a designation under  
13 subsection (b)(1); and

14 (B) a description of the progress such in-  
15 stitutions of higher education have made toward  
16 the targets and goals described in subsection  
17 (c)(2)(B).

18 (e) ASSISTANCE FOR SMALL BUSINESSES.—Not later  
19 than 6 months after the date of enactment of this Act,  
20 the Director, in cooperation with the Administrator of the  
21 Small Business Administration, shall make recommenda-  
22 tions on how the programs established under Phase III  
23 of the Small Business Act (15 U.S.C. 638), can be adapt-  
24 ed to provide assistance to small businesses that collabo-  
25 rate with United States manufacturing universities.

1       (f) AUTHORIZATION OF APPROPRIATIONS.—There  
2 are authorized to be appropriated \$125,000,000 for each  
3 of fiscal years 2015, 2016, 2017, and 2018 to carry out  
4 the provisions of this section.

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