

114TH CONGRESS  
1ST SESSION

# H. R. 3578

---

## AN ACT

To amend the Homeland Security Act of 2002 to strengthen and make improvements to the Directorate of Science and Technology of the Department of Homeland Security, 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,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “DHS Science and  
3 Technology Reform and Improvement Act of 2015”.

4 **SEC. 2. SCIENCE AND TECHNOLOGY IN SUPPORT OF HOME-**  
5 **LAND SECURITY.**

6 (a) IN GENERAL.—Title III of the Homeland Secu-  
7 rity Act of 2002 is amended—

8 (1) in section 301 (6 U.S.C. 181)—

9 (A) by striking “There” and inserting the  
10 following new subsection:

11 “(a) IN GENERAL.—There”; and

12 (B) by adding at the end the following new  
13 subsection:

14 “(b) MISSION.—The Directorate of Science and  
15 Technology shall be the primary research, development,  
16 testing, and evaluation arm of the Department, respon-  
17 sible for coordinating the research, development, testing,  
18 and evaluation of the Department to strengthen the secu-  
19 rity and resiliency of the United States. The Directorate  
20 shall—

21 “(1) develop and deliver knowledge, analyses,  
22 and innovative solutions that are responsive to  
23 homeland security capability gaps and threats to the  
24 homeland identified by components and offices of the  
25 Department, the first responder community, and the  
26 Homeland Security Enterprise (as such term is de-

1       fined in section 322) and that can be integrated into  
2       operations of the Department;

3               “(2) seek innovative, system-based solutions to  
4       complex homeland security problems and threats;  
5       and

6               “(3) build partnerships and leverage technology  
7       solutions developed by other Federal agencies and  
8       laboratories, State, local, and tribal governments,  
9       universities, and the private sector.”;

10              (2) in section 302 (6 U.S.C. 182)—

11                      (A) in the matter preceding paragraph (1),  
12                      by striking “The Secretary, acting through the  
13                      Under Secretary for Science and Technology,  
14                      shall” and inserting the following new sub-  
15                      section:

16              “(a) IN GENERAL.—The Secretary, acting through  
17       the Under Secretary for Science and Technology, shall  
18       carry out the mission described in subsection (b) of section  
19       301 and shall”;

20                      (B) in subsection (a), as so amended by  
21                      subparagraph (A) of this paragraph—

22                              (i) in paragraph (1), by inserting  
23                              “and serving as the senior scientific advi-  
24                              sor to the Secretary” before the semicolon  
25                              at the end;

1 (ii) in paragraph (2)—

2 (I) by striking “national”;

3 (II) by striking “biological,,” and  
4 inserting “biological,”; and

5 (III) by inserting “that may  
6 serve as a basis of a national strat-  
7 egy” after “terrorist threats”;

8 (iii) in paragraph (3)—

9 (I) by striking “the Under Sec-  
10 retary for Intelligence and Analysis  
11 and the Assistant Secretary for Infra-  
12 structure Protection” and inserting  
13 “components and offices of the De-  
14 partment”; and

15 (II) by inserting “terrorist” be-  
16 fore “threats”;

17 (iv) in paragraph (4), by striking “ex-  
18 cept that such responsibility does not ex-  
19 tend to human health-related research and  
20 development activities” and inserting the  
21 following: “including coordinating with rel-  
22 evant components and offices of the De-  
23 partment appropriate to—

24 “(A) identify and prioritize technical capa-  
25 bility requirements and create solutions that in-

1 include researchers, the private sector, and oper-  
2 ational end users; and

3 “(B) develop capabilities to address issues  
4 on research, development, testing, evaluation,  
5 technology, and standards for the first re-  
6 sponder community,

7 except that such responsibility does not extend to  
8 the human health-related research and development  
9 activities;”;

10 (v) in paragraph (5)(A), by striking  
11 “biological,,” and inserting “biological,”;

12 (vi) by amending paragraph (12) to  
13 read as follows:

14 “(12) coordinating and integrating all research,  
15 development, demonstration, testing, and evaluation  
16 activities of the Department, including through a  
17 centralized Federal clearinghouse established pursu-  
18 ant to paragraph (1) of section 313(b) for informa-  
19 tion relating to technologies that would further the  
20 mission of the Department, and providing advice, as  
21 necessary, regarding major acquisition programs;”;

22 (vii) in paragraph (13), by striking  
23 “and” at the end;

1 (viii) in paragraph (14), by striking  
2 the period at the end and inserting a semi-  
3 colon; and

4 (ix) by adding at the end the following  
5 new paragraphs:

