

115TH CONGRESS
1ST SESSION

S. 2217

To require the Secretary of Commerce to establish the Federal Advisory Committee on the Development and Implementation of Artificial Intelligence, and for other purposes.

IN THE SENATE OF THE UNITED STATES

DECEMBER 12, 2017

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

A BILL

To require the Secretary of Commerce to establish the Federal Advisory Committee on the Development and Implementation of Artificial Intelligence, 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 “Fundamentally Under-
5 standing The Usability and Realistic Evolution of Artifi-
6 cial Intelligence Act of 2017” or the “FUTURE of Artifi-
7 cial Intelligence Act of 2017”.

1 **SEC. 2. SENSE OF CONGRESS.**

2 It is the sense of Congress that—

3 (1) understanding and preparing for the ongoing
4 development of artificial intelligence is critical to
5 the economic prosperity and social stability of the
6 United States;

7 (2) as artificial intelligence evolves, it can greatly
8 benefit society by powering the information economy,
9 fostering better informed decisions and helping
10 unlock answers to questions that, as of the date of
11 the enactment of this Act, are unanswerable;

12 (3) for the reasons set forth in paragraph (2)
13 it's beneficial to better understand artificial intel-
14 ligence and foster the development of artificial intel-
15 ligence in a manner that maximizes its benefit to so-
16 ciety; and

17 (4) it is critical that the priorities of the advisory
18 committee established under section 4(a)(1) include
19 developing guidance or recommendations—

20 (A) to promote a climate of investment and
21 innovation to ensure the global competitiveness
22 of the United States;

23 (B) to optimize the development of artificial
24 intelligence to address the potential growth,
25 restructuring, or other changes in the United

1 States workforce that results from the develop-
2 ment of artificial intelligence;

3 (C) to promote and support the unbiased
4 development and application of artificial intel-
5 ligence; and

6 (D) to protect the privacy rights of individ-
7 uals.

8 **SEC. 3. DEFINITIONS.**

9 (a) IN GENERAL.—Except as provided in subsection
10 (b), in this Act:

11 (1) ARTIFICIAL INTELLIGENCE.—The term “ar-
12 tificial intelligence” includes the following:

13 (A) Any artificial systems that perform
14 tasks under varying and unpredictable cir-
15 cumstances, without significant human over-
16 sight, or that can learn from their experience
17 and improve their performance. Such systems
18 may be developed in computer software, phys-
19 ical hardware, or other contexts not yet con-
20 templated. They may solve tasks requiring
21 human-like perception, cognition, planning,
22 learning, communication, or physical action. In
23 general, the more human-like the system within
24 the context of its tasks, the more it can be said
25 to use artificial intelligence.

1 (B) Systems that think like humans, such
2 as cognitive architectures and neural networks.

3 (C) Systems that act like humans, such as
4 systems that can pass the Turing test or other
5 comparable test via natural language proc-
6 essing, knowledge representation, automated
7 reasoning, and learning.

8 (D) A set of techniques, including machine
9 learning, that seek to approximate some cog-
10 nitive task.

11 (E) Systems that act rationally, such as in-
12 telligent software agents and embodied robots
13 that achieve goals via perception, planning, rea-
14 soning, learning, communicating, decision mak-
15 ing, and acting.

16 (2) ARTIFICIAL GENERAL INTELLIGENCE.—The
17 term “artificial general intelligence” means a no-
18 tional future artificial intelligence system that exhib-
19 its apparently intelligent behavior at least as ad-
20 vanced as a person across the range of cognitive,
21 emotional, and social behaviors.

22 (3) NARROW ARTIFICIAL INTELLIGENCE.—The
23 term “narrow artificial intelligence” means an artifi-
24 cial intelligence system that addresses specific appli-
25 cation areas such as playing strategic games, lan-

1 and narrow artificial intelligence, including on the
2 following as they relate to artificial intelligence:

3 (A) The competitiveness of the United
4 States, including matters relating to the pro-
5 motion of public and private sector investment
6 and innovation into the development of artificial
7 intelligence.

8 (B) Workforce, including matters relating
9 to the potential for using artificial intelligence
10 for rapid retraining of workers, due to the pos-
11 sible effect of technological displacement.

