

114TH CONGRESS
1ST SESSION

S. 2113

To harness the expertise, ingenuity, and creativity of all people to contribute to innovation in the United States and to help solve problems or scientific questions by encouraging and increasing the use of crowdsourcing and citizen science methods within the Federal Government, as appropriate, and for other purposes.

IN THE SENATE OF THE UNITED STATES

SEPTEMBER 30, 2015

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

A BILL

To harness the expertise, ingenuity, and creativity of all people to contribute to innovation in the United States and to help solve problems or scientific questions by encouraging and increasing the use of crowdsourcing and citizen science methods within the Federal Government, as appropriate, 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 “Crowdsourcing and
5 Citizen Science Act of 2015”.

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

2 It is the sense of Congress that—

3 (1) the authority granted to Federal agencies
4 under the America COMPETES Reauthorization
5 Act of 2010 (Public Law 111–358) to pursue the
6 use of incentive prizes and challenges has yielded
7 numerous benefits, including—

8 (A) paying only for success;

9 (B) establishing an ambitious goal without
10 having to predict which team or approach is
11 most likely to succeed;

12 (C) reaching out to individuals or a broad-
13 er group of people to increase the number of
14 minds tackling a problem;

15 (D) bringing out-of-discipline perspectives
16 to bear; and

17 (E) increasing cost-effectiveness to maxi-
18 mize the return on taxpayer dollars;

19 (2) granting Federal agencies the direct, ex-
20 plicit authority to use crowdsourcing and citizen
21 science will—

22 (A) remove ambiguity about whether an
23 agency can use these techniques;

24 (B) encourage its appropriate use to ad-
25 vance agency missions; and

1 (C) stimulate and facilitate broader public
2 participation in the innovation process;

3 (3) crowdsourcing projects have a number of
4 unique benefits, including—

5 (A) improving the delivery of government
6 services with significantly lower Federal or
7 other public resource investments or at time
8 scales or distribution scales that might not oth-
9 erwise be possible;

10 (B) connecting citizens to the missions of
11 Federal agencies by promoting a spirit of open
12 government and volunteerism;

13 (C) providing the acquisition of data at a
14 greater geographic extent and in locations with
15 a greater density or frequency than otherwise
16 reasonably obtainable using conventional meth-
17 ods; and

18 (D) enabling citizens to address commu-
19 nity and research-based concerns by gathering,
20 analyzing, and sharing data and information;

21 (4) citizen science has additional benefits, in-
22 cluding—

23 (A) advancing and accelerating scientific
24 research through group discovery, the cocre-

1 ation of knowledge, and the inclusion of diverse
2 perspectives;

3 (B) improving science literacy and pro-
4 viding skills needed to excel in science, tech-
5 nology, engineering, and math, thereby increas-
6 ing American competitiveness;

7 (C) furthering science diplomacy through
8 the worldwide collaboration between scientists
9 and citizens; and

10 (D) building trust and understanding be-
11 tween citizens and science and between citizens
12 and scientists; and

13 (5) since participants in crowdsourcing and cit-
14 izen science projects participate in crowdsourcing or
15 citizen science for a variety of reasons, Federal
16 agencies should consider meaningful incentives to
17 engage and retain participants depending on the
18 range of motivations for potential participants, in-
19 cluding—

20 (A) receiving attribution for their contribu-
21 tions to research;

22 (B) learning new skills and knowledge or
23 educating others;

24 (C) connecting with new individuals or
25 communities and building relationships; and

1 (D) knowing that their work is helping to
2 solve meaningful problems and contributing to
3 broader scientific endeavors for the benefit of
4 society.

5 **SEC. 3. CROWDSOURCING AND CITIZEN SCIENCE.**

6 (a) DEFINITIONS.—In this section:

7 (1) CITIZEN SCIENCE.—The term “citizen
8 science” means a form of open collaboration in
9 which individuals or organizations participate in the
10 scientific process in various ways, including—

11 (A) enabling the formulation of research
12 questions;

13 (B) creating and refining project design;

14 (C) conducting scientific experiments;

15 (D) collecting and analyzing data;

16 (E) interpreting the results of data;

17 (F) developing technologies and applica-
18 tions;

19 (G) making discoveries; and

20 (H) solving problems.

21 (2) CROWDSOURCING.—The term
22 “crowdsourcing” means a method to obtain needed
23 services, ideas, or content by soliciting voluntary
24 contributions from a group of individuals or organi-
25 zations, especially from an online community.

1 (3) DIRECTOR.—The term “Director” means
2 the Director of the Office of Science and Technology
3 Policy.