6 “(15) establishing a process that—

7 “(A) includes consideration by Directorate  
8 leadership, senior component leadership, first  
9 responders, and outside expertise;

10 “(B) is strategic, transparent, and repeat-  
11 able with a goal of continuous improvement;

12 “(C) through which research and develop-  
13 ment projects undertaken by the Directorate  
14 are assessed on a regular basis; and

15 “(D) includes consideration of metrics to  
16 ensure research and development projects meet  
17 Directorate and Department goals and inform  
18 departmental budget and program planning;

19 “(16) developing and overseeing the administra-  
20 tion of guidelines for periodic external review of de-  
21 partmental research and development programs or  
22 activities, including through—

23 “(A) consultation with experts, including  
24 scientists and practitioners, regarding the re-

1 search and development activities conducted by  
2 the Directorate of Science and Technology; and

3 “(B) biennial independent, external re-  
4 view—

5 “(i) initially at the division level; or

6 “(ii) when divisions conduct multiple  
7 programs focused on significantly different  
8 subjects, at the program level;

9 “(17) partnering with components and offices  
10 of the Department to develop and deliver knowledge,  
11 analyses, and innovative solutions that are respon-  
12 sive to identified homeland security capability gaps  
13 and threats to the homeland and raise the science-  
14 based, analytic capability and capacity of appro-  
15 priate individuals throughout the Department by  
16 providing guidance on how to better identify home-  
17 land security capability gaps and threats to the  
18 homeland that may be addressed through a techno-  
19 logical solution and by partnering with such compo-  
20 nents and offices to—

21 “(A) support technological assessments of  
22 major acquisition programs throughout the ac-  
23 quisition lifecycle;

24 “(B) help define appropriate technological  
25 requirements and perform feasibility analysis;

1           “(C) assist in evaluating new and emerging  
2 technologies against homeland security capa-  
3 bility gaps and terrorist threats;

4           “(D) support evaluation of alternatives;

5           “(E) improve the use of technology De-  
6 partment-wide; and

7           “(F) provide technical assistance in the de-  
8 velopment of acquisition lifecycle cost for tech-  
9 nologies;

10          “(18) acting as a coordinating office for tech-  
11 nology development for the Department by helping  
12 components and offices define technological require-  
13 ments, and building partnerships with appropriate  
14 entities (such as within the Department and with  
15 other Federal agencies and laboratories, State, local,  
16 and tribal governments, universities, and the private  
17 sector) to help each such component and office at-  
18 tain the technology solutions it needs; and

19          “(19) coordinating with organizations that pro-  
20 vide venture capital to businesses, particularly small  
21 businesses, as appropriate, to assist in the commer-  
22 cialization of innovative homeland security tech-  
23 nologies that are expected to be ready for commer-  
24 cialization in the near term and within 36 months.”;  
25 and



1 (C) by adding at the end the following new  
2 subsections:

3 “(b) REVIEW OF RESPONSIBILITIES.—Not later than  
4 180 days after the date of the enactment of this sub-  
5 section, the Under Secretary for Science and Technology  
6 shall submit to the Committee on Homeland Security and  
7 the Committee on Science, Space, and Technology of the  
8 House of Representatives and the Committee on Home-  
9 land Security and Governmental Affairs of the Senate a  
10 report on the implementation of paragraphs (2) (including  
11 how the policy and strategic plan under such paragraph  
12 may serve as a basis for a national strategy referred to  
13 in such paragraph), (11), (12), (13), (16), and (17) of  
14 subsection (a).”;

15 (3) in section 303(1) (6 U.S.C. 183(1)), by  
16 striking subparagraph (F);

17 (4) in section 305 (6 U.S.C. 185)—

18 (A) by striking “The” and inserting the  
19 following new subsection:

20 “(a) ESTABLISHMENT.—The”; and

21 (B) by adding at the end the following new  
22 subsection:

23 “(b) CONFLICTS OF INTEREST.—The Secretary shall  
24 review and revise, as appropriate, the policies of the De-  
25 partment relating to personnel conflicts of interest to en-

1 sure that such policies specifically address employees of  
2 federally funded research and development centers estab-  
3 lished pursuant to subsection (a) who are in a position  
4 to make or materially influence research findings or agen-  
5 cy decision making.”;

6 (5) in section 306 (6 U.S.C. 186)—

7 (A) in subsection (e), by adding at the end  
8 the following new sentence: “If such regulations  
9 are issued, the Under Secretary shall report to  
10 the Committee on Homeland Security and the  
11 Committee on Science, Space, and Technology  
12 of the House of Representatives and the Com-  
13 mittee on Homeland Security and Govern-  
14 mental Affairs of the Senate prior to such  
15 issuance.”; and

