

**Calendar No. 652**114<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION**S. 2607****[Report No. 114-364]**

To ensure appropriate spectrum planning and interagency coordination to support the Internet of Things.

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## IN THE SENATE OF THE UNITED STATES

MARCH 1, 2016

Mrs. FISCHER (for herself, Ms. AYOTTE, Mr. BOOKER, and Mr. SCHATZ) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

SEPTEMBER 27, 2016

Reported by Mr. THUNE, with an amendment and an amendment to the title  
[Strike out all after the enacting clause and insert the part printed in italic]

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**A BILL**

To ensure appropriate spectrum planning and interagency coordination to support the Internet of Things.

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 “Developing Innovation  
3 and Growing the Internet of Things Act” or “DIGIT  
4 Act”.

5 **SEC. 2. FINDINGS; SENSE OF CONGRESS.**

6 (a) FINDINGS.—Congress finds that—

7 (1) the “Internet of Things” refers to the grow-  
8 ing number of connected and interconnected devices;

9 (2) estimates indicate that more than  
10 50,000,000,000 devices will be connected by the year  
11 2020;

12 (3) the Internet of Things has the potential to  
13 generate trillions of dollars in economic opportunity;

14 (4) businesses across the country can simplify  
15 logistics, cut costs, and pass savings on to con-  
16 sumers by utilizing the Internet of Things and re-  
17 lated innovations derived from it;

18 (5) the United States leads the world in the de-  
19 velopment of technologies that support the Internet,  
20 and the United States technology sector is well posi-  
21 tioned to lead in the development of technologies for  
22 the Internet of Things;

23 (6) the United States Government can imple-  
24 ment this technology to better deliver services to the  
25 public; and

1 (7) the Senate unanimously passed Senate Res-  
2 olution 110, 114th Congress, agreed to March 24,  
3 2015, a resolution calling for a national strategy for  
4 the development of the Internet of Things.

5 (b) SENSE OF CONGRESS.—It is the sense of Con-  
6 gress that policies governing the Internet of Things should  
7 aim to maximize the potential and development of the  
8 Internet of Things to the benefit of stakeholders including  
9 businesses, governments, and consumers.

10 **SEC. 3. STRATEGIC PLANNING FOR THE INTERNET OF**  
11 **THINGS.**

12 (a) DEFINITIONS.—In this section—

13 (1) the term “appropriate committees of Con-  
14 gress” means—

15 (A) the Committee on Commerce, Science,  
16 and Transportation of the Senate; and

17 (B) the Committee on Energy and Com-  
18 merce of the House of Representatives;

19 (2) the term “Commission” means the Federal  
20 Communications Commission;

21 (3) the term “Secretary” means the Secretary  
22 of Commerce; and

23 (4) the term “working group” means the work-  
24 ing group convened under subsection (b)(1).

25 (b) WORKING GROUP.—

1           (1) ~~IN GENERAL.~~—The Secretary shall convene  
2 a working group of Federal stakeholders to provide  
3 recommendations to Congress on how to appro-  
4 priately plan for and encourage the proliferation of  
5 the Internet of Things in the United States.

6           (2) ~~DUTIES.~~—The working group shall examine  
7 the following aspects of the Internet of Things:

8                   (A) Current and future spectrum needs.

9                   (B) The regulatory environment, including  
10 identification of sector-specific regulations, Fed-  
11 eral grant practices, and budgetary or jurisdic-  
12 tional challenges.

13                   (C) Consumer protection.

14                   (D) Privacy and security.

15                   (E) The current use of the technology by  
16 Federal agencies and their preparedness to  
17 adopt it in the future.

18           (3) ~~AGENCY REPRESENTATIVES.~~—In convening  
19 the working group under paragraph (1), the Sec-  
20 retary shall have discretion to appoint representa-  
21 tives and shall specifically consider seeking represen-  
22 tation from—

23                   (A) the Department of Transportation;

24                   (B) the Federal Communications Commis-  
25 sion;

- 1                   (C) the Federal Trade Commission;
- 2                   (D) the National Science Foundation;
- 3                   (E) the Department of Commerce, includ-
- 4                   ing—
- 5                   (i) the National Telecommunications
- 6                   and Information Administration;
- 7                   (ii) the National Institute of Stand-
- 8                   ards and Technology; and
- 9                   (iii) the National Oceanic and Atmos-
- 10                  pheric Administration; and
- 11                  (F) the Office of Science and Technology
- 12                  Policy.