4 (4) FEDERAL AGENCY.—The term “Federal
5 agency”—

6 (A) except as provided in subparagraph

7 (B), means—

8 (i) any Executive agency (as defined
9 in section 105 of title 5, United States
10 Code); and

11 (ii) any military department (as set
12 forth in section 102 of such title); and

13 (B) does not include any legislative branch
14 agency.

15 (5) PARTICIPANT.—The term “participant”
16 means any individual or other entity that has con-
17 sented as a volunteer in a crowdsourcing or citizen
18 science project under this section.

19 (6) RELATED ENTITY.—The term “related enti-
20 ty” means—

21 (A) a Federal Government contractor or
22 subcontractor, at any tier; and

23 (B) a supplier, user, customer, cooperating
24 party, grantee, investigator, fellow, or detailee
25 of a Federal agency.

1 (b) CROWDSOURCING AND CITIZEN SCIENCE AU-
2 THORIZED.—

3 (1) IN GENERAL.—The head of each Federal
4 agency, or the heads of multiple Federal agencies
5 working cooperatively, may utilize crowdsourcing
6 and citizen science approaches to conduct activities
7 designed to advance the mission of the respective
8 Federal agency or the joint mission of Federal agen-
9 cies, as applicable.

10 (2) VOLUNTARY SERVICES.—Notwithstanding
11 section 1342 of title 31, United States Code, the
12 head of a Federal agency may accept, subject to reg-
13 ulations issued by the Office of Personnel Manage-
14 ment, voluntary services from participants under
15 this section if such services—

16 (A) are performed as a part of a
17 crowdsourcing or citizen science project author-
18 ized under paragraph (1);

19 (B) are not financially compensated for
20 their time; and

21 (C) will not be used to displace any em-
22 ployee of the Federal Government.

23 (c) PARTICIPATION.—

24 (1) ADVERTISING.—The head of each Federal
25 agency engaged in a crowdsourcing or citizen science

1 project under this section shall make public and pro-
2 mote such project to encourage broad participation
3 of consenting participants.

4 (2) CONSENT, REGISTRATION, AND TERMS OF
5 USE.—

6 (A) IN GENERAL.—Each Federal agency is
7 authorized to determine the appropriate level of
8 consent, registration, or acknowledgment of the
9 terms of use that is required from participants
10 in crowdsourcing or citizen science projects on
11 a per-project basis.

12 (B) DISCLOSURES.—In seeking consent,
13 conducting registration, or developing terms of
14 use for a project under this subsection, a Fed-
15 eral agency shall disclose the privacy, intellec-
16 tual property, data ownership, compensation,
17 service, program, and other terms of use to the
18 participant in a clear and reasonable manner.

19 (C) MODE OF CONSENT.—A Federal agen-
20 cy or Federal agencies, as applicable, may ob-
21 tain consent electronically or in written form
22 from participants to the volunteer service terms
23 of a crowdsourcing or citizen science project au-
24 thorized under this section.

1 (3) HUMAN SUBJECTS.—Any crowdsourcing or
2 citizen science project that involves research involv-
3 ing human subjects shall be subject to part 46 of
4 title 28, Code of Federal Regulations (or any suc-
5 cessor regulation).

6 (4) DATA.—Notwithstanding security and pri-
7 vacy protections, Federal agencies shall endeavor to
8 make data collected through a crowdsourcing or cit-
9 izen science project authorized under this section
10 open and available, in machine readable formats, to
11 the public. As part of the consent process, the Fed-
12 eral agency shall notify all participants—

13 (A) of the expected uses of the data com-
14 piled through the project;

15 (B) if the Federal agency will retain own-
16 ership of such data;

17 (C) if and how the data and results from
18 the project would be made available for public
19 or third party use; and

20 (D) if participants are authorized to pub-
21 lish such data.

22 (5) TECHNOLOGIES AND APPLICATIONS.—Not-
23 withstanding the intellectual property rights of the
24 Federal Government, Federal agencies shall endeav-
25 or to make technologies, applications, code, and deri-

1 vations of such intellectual property developed
2 through a crowdsourcing or citizen science project
3 under this section open and available to the public.

4 (6) LIABILITY.—Each participant in a
5 crowdsourcing or citizen science project under this
6 section shall agree—

7 (A) to assume any and all risks associated
8 with such participation; and

9 (B) to waive all claims against the Federal
10 Government and its related entities, except for
11 claims based on willful misconduct, for any in-
12 jury, death, damage, or loss of property, rev-
13 enue, or profits (whether direct, indirect, or
14 consequential) arising from participation in the
15 project.

16 (7) SCIENTIFIC INTEGRITY.—Federal agencies
17 coordinating citizen science projects shall make all
18 practicable efforts that participants adhere to all rel-
19 evant scientific integrity or other applicable ethics
20 policies.