12 (C) Education, including matters relating
13 to science, technology, engineering, and mathe-
14 matics education to prepare the United States
15 workforce as the needs of employers change.

16 (D) Ethics training and development for
17 technologists working on artificial intelligence.

18 (E) Matters relating to open sharing of
19 data and the open sharing of research on artifi-
20 cial intelligence.

21 (F) International cooperation and competi-
22 tiveness, including matters relating to the com-
23 petitive international landscape for artificial in-
24 telligence-related industries.

1 (G) Accountability and legal rights, includ-
2 ing matters relating to the responsibility for
3 any violations of laws by an artificial intel-
4 ligence system and the compatibility of inter-
5 national regulations.

6 (H) Matters relating to machine learning
7 bias through core cultural and societal norms.

8 (I) Matters relating to how artificial intel-
9 ligence can serve or enhance opportunities in
10 rural communities.

11 (J) Government efficiency, including mat-
12 ters relating to how to promote cost saving and
13 streamline operations.

14 (2) STUDY.—The Advisory Committee shall
15 study and assess the following:

16 (A) How to create a climate for public and
17 private sector investment and innovation in ar-
18 tificial intelligence.

19 (B) The possible benefits and effects that
20 the development of artificial intelligence may
21 have on the economy, workforce, and competi-
22 tiveness of the United States.

23 (C) Whether and how networked, auto-
24 mated, artificial intelligence applications and
25 robotic devices will displace or create jobs and

1 how any job related gains relating to artificial
2 intelligence can be maximized.

3 (D) How bias can be identified and elimi-
4 nated in the development of artificial intel-
5 ligence and in the algorithms that support
6 them, including with respect to the following:

7 (i) The selection and processing of
8 data used to train artificial intelligence.

9 (ii) Diversity in the development of
10 artificial intelligence.

11 (iii) The ways and places the systems
12 are deployed and the potential harmful
13 outcomes.

14 (E) Whether and how to incorporate eth-
15 ical standards in the development and imple-
16 mentation of artificial intelligence.

17 (F) How the Federal Government can en-
18 courage technological progress in implementa-
19 tion of artificial intelligence that benefits the
20 full spectrum of social and economic classes.

21 (G) How the privacy rights of individuals
22 are or will be affected by technological innova-
23 tion relating to artificial intelligence.

24 (H) Whether technological advancements
25 in artificial intelligence have or will outpace the

1 legal and regulatory regimes implemented to
2 protect consumers.

3 (I) How existing laws, including those con-
4 cerning data access and privacy, should be mod-
5 ernized to enable the potential of artificial intel-
6 ligence.

7 (J) How the Federal Government utilizes
8 artificial intelligence to handle large or complex
9 data sets.

10 (K) How ongoing dialogues and consulta-
11 tions with multi-stakeholder groups can maxi-
12 mize the potential of artificial intelligence and
13 further development of artificial intelligence
14 technologies that can benefit everyone inclu-
15 sively.

16 (L) How the development of artificial intel-
17 ligence can affect cost savings and streamline
18 operations in various areas of government oper-
19 ations, including health care, cybersecurity, in-
20 frastructure, and disaster recovery.

21 (M) Such other matters as the Advisory
22 Committee considers appropriate.

23 (3) REPORTS AND RECOMMENDATIONS.—

24 (A) REPORT BY ADVISORY COMMITTEE.—

25 Not later than 540 days after the date of the

1 enactment of this Act, the Advisory Committee
2 shall submit to the Secretary and to Congress
3 a report on the findings of the Advisory Com-
4 mittee and such recommendations as the Advi-
5 sory Committee may have for administrative or
6 legislative action relating to artificial intel-
7 ligence.

8 (B) RECOMMENDATIONS OF SECRETARY.—

9 Not later than 90 days after receiving the re-
10 port submitted under subparagraph (A), the
11 Secretary shall review the report and submit to
12 Congress such recommendations as the Sec-
13 retary may have with respect to the matters
14 contained in the report submitted under sub-
15 paragraph (A).