13                  (4) ~~NONGOVERNMENTAL STAKEHOLDERS.~~—The

14                  working group shall consult with nongovernmental

15                  stakeholders, including—

- 16                  (A) key industry sectoral stakeholders and
- 17                  subject matter experts;
- 18                  (B) information and communications tech-
- 19                  nology manufacturers, suppliers, and vendors;
- 20                  (C) small, medium, and large businesses;
- 21                  (D) consumer groups; and
- 22                  (E) other stakeholders with relevant exper-
- 23                  tise, as determined by the Secretary.

24                  (5) ~~RECOMMENDATIONS TO CONGRESS.~~—Not

25                  later than 1 year after the date of enactment of this

1 Act, the working group shall submit to the appro-  
2 priate committees of Congress a report on the find-  
3 ings and recommendations of the working group  
4 under this subsection.

5 ~~(c) ASSESSING SPECTRUM NEEDS TO SUPPORT THE~~  
6 ~~INTERNET OF THINGS.—~~

7 ~~(1) IN GENERAL.—~~The Commission, in con-  
8 sultation with the National Telecommunications and  
9 Information Administration, shall conduct a study to  
10 evaluate the current and future spectrum needs of  
11 the Internet of Things.

12 ~~(2) REQUIREMENTS.—~~In conducting the study  
13 under paragraph ~~(1)~~, the Commission shall consider  
14 and evaluate—

15 ~~(A)~~ whether there is adequate licensed and  
16 unlicensed spectrum availability to support the  
17 growing Internet of Things;

18 ~~(B)~~ what regulatory barriers may exist to  
19 providing any needed licensed and unlicensed  
20 spectrum for the Internet of Things; and

21 ~~(C)~~ what the role of licensed and unli-  
22 censed spectrum is in the growth of the Inter-  
23 net of Things.

24 ~~(3) REPORT.—~~Not later than 1 year after the  
25 date of enactment of this Act, the Commission shall

1 submit to the appropriate committees of Congress a  
2 report containing recommendations relating to the  
3 study conducted under paragraph (1).

4 **SECTION 1. SHORT TITLE.**

5 *This Act may be cited as the “Developing Innovation*  
6 *and Growing the Internet of Things Act” or “DIGIT Act”.*

7 **SEC. 2. FINDINGS; SENSE OF CONGRESS.**

8 (a) *FINDINGS.—Congress finds that—*

9 (1) *the “Internet of Things” refers to the growing*  
10 *number of connected and interconnected devices;*

11 (2) *estimates indicate that more than*  
12 *50,000,000,000 devices will be connected to the Inter-*  
13 *net by the year 2020;*

14 (3) *the Internet of Things has the potential to*  
15 *generate trillions of dollars in new economic activity*  
16 *around the world;*

17 (4) *businesses across the country can develop new*  
18 *services and products, improve operations, simplify*  
19 *logistics, cut costs, and pass savings on to consumers*  
20 *by utilizing the Internet of Things and related inno-*  
21 *vations;*

22 (5) *the United States leads the world in the de-*  
23 *velopment of technologies that support the Internet,*  
24 *and the United States technology sector is well-posi-*

1        *tioned to lead in the development of technologies for*  
2        *the Internet of Things;*

3                *(6) the United States Government can imple-*  
4        *ment this technology to better deliver services to the*  
5        *public; and*

6                *(7) the United States Senate unanimously*  
7        *passed Senate Resolution 110, 114th Congress, agreed*  
8        *to March 24, 2015, calling for a national strategy for*  
9        *the development of the Internet of Things.*

10        *(b) SENSE OF CONGRESS.—It is the sense of Congress*  
11        *that policies governing the Internet of Things should maxi-*  
12        *mize the potential and development of the Internet of*  
13        *Things to benefit all stakeholders, including businesses, gov-*  
14        *ernments, and consumers.*

15        **SEC. 3. DEFINITIONS.**

16        *In this Act:*

17                *(1) APPROPRIATE COMMITTEES OF CONGRESS.—*  
18        *The term “appropriate committees of Congress”*  
19        *means—*

20                *(A) the Committee on Commerce, Science,*  
21                *and Transportation of the Senate; and*

22                *(B) the Committee on Energy and Com-*  
23                *merce of the House of Representatives.*

24                *(2) COMMISSION.—The term “Commission”*  
25        *means the Federal Communications Commission.*

1           (3) *SECRETARY.*—*The term “Secretary” means*  
2           *the Secretary of Commerce.*

3           (4) *STEERING COMMITTEE.*—*The term “steering*  
4           *committee” means the steering committee established*  
5           *under section 4(e)(1).*

