

116TH CONGRESS
1ST SESSION

S. _____

To establish the National Fab Lab Network, a Federally chartered organization consisting of a national network of local digital fabrication facilities providing universal access to advanced manufacturing tools for workforce development, STEM education, developing inventions, creating businesses, producing personalized products, mitigating risks, and other purposes.

IN THE SENATE OF THE UNITED STATES

Mr. VAN HOLLEN (for himself and Ms. MURKOWSKI) introduced the following bill; which was read twice and referred to the Committee on

A BILL

To establish the National Fab Lab Network, a Federally chartered organization consisting of a national network of local digital fabrication facilities providing universal access to advanced manufacturing tools for workforce development, STEM education, developing inventions, creating businesses, producing personalized products, mitigating risks, and other purposes.

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

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “National Fab Lab Net-
3 work Act of 2019”.

4 **SEC. 2. FINDINGS.**

5 Congress finds the following:

6 (1) Scientific discoveries and technical innova-
7 tions are critical to the economic and national secu-
8 rity of the United States.

9 (2) Maintaining the leadership of the United
10 States in science, technology, engineering, and math-
11 ematics will require a diverse population with the
12 skills, interest, and access to tools required to ad-
13 vance these fields.

14 (3) Just as earlier digital revolutions in commu-
15 nications and computation provided individuals with
16 the Internet and personal computers, a digital revo-
17 lution in fabrication will allow anyone to make al-
18 most anything, anywhere.

19 (4) These creations include elements of a typ-
20 ical household basket of goods (furnishings, apparel,
21 food production equipment, shelter, transportation,
22 education and communication, recreation, and other
23 goods and services), personal technology, means for
24 personal expression, the production of digital fab-
25 rication machinery, community design, and manufac-
26 turing capability.

1 (5) The Center for Bits and Atoms of the Mas-
2 sachusetts Institute of Technology (CBA) has con-
3 tributed significantly to the advancement of these
4 goals through its work in creating and advancing
5 digital fabrication facilities, or “fab labs” in the
6 United States and abroad.

7 (6) Such digital fabrication facilities may in-
8 clude MakerSpaces, Hackerspaces, and other cre-
9 ative spaces that use digital fabrication as a plat-
10 form for education, innovation, entrepreneurship,
11 personal expression, public access, and social impact.

12 (7) Such digital fabrication facilities provide a
13 model for a new kind of national laboratory that op-
14 erates as a network, linking local facilities for ad-
15 vanced manufacturing, providing universal access,
16 cultivating new literacies, and empowering commu-
17 nities.

18 (8) The nonprofit Fab Foundation was estab-
19 lished to support the growth of the international net-
20 work of digital fabrication facilities, to amplify the
21 educational, entrepreneurial, and social impacts of
22 digital fabrication facilities, and to support the de-
23 velopment of regional capacity building organizations
24 to broaden impact as well as address local, regional,

1 and global challenges through the use of digital fab-
 2 rication technologies.

3 (9) A coordinated array of national public-pri-
 4 vate partnerships will be the most effective way to
 5 accelerate the provision of universal access to this
 6 infrastructure for workforce development, science,
 7 technology, engineering, and mathematics education,
 8 developing inventions, creating businesses, producing
 9 personalized products, and mitigating risks.

10 **SEC. 3. NATIONAL FAB LAB NETWORK.**

11 Part B of subtitle II of title 36, United States Code,
 12 is amended by adding at the end the following new chap-
 13 ter:

14 **“CHAPTER 2501—NATIONAL FAB LAB**
 15 **NETWORK**

“CHAPTER 2501—NATIONAL FAB LAB NETWORK

“Sec.

“250101. Definitions.

“250102. Organization.

“250103. Goals and activities.

“250104. Membership and organization.

“250105. Governing body.

“250106. Powers.

“250107. Exclusive right to name, term, seals, emblems, and badges.

“250108. Restrictions.

“250109. Records and inspection.

“250110. Duty to maintain tax exempt status.

“250111. Liability for acts of officers and agents.

“250112. Annual report.

16 **“§ 250101. Definitions**

17 “In this chapter:

1 “(1) CORPORATION.—The term ‘corporation’
2 means the National Fab Lab Network.

3 “(2) FAB LAB.—The term ‘fab lab’ means a fa-
4 cility that—

5 “(A) contains the range of capabilities re-
6 quired to create form and function from digital
7 designs, including—

8 “(i) computer-controlled machines for
9 additive and subtractive fabrication pro-
10 cesses;

11 “(ii) tools and components for manu-
12 facturing and programming electronic cir-
13 cuits;

14 “(iii) materials and methods for short-
15 run production; and

16 “(iv) workflows for three-dimensional
17 design and digitization; and

18 “(B) is committed to supporting education,
19 innovation, entrepreneurship, personal expres-
20 sion, self-sufficiency, and social impact for its
21 community through digital fabrication.