21 (d) MULTI-SECTOR PARTNERSHIPS.—The head of
22 each Federal agency engaged in crowdsourcing or citizen
23 science under this section, or the heads of multiple Federal
24 agencies working cooperatively, may enter into a contract

1 or other agreement to share administrative duties for such
2 activities with—

3 (1) a for-profit or nonprofit private sector enti-
4 ty, including a private institution of higher edu-
5 cation; or

6 (2) a State, tribal, local, or foreign government
7 agency, including a public institution of higher edu-
8 cation.

9 (e) FUNDING.—In carrying out crowdsourcing and
10 citizen science activities under this section, the head of
11 a Federal agency, or the heads of multiple Federal agen-
12 cies working cooperatively—

13 (1) may use funds appropriated by Congress;

14 (2) may request and accept funds or in kind
15 support for such activities from—

16 (A) other Federal agencies;

17 (B) for-profit or nonprofit private sector
18 entities, including private institutions of higher
19 education; or

20 (C) State, tribal, local, or foreign govern-
21 ment agencies, including public institutions of
22 higher education; and

23 (3) may not give any special consideration to
24 any entity described in paragraph (2) in return for
25 such funds or in kind support.

1 (f) FACILITATION.—

2 (1) GENERAL SERVICES ADMINISTRATION AS-
3 SISTANCE.—Not later than 180 days after the date
4 of the enactment of this Act, the Administrator of
5 the General Services Administration, in coordination
6 with the Director, shall identify and develop relevant
7 products and services to facilitate the use of
8 crowdsourcing and citizen science activities under
9 this section, including by specifying the appropriate
10 contract vehicles and technology and organizational
11 platforms to enhance the ability of Federal agencies
12 to carry out the activities under this section to fur-
13 ther the policy objectives of the Federal Government.

14 (2) OSTP GUIDANCE.—The heads of each Fed-
15 eral agency engaged in crowdsourcing or citizen
16 science under this section is encouraged to consult
17 any guidance provided by the Director.

18 (g) REPORT.—

19 (1) IN GENERAL.—Not later than 2 years after
20 the date of the enactment of this Act, and every 4
21 years thereafter, as a component of the report re-
22 quired under section 24(p) of the Stevenson-Wydler
23 Technology Innovation Act of 1980 (15 U.S.C.
24 3719(p)), the Director shall report on the activities
25 carried out under this subsection.

1 (2) INFORMATION INCLUDED.—Each report re-
2 quired under paragraph (1) shall include—

3 (A) a summary of each crowdsourcing and
4 citizen science project conducted by any Federal
5 agency during the most recently completed 2
6 fiscal years (for the first report) or since the
7 last report was submitted (for subsequent re-
8 ports), including a description of the proposed
9 goals of each crowdsourcing and citizen science
10 project;

11 (B) the participation rates, submission lev-
12 els, number of consents, or any other statistic
13 that might be considered relevant in each
14 crowdsourcing and citizen science project;

15 (C) a description of—

16 (i) the resources (including personnel
17 and funding) that were used in the execu-
18 tion of each crowdsourcing and citizen
19 science project;

20 (ii) the activities for which such re-
21 sources were used; and

22 (iii) how the obligations and expendi-
23 tures relating to the project's execution
24 was allocated among the accounts of the
25 Federal agency;

1 (D) a description of—

2 (i) the ways in which each
3 crowdsourcing and citizen science project
4 advanced the mission of the Federal agen-
5 cy;

6 (ii) the project’s results, including the
7 publications, results, tools, products, or
8 services that the project created;

9 (iii) the general methods used to en-
10 sure data quality and make the data pub-
11 licly available; and

12 (iv) any savings realized or costs in-
13 curred by the Federal Government, wheth-
14 er financial or human resources, as a re-
15 sult of using crowdsourcing or citizen
16 science projects instead of Federal agency
17 resources, as possible;

18 (E) a summary of the main challenges and
19 barriers that constrained the ability of Federal
20 agencies to conduct crowdsourcing and citizen
21 science projects, including—

22 (i) any steps that were taken to ad-
23 dress such challenges; and

24 (ii) recommendations for future ad-
25 ministrative or legislative action;

1 (F) a summary of the use of
2 crowdsourcing and citizen science methods by
3 all Federal agencies since the submission of the
4 last report, including interagency and multi-sec-
5 tor partnerships; and

6 (G) any other information that the Direc-
7 tor considers relevant.

8 (h) SAVINGS PROVISIONS.—Nothing in this section
9 may be construed—

10 (1) to affect the authority to conduct
11 crowdsourcing and citizen science authorized by any
12 other provision of law; or

13 (2) to displace Federal Government resources
14 allocated to the Federal agencies that use
15 crowdsourcing or citizen science authorized under
16 this section to carry out a project.

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