6           (5) *WORKING GROUP.*—*The term “working*  
7           *group” means the working group convened under sec-*  
8           *tion 4(a).*

9   **SEC. 4. FEDERAL WORKING GROUP.**

10       (a) *IN GENERAL.*—*The Secretary shall convene a*  
11       *working group of Federal stakeholders for the purpose of*  
12       *providing recommendations and a report to Congress re-*  
13       *lated to the aspects of the Internet of Things described in*  
14       *subsection (b).*

15       (b) *DUTIES.*—*The working group shall—*

16           (1) *identify any Federal regulations, statutes,*  
17           *grant practices, budgetary or jurisdictional chal-*  
18           *lenges, and other sector-specific policies that are in-*  
19           *hibiting or could inhibit the development of the Inter-*  
20           *net of Things;*

21           (2) *consider policies or programs that encourage*  
22           *and improve coordination among Federal agencies*  
23           *with jurisdiction over the Internet of Things;*

1           (3) *consider any findings or recommendations*  
2           *made by the steering committee and, where appro-*  
3           *priate, act to implement those recommendations; and*

4           (4) *examine—*

5                 (A) *how Federal agencies can benefit from*  
6                 *utilizing the Internet of Things;*

7                 (B) *the current use of Internet of Things*  
8                 *technology by Federal agencies; and*

9                 (C) *the preparedness and ability of Federal*  
10                *agencies to adopt Internet of Things technology*  
11                *in the future.*

12         (c) *AGENCY REPRESENTATIVES.—In convening the*  
13         *working group under subsection (a), the Secretary shall*  
14         *have discretion to appoint representatives and shall specifi-*  
15         *cally consider seeking representation from—*

16               (1) *the Department of Commerce, including—*

17                     (A) *the National Telecommunications and*  
18                     *Information Administration;*

19                     (B) *the National Institute of Standards and*  
20                     *Technology; and*

21                     (C) *the National Oceanic and Atmospheric*  
22                     *Administration;*

23               (2) *the Department of Transportation;*

24               (3) *the Department of Homeland Security;*

25               (4) *the Office of Management and Budget;*

- 1           (5) *the National Science Foundation;*
- 2           (6) *the Federal Communications Commission;*
- 3           (7) *the Federal Trade Commission; and*
- 4           (8) *the Office of Science and Technology Policy.*

5           (d) *NONGOVERNMENTAL STAKEHOLDERS.—The work-*  
6 *ing group shall consult with nongovernmental stakeholders,*  
7 *including—*

- 8           (1) *the steering committee;*
- 9           (2) *information and communications technology*  
10 *manufacturers, suppliers, service providers, and ven-*  
11 *dors;*
- 12           (3) *subject matter experts representing industrial*  
13 *sectors other than the technology sector that can ben-*  
14 *efit from the Internet of Things, including the agri-*  
15 *culture and health care sectors;*
- 16           (4) *small, medium, and large businesses;*
- 17           (5) *think tanks and academia;*
- 18           (6) *nonprofits and consumer groups;*
- 19           (7) *rural stakeholders; and*
- 20           (8) *other stakeholders with relevant expertise, as*  
21 *determined by the Secretary.*

22           (e) *STEERING COMMITTEE.—*

- 23           (1) *ESTABLISHMENT.—There is established with-*  
24 *in the Department of Commerce a steering committee*  
25 *to advise the working group.*

1           (2) *DUTIES.*—*The steering committee shall ad-*  
2 *vice the working group with regard to—*

3                   (A) *the identification of any Federal regula-*  
4 *tions, statutes, grant practices, programs, budg-*  
5 *etary or jurisdictional challenges, and other sec-*  
6 *tor-specific policies that are inhibiting or could*  
7 *inhibit the development of the Internet of Things;*

8                   (B) *whether adequate spectrum is available*  
9 *to support the growing Internet of Things and*  
10 *what legal or regulatory barriers may exist to*  
11 *providing any spectrum needed in the future;*

12                  (C) *policies or programs that promote or*  
13 *are related to the privacy of individuals who use*  
14 *or are affected by the Internet of Things;*

15                  (D) *policies or programs that may enhance*  
16 *the security of the Internet of Things;*

17                  (E) *policies or programs that may protect*  
18 *users of the Internet of Things;*

19                  (F) *policies or programs that may encour-*  
20 *age coordination among Federal agencies with*  
21 *jurisdiction over the Internet of Things;*

22                  (G) *the opportunities and challenges associ-*  
23 *ated with the use of Internet of Things tech-*  
24 *nology by small businesses; and*

1           (H) any international proceeding, inter-  
2           national negotiation, or other international mat-  
3           ter affecting the Internet of Things to which the  
4           United States is or should be a party.