16 (B) by amending subsection (d) to read as  
17 follows:

18 “(d) PERSONNEL.—In hiring personnel for the Direc-  
19 torate of Science and Technology, the Secretary shall have  
20 the hiring and management authorities described in sec-  
21 tion 1101 of the Strom Thurmond National Defense Au-  
22 thorization Act for Fiscal Year 1999 (5 U.S.C. 3104 note;  
23 Public Law 105–261). The term of appointments for em-  
24 ployees under subsection (c)(1) of such section may not

1 exceed 5 years before the granting of any extension under  
2 subsection (c)(2) of such section.”;

3 (6) in section 308 (6 U.S.C. 188)—

4 (A) in subsection (b)(2)—

5 (i) in subparagraph (B)—

6 (I) in clause (iv), by striking  
7 “and nuclear countermeasures or de-  
8 tection” and inserting “nuclear, and  
9 explosives countermeasures or detec-  
10 tion (which may include research into  
11 remote sensing and remote imaging)”;  
12 and

13 (II) by adding after clause (xiv)  
14 the following new clause:

15 “(xv) Cybersecurity.”; and

16 (ii) by amending subparagraph (D) to  
17 read as follows:

18 “(D) ANNUAL REPORT TO CONGRESS.—

19 Not later than 1 year after the date of the en-  
20 actment of this subparagraph and annually  
21 thereafter, the Secretary shall submit to Con-  
22 gress a report on the implementation of this  
23 section. Each such report shall—

1 “(i) indicate which center or centers  
2 have been designated pursuant to this sec-  
3 tion;

4 “(ii) describe how such designation or  
5 designations enhance homeland security;

6 “(iii) provide information on any deci-  
7 sions to revoke or modify such designation  
8 or designations;

9 “(iv) describe research that has been  
10 tasked and completed by each center that  
11 has been designated during the preceding  
12 year;

13 “(v) describe funding provided by the  
14 Secretary for each center under clause (iv)  
15 for that year; and

16 “(vi) describe plans for utilization of  
17 each center or centers in the forthcoming  
18 year.”; and

19 (B) by adding at the end the following new  
20 subsection:

21 “(d) TEST, EVALUATION, AND STANDARDS DIVI-  
22 SION.—

23 “(1) ESTABLISHMENT.—There is established in  
24 the Directorate of Science and Technology a Test,  
25 Evaluation, and Standards Division.

1           “(2) DIRECTOR.—The Test, Evaluation, and  
2 Standards Division shall be headed by a Director of  
3 Test, Evaluation, and Standards, who shall be ap-  
4 pointed by the Secretary and report to the Under  
5 Secretary for Science and Technology.

6           “(3) RESPONSIBILITIES, AUTHORITIES, AND  
7 FUNCTIONS.—The Director of Test, Evaluation, and  
8 Standards—

9           “(A) through the Under Secretary for  
10 Science and Technology, serve as an adviser to  
11 the Secretary and the Under Secretary of Man-  
12 agement on all test and evaluation or standards  
13 activities in the Department; and

14           “(B) shall—

15           “(i) establish and update as necessary  
16 test and evaluation policies for the Depart-  
17 ment, including policies to ensure that  
18 operational testing is done at facilities that  
19 already have relevant and appropriate safe-  
20 ty and material certifications to the extent  
21 such facilities are available;

22           “(ii) oversee and ensure that adequate  
23 test and evaluation activities are planned  
24 and conducted by or on behalf of compo-  
25 nents and offices of the Department with

1           respect to major acquisition programs of  
2           the Department, as designated by the Sec-  
3           retary, based on risk, acquisition level, nov-  
4           elty, complexity, and size of any such ac-  
5           quisition program, or as otherwise estab-  
6           lished in statute;

7           “(iii) review major acquisition pro-  
8           gram test reports and test data to assess  
9           the adequacy of test and evaluation activi-  
10          ties conducted by or on behalf of compo-  
11          nents and offices of the Department, in-  
12          cluding test and evaluation activities  
13          planned or conducted pursuant to clause  
14          (ii); and

15          “(iv) review available test and evalua-  
16          tion infrastructure to determine whether  
17          the Department has adequate resources to  
18          carry out its testing and evaluation respon-  
19          sibilities, as established under this title.

20          “(4) LIMITATION.—The Test, Evaluation, and  
21          Standards Division is not required to carry out oper-  
22          ational testing of major acquisition programs.