22 **“§ 250102. Organization**

23 “(a) ESTABLISHMENT.—There is hereby established
24 the National Fab Lab Network.

1 “(b) FEDERAL CHARTER.—The National Fab Lab
2 Network is a federally chartered corporation.

3 “(c) PLACE OF INCORPORATION.—The corporation is
4 declared to be a nonprofit corporation incorporated in the
5 District of Columbia.

6 “(d) PERPETUAL EXISTENCE.—Except as otherwise
7 provided, the corporation shall have perpetual succession.

8 **“§ 250103. Goals and activities**

9 “(a) GOALS.—The goals of the corporation are as fol-
10 lows:

11 “(1) To foster current and future fab labs.

12 “(2) To create a national network of connected
13 local fab labs to empower individuals and commu-
14 nities in the United States.

15 “(3) To foster the use of distributed digital fab-
16 rication tools—

17 “(A) to promote science, technology, engi-
18 neering and math skills;

19 “(B) to increase invention and innovation;

20 “(C) to create businesses and jobs;

21 “(D) to fulfill personal, professional, and
22 community needs;

23 “(E) to create value and mitigate harm;

24 “(F) to increase self-sufficiency for individ-
25 uals, households, and communities;

1 “(G) to reduce dependency on global sup-
2 ply chains; and

3 “(H) to align workforce development with
4 new and emerging jobs.

5 “(4) To provide a platform for education, re-
6 search, and for catalyzing new methods in science,
7 technology, engineering, and mathematics education,
8 and introducing digital fabrication as an essential
9 new literacy.

10 “(5) To create new ways of educating the work-
11 force that will enable workers to compete in a 21st
12 century global marketplace.

13 “(b) ACTIVITIES.—To attain the goals described in
14 subsection (a), the corporation shall carry out activities,
15 including the following:

16 “(1) Seeking, initially, to establish a minimum
17 of one fab lab in each Congressional District.

18 “(2) Seeking to establish additional labs within
19 the network created under subsection (a)(2), in re-
20 sponse to local demand, and to provide guidelines for
21 their sustainable operation.

22 “(3) Linking fab labs into a national network,
23 and promoting further expansion of fab labs across
24 the United States.

1 “(4) Serving as a resource to assist diverse
2 public and private stakeholders with the effective op-
3 eration of fab labs, and the training of fab lab lead-
4 ers and mentors.

5 “(5) Maintaining a national registry of fab labs.

6 “(6) Providing standards and protocols for con-
7 necting fab labs regionally, nationally, and globally.

8 **“§ 250104. Membership and organization**

9 “Except as provided in this chapter, eligibility for
10 membership in the corporation and the rights and privi-
11 leges of members are as provided in the constitution and
12 bylaws of the corporation.

13 **“§ 250105. Governing body**

14 “(a) IN GENERAL.—Except as provided in subsection
15 (b), directors, officers, and other staff of the corporation,
16 and their powers and duties, are as provided in the bylaws
17 of the corporation.

18 “(b) BOARD MEMBERSHIP.—

19 “(1) COMPOSITION.—The board of the corpora-
20 tion shall be composed of not fewer than 7 members
21 and not more than 15 members.

22 “(2) REPRESENTATION.—

23 “(A) IN GENERAL.—The membership of
24 the board of the corporation shall collectively
25 represent the diversity of fab labs.

1 “(B) REQUIREMENT.—At a minimum, the
2 board of the corporation shall be composed of
3 members from geographic regions across the
4 United States, Tribal communities, educational
5 and research institutions, libraries, nonprofit
6 and commercial organizations, diverse demo-
7 graphic groups, and the Fab Foundation.

8 “(C) INDIVIDUAL REPRESENTATION.—An
9 individual member of the board of the corpora-
10 tion may represent more than one board role
11 and additional roles may be added to reflect the
12 diversity of the fab lab ecosystem.

13 “(3) SELECTION.—The initial board of the cor-
14 poration shall be chosen, in consultation with the
15 Fab Foundation and in accordance with paragraph
16 (2)(A), as follows:

17 “(A) Two shall be appointed by the major-
18 ity leader of the Senate.

19 “(B) Two shall be appointed by the minor-
20 ity leader of the Senate.

21 “(C) Two shall be appointed by the Speak-
22 er of the House of Representatives.

23 “(D) Two shall be appointed by the minor-
24 ity leader of the House of Representatives.