16 (c) MEMBERSHIP.—

17 (1) VOTING MEMBERS.—

18 (A) IN GENERAL.—The Advisory Com-
19 mittee shall be composed of 19 voting members
20 who shall be appointed by the Secretary of
21 Commerce, with advisement from the Chair and
22 Ranking Member of the Committee on Com-
23 merce, Science, and Transportation of the Sen-
24 ate and the Chair and Ranking Member of the
25 Committee on Energy and Commerce of the

1 House of Representatives, for purposes of the
2 Advisory Committee from among individuals
3 with expertise in matters relating to workforce
4 development, ethics, privacy, artificial intel-
5 ligence, or computer science.

6 (B) REPRESENTATION.—In carrying out
7 subparagraph (A), the Secretary shall ensure
8 that voting members are appointed as follows:

9 (i) Five members from academic or
10 research community.

11 (ii) Six members from private indus-
12 try, at least one of whom shall be from a
13 small business concern.

14 (iii) Six from civil society, at least two
15 of whom shall be from groups that advo-
16 cate for civil liberties or civil rights.

17 (iv) Two from labor organizations or
18 groups.

19 (C) GEOGRAPHICAL DIVERSITY.—In car-
20 rying out subparagraph (A), the Secretary shall
21 ensure that the voting members of the Advisory
22 Committee come from diverse geographical loca-
23 tions within the United States.

24 (2) NONVOTING MEMBERS.—The Advisory
25 Committee shall also be composed of such nonvoting

1 members as the Secretary considers appropriate, ex-
2 cept that the Secretary shall appoint at least one
3 such member from each of the following:

4 (A) The Department of Education.

5 (B) The Department of Justice.

6 (C) The Department of Labor.

7 (D) The Department of Transportation.

8 (E) The Federal Trade Commission.

9 (F) The National Institute of Standards
10 and Technology.

11 (G) The National Science Foundation.

12 (H) The National Science and Technology
13 Council.

14 (I) Such other nonvoting members as the
15 voting members of the Advisory Committee con-
16 sider appropriate.

17 (3) CHAIRPERSON.—The Secretary shall ap-
18 point a chairperson for the Advisory Committee
19 from among the members appointed under para-
20 graph (1).

21 (d) MEETINGS.—The Advisory Committee shall
22 meet—

23 (1) in person no less frequently than twice each
24 year; and

1 (2) via telepresence no less frequently than once
2 every two months.

3 (e) POWERS.—In order to carry out its duties under
4 subsection (b), the Advisory Committee may—

5 (1) hold such hearings, sit and act at such
6 times and places, take such testimony, and receive
7 such evidence as the Advisory Committee considers
8 appropriate;

9 (2) submit to Congress such recommendations
10 as the Advisory Committee considers appropriate;

11 (3) submit to Federal agencies such rec-
12 ommendations as the Advisory Committee considers
13 appropriate;

14 (4) issue reports, guidelines, and memoranda;

15 (5) hold or host conferences and symposia;

16 (6) enter into cooperative agreements with
17 third-party experts to obtain relevant advice or ex-
18 pertise, and oversee staff;

19 (7) establish subcommittees; and

20 (8) establish rules of procedure.

21 (f) TRAVEL EXPENSES.—The members of the Advi-
22 sory Committee shall be allowed travel expenses, including
23 per diem in lieu of subsistence, at rates authorized for em-
24 ployees of agencies under subchapter I of chapter 57 of
25 title 5, United States Code, while away from their homes

1 or regular places of business in the performance of services
2 for the Advisory Committee.

3 (g) FUNDING.—

4 (1) IN GENERAL.—Except as provided in para-
5 graph (2), amounts to carry out this section shall be
6 derived from amounts appropriated or otherwise
7 made available to the Secretary of Commerce.

8 (2) DONATIONS.—

9 (A) AUTHORIZATION.—The Advisory Com-
10 mittee may solicit and accept donations from
11 private persons and non-Federal entities to
12 carry out this section.

13 (B) LIMITATION.—Of the amounts ex-
14 pended by the Advisory Committee in a fiscal
15 year to carry out this section, not more than
16 half may be derived from amounts received
17 under subparagraph (A).

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