23          “(5) EVALUATION OF DEPARTMENT OF DE-  
24          FENSE TECHNOLOGIES.—The Director of Test,  
25          Evaluation, and Standards may evaluate tech-

1 nologies currently in use or being developed by the  
2 Department of Defense to assess whether such tech-  
3 nologies can be leveraged to address homeland secu-  
4 rity capability gaps.”;

5 (7) in section 309(a) (6 U.S.C. 189(a)), by add-  
6 ing at the end the following new paragraph:

7 “(3) TREATMENT OF CERTAIN FUNDS.—Not-  
8 withstanding any other provision of law, any funds  
9 provided to a Department of Energy national labora-  
10 tory by the Department may not be treated as an  
11 assisted acquisition.”;

12 (8) in section 310 (6 U.S.C. 190), by adding at  
13 the end the following new subsection:

14 “(e) SUCCESSOR FACILITY.—Any successor facility  
15 to the Plum Island Animal Disease Center, including the  
16 National Bio and Agro-Defense Facility (NBAF) under  
17 construction as of the date of the enactment of this sub-  
18 section, which is intended to the replace the Plum Island  
19 Animal Disease Center shall be subject to the require-  
20 ments of this section in the same manner and to the same  
21 extent as the Plum Island Animal Disease Center under  
22 this section.”;

23 (9) in section 311 (6 U.S.C. 191)—

24 (A) in subsection (b)—

25 (i) in paragraph (1)—

1 (I) by striking “20 members”  
2 and inserting “not fewer than 15 and  
3 not more than 30”; and

4 (II) by inserting “academia, na-  
5 tional labs, private industry, and”  
6 after “representatives of”;

7 (ii) by redesignating paragraph (2) as  
8 paragraph (3); and

9 (iii) by inserting after paragraph (1)  
10 the following new paragraph:

11 “(2) SUBCOMMITTEES.—The Advisory Com-  
12 mittee may establish subcommittees that focus on  
13 research and development challenges, as appro-  
14 priate.”;

15 (B) in subsection (c)—

16 (i) in paragraph (1), by inserting “on  
17 a rotating basis” before the period at the  
18 end;

19 (ii) by striking paragraph (2) and re-  
20 designating paragraph (3) as paragraph  
21 (2); and

22 (iii) in paragraph (2), as so redesign-  
23 ated, by striking “be appointed” and in-  
24 serting “serve”;



1 (C) in subsection (e), in the second sen-  
2 tence, by striking “the call of”;

3 (D) in subsection (h)—

4 (i) in paragraph (1)—

5 (I) in the first sentence—

6 (aa) by striking “render”  
7 and inserting “submit”; and

8 (bb) by striking “Congress”  
9 and inserting “the appropriate  
10 congressional committees”; and

11 (II) in the second sentence, by  
12 inserting “, and incorporate the find-  
13 ings and recommendations of the Ad-  
14 visory Committee subcommittees,” be-  
15 fore “during”; and

16 (ii) in paragraph (2)—

17 (I) striking “render” and insert-  
18 ing “submit”; and

19 (II) by striking “Congress” and  
20 inserting “the Committee on Home-  
21 land Security and the Committee on  
22 Science, Space, and Technology of the  
23 House of Representatives and the  
24 Committee on Homeland Security and  
25 Governmental Affairs of the Senate”;

1           (E) in subsection (i), by inserting “, except  
2           that the Advisory Committee shall file a charter  
3           with Congress every 2 years in accordance with  
4           subsection (b)(2) of such section (14)”;

5           (F) in subsection (j), by striking “2008”  
6           and inserting “2020”;

7           (10) in section 313 (6 U.S.C. 193)—

8           (A) by redesignating subsection (e) as sub-  
9           section (d); and

10           (B) by inserting after subsection (b) the  
11           following new subsection:

12           “(c) APPLICATION OF PROGRAM.—The Secretary,  
13           acting through the Under Secretary for Science and Tech-  
14           nology, shall use the program established under subsection  
15           (a) to—

16           “(1) enhance the cooperation between compo-  
17           nents and offices of the Department on projects that  
18           have similar goals, timelines, or outcomes;

19           “(2) ensure the coordination of technologies to  
20           eliminate unnecessary duplication of research and  
21           development;

22           “(3) ensure technologies are accessible for com-  
23           ponent and office use on a Department website; and

24           “(4) carry out any additional purpose the Sec-  
25           retary determines necessary.”; and

1           (11) by adding after section 317 (6 U.S.C.  
2           195e) the following new sections:

3   **“SEC. 318. IDENTIFICATION AND PRIORITIZATION OF RE-**  
4                           **SEARCH AND DEVELOPMENT.**

5           “(a) IN GENERAL.—Not later than 180 days after  
6 the date of the enactment of this section, the Under Sec-  
7 retary for Science and Technology shall establish a process  
8 to define, identify, prioritize, fund, and task the basic and  
9 applied homeland security research and development ac-  
10 tivities of the Directorate of Science and Technology to  
11 meet the needs of the components and offices of the De-  
12 partment, the first responder community, and the Home-  
13 land Security Enterprise (as such term is defined in sec-  
14 tion 322).