1 **“§ 250106. Powers**

2 “The corporation may—

3 “(1) coordinate the creation of a national net-
4 work of local fab labs in the United States;

5 “(2) issue guidelines for the sustainable oper-
6 ation of fab labs;

7 “(3) issue standards and guidelines for fab
8 labs;

9 “(4) serve as a resource for organizations and
10 communities seeking to create fab labs by providing
11 information, assessing suitability, advising on the lab
12 lifecycle, and maintaining descriptions of prospective
13 and operating sites;

14 “(5) accept funds from private individuals, or-
15 ganizations, government agencies, or other organiza-
16 tions;

17 “(6) distribute funds to other organizations to
18 establish and operate fab labs as members of the
19 corporation;

20 “(7) facilitate communication between other or-
21 ganizations seeking to join the corporation with
22 operational entities that can source and install fab
23 labs, provide training, assist with operations, ac-
24 count for spending, and assess impact;

1 “(8) communicate the benefits available
2 through membership in the corporation to commu-
3 nities and the public;

4 “(9) facilitate and participate in synergistic
5 programs, including workforce training, job creation,
6 researching the enabling technology and broader im-
7 pacts of such programs, and the production of civic
8 infrastructure;

9 “(10) develop processes and methods to miti-
10 gate risks associated with digital fabrication;

11 “(11) amend a constitution and bylaws for the
12 management of its property and the regulation of its
13 affairs;

14 “(12) choose directors, officers, trustees, man-
15 agers, employees, and agents as the activities of the
16 corporation require;

17 “(13) make contracts;

18 “(14) acquire, own, lease, encumber, and trans-
19 fer property as necessary or convenient to carry out
20 the purposes of the corporation;

21 “(15) borrow money, issue instruments of in-
22 debtedness, and secure its obligations by granting
23 security interests in its property;

24 “(16) charge and collect membership dues and
25 subscription fees; and

1 “(17) sue and be sued.

2 **“§ 250107. Exclusive right to name, term, seals, em-**
3 **blems, and badges**

4 “The corporation and its participating digital fabrica-
5 tion labs have the exclusive right to use—

6 “(1) the name ‘National Fab Lab Network’;

7 “(2) the term ‘fab lab’ as referring to a member
8 fab lab of the corporation; and

9 “(3) any seals, emblems, and badges the cor-
10 poration adopts.

11 **“§ 250108. Restrictions**

12 “(a) STOCK AND DIVIDENDS.—The corporation may
13 not issue securities of any kind or declare or pay a divi-
14 dend.

15 “(b) DISTRIBUTION OF INCOME OR ASSETS.—The in-
16 come or assets of the corporation may not inure to the
17 benefit of, or be distributed to, a director, officer, or mem-
18 ber during the life of the charter of the corporation under
19 this chapter. This subsection does not prevent the pay-
20 ment of reasonable compensation to an officer or reim-
21 bursement for actual necessary expenses in amounts ap-
22 proved by the board of directors.

23 “(c) LOANS.—The corporation may not make a loan
24 to a director, officer, or employee.

1 “(d) CLAIM OF GOVERNMENTAL APPROVAL OR AU-
2 THORITY.—The corporation may not claim congressional
3 approval or the authority of the United States Govern-
4 ment for any of its activities, but may recognize congres-
5 sional approval of this charter.

6 **“§ 250109. Records and inspection**

7 “(a) RECORDS.—The corporation shall keep—

8 “(1) correct and complete records of account;

9 “(2) minutes of the proceedings of its members,
10 board of directors, and committees having any of the
11 authority of its board of directors; and

12 “(3) at its principal office, a record of the
13 names and addresses of its members entitled to vote.

14 “(b) INSPECTIONS.—A member entitled to vote, or an
15 agent or attorney of the member, may inspect the records
16 of the corporation for any proper purpose, at any reason-
17 able time.

18 **“§ 250110. Duty to maintain tax exempt status**

19 “The corporation shall maintain its status as an or-
20 ganization exempt from taxation under the Internal Rev-
21 enue Code of 1986 (26 U.S.C. 1 et seq.).

22 **“§ 250111. Liability for acts of officers and agents**

23 “The corporation is liable for the acts of its officers
24 and agents acting within the scope of their authority.

1 **“§ 250112. Annual report**

2 “Not less frequently than once each year, the cor-
3 poration shall submit to Congress, including specifically
4 to the Committee on Commerce, Science, and Transpor-
5 tation of the Senate and the Committee on Science, Space,
6 and Technology of the House of Representatives, a report
7 on the activities of the corporation during the prior fiscal
8 year. The report shall be submitted at the same time as
9 the report of the audit required by section 10101 of this
10 title.”.