5           (3) MEMBERSHIP.—The Secretary shall appoint  
6           to the steering committee members representing a  
7           wide range of stakeholders outside the Federal Govern-  
8           ment with expertise relating to the Internet of Things,  
9           including—

10           (A) information and communications tech-  
11           nology manufacturers, suppliers, service pro-  
12           viders, and vendors;

13           (B) subject matter experts representing in-  
14           dustrial sectors other than the technology sector  
15           that can benefit from the Internet of Things, in-  
16           cluding the agriculture and health care sectors;

17           (C) small, medium, and large businesses;

18           (D) think tanks and academia;

19           (E) nonprofits and consumer groups;

20           (F) rural stakeholders; and

21           (G) other stakeholders with relevant exper-  
22           tise, as determined by the Secretary.

23           (4) REPORT.—Not later than 1 year after the  
24           date of enactment of this Act, the steering committee  
25           shall submit to the working group a report that in-

1 *cludes any findings or recommendations of the steer-*  
2 *ing committee.*

3 (5) *INDEPENDENT ADVICE.*—

4 (A) *IN GENERAL.*—*The steering committee*  
5 *shall set its own agenda in carrying out its du-*  
6 *ties under paragraph (2).*

7 (B) *SUGGESTIONS.*—*The working group*  
8 *may suggest topics or items for the steering com-*  
9 *mittee to study, and the steering committee shall*  
10 *take such suggestions into consideration in car-*  
11 *rying out its duties.*

12 (C) *REPORT.*—*The steering committee shall*  
13 *ensure that the report submitted under para-*  
14 *graph (4) is the result of the independent judg-*  
15 *ment of the steering committee.*

16 (6) *TERMINATION.*—*The steering committee shall*  
17 *terminate on the date on which the working group*  
18 *submits the report under subsection (f) unless, on or*  
19 *before that date, the Secretary files a new charter for*  
20 *the steering committee in accordance with section 9(c)*  
21 *of the Federal Advisory Committee Act (5 U.S.C.*  
22 *App.).*

23 (f) *REPORT TO CONGRESS.*—*Not later than 18 months*  
24 *after the date of enactment of this Act, the working group*

1 *shall submit to the appropriate committees of Congress a*  
2 *report that includes—*

3           (1) *the findings and recommendations of the*  
4 *working group with respect to the duties of the work-*  
5 *ing group under subsection (b);*

6           (2) *the report submitted by the steering com-*  
7 *mittee under subsection (e)(4), as the report was re-*  
8 *ceived by the working group;*

9           (3) *recommendations for action or reasons for*  
10 *inaction, as applicable, on each recommendation*  
11 *made by the steering committee in the report sub-*  
12 *mitted under subsection (e)(4); and*

13           (4) *an accounting of any progress made by Fed-*  
14 *eral agencies to implement recommendations made by*  
15 *the working group or the steering committee.*

16 **SEC. 5. ASSESSING SPECTRUM NEEDS.**

17           (a) *IN GENERAL.—The Commission, in consultation*  
18 *with the National Telecommunications and Information*  
19 *Administration, shall issue a notice of inquiry seeking pub-*  
20 *lic comment on the current and future spectrum needs of*  
21 *the Internet of Things.*

22           (b) *REQUIREMENTS.—In issuing the notice of inquiry*  
23 *under subsection (a), the Commission shall seek comments*  
24 *that consider and evaluate—*

1           (1) *whether adequate spectrum is available to*  
2           *support the growing Internet of Things;*

3           (2) *what regulatory barriers may exist to pro-*  
4           *viding any needed spectrum for the Internet of*  
5           *Things; and*

6           (3) *what the role of licensed and unlicensed spec-*  
7           *trum is and will be in the growth of the Internet of*  
8           *Things.*

9           (c) *REPORT.—Not later than 1 year after the date of*  
10          *enactment of this Act, the Commission shall submit to the*  
11          *appropriate committees of Congress a report summarizing*  
12          *the comments submitted in response to the notice of inquiry*  
13          *issued under subsection (a).*

Amend the title so as to read: “A bill to ensure appropriate policies, planning, interagency coordination, and spectrum availability to support the Internet of Things.”.



Calendar No. 652

114<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

**S. 2607**

[Report No. 114-364]

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## **A BILL**

To ensure appropriate spectrum planning and interagency coordination to support the Internet of Things.

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SEPTEMBER 27, 2016

Reported with an amendment and an amendment to the title