15           “(b) PROCESS.—The process established under sub-  
16 section (a) shall—

17                   “(1) be responsive to near-, mid-, and long-term  
18 needs, including unanticipated needs to address  
19 emerging terrorist threats;

20                   “(2) utilize gap analysis and risk assessment  
21 tools where available and applicable;

22                   “(3) include protocols to assess—

23                           “(A) off-the-shelf technology to determine  
24 if an identified homeland security capability gap  
25 or threat to the homeland can be addressed

1 through the acquisition process instead of com-  
2 mencing research and development of tech-  
3 nology to address such capability gap or threat;  
4 and

5 “(B) communication and collaboration for  
6 research and development activities pursued by  
7 other executive agencies, to determine if tech-  
8 nology can be leveraged to identify and address  
9 homeland security capability gaps or threats to  
10 the homeland and avoid unnecessary duplication  
11 of efforts;

12 “(4) provide for documented and validated re-  
13 search and development requirements;

14 “(5) strengthen first responder participation to  
15 identify and prioritize homeland security techno-  
16 logical gaps, including by—

17 “(A) soliciting feedback from appropriate  
18 national associations and advisory groups rep-  
19 resenting the first responder community and  
20 first responders within the components and of-  
21 fices of the Department; and

22 “(B) establishing and promoting a publicly  
23 accessible portal to allow the first responder  
24 community to help the Directorate of Science

1 and Technology develop homeland security re-  
2 search and development goals;

3 “(6) institute a mechanism to publicize the De-  
4 partment’s homeland security technology priorities  
5 for the purpose of informing Federal, State, and  
6 local governments, first responders, and the private  
7 sector;

8 “(7) establish considerations to be used by the  
9 Directorate in selecting appropriate research enti-  
10 ties, including the national laboratories, federally  
11 funded research and development centers, university-  
12 based centers, and the private sector, to carry out  
13 research and development requirements;

14 “(8) incorporate feedback derived as a result of  
15 the mechanism established in section 323, ensuring  
16 the Directorate is utilizing regular communication  
17 with components and offices of the Department; and

18 “(9) include any other criteria or measures the  
19 Under Secretary for Science and Technology con-  
20 siders necessary for the identification and  
21 prioritization of research requirements.

22 **“SEC. 319. DEVELOPMENT OF DIRECTORATE STRATEGY**  
23 **AND RESEARCH AND DEVELOPMENT PLAN.**

24 “(a) STRATEGY.—

1           “(1) IN GENERAL.—Not later than 1 year after  
2           the date of the enactment of this section, the Under  
3           Secretary for Science and Technology shall develop  
4           and submit to the Committee on Homeland Security  
5           and the Committee on Science, Space, and Tech-  
6           nology of the House of Representatives and the  
7           Committee on Homeland Security and Governmental  
8           Affairs of the Senate a strategy to guide the activi-  
9           ties of the Directorate of Science and Technology.  
10          Such strategy shall be updated at least once every  
11          5 years and shall identify priorities and objectives  
12          for the development of science and technology solu-  
13          tions and capabilities addressing homeland security  
14          operational needs. Such strategy shall include the  
15          coordination of such priorities and activities within  
16          the Department. Such strategy shall take into ac-  
17          count the priorities and needs of stakeholders in the  
18          Homeland Security Enterprise (as such term is de-  
19          fined in section 322). In developing such strategy,  
20          efforts shall be made to support collaboration and  
21          avoid unnecessary duplication across the Federal  
22          Government. Such strategy shall be risk-based and  
23          aligned with other strategic guidance provided by—  
24                           “(A) the National Strategy for Homeland  
25                           Security;

1           “(B) the Quadrennial Homeland Security  
2           Review; and

3           “(C) any other relevant strategic planning  
4           documents, as determined by the Under Sec-  
5           retary.

6           “(2) CONTENTS.—The strategy required under  
7           paragraph (1) shall be prepared in accordance with  
8           applicable Federal requirements and guidelines, and  
9           shall include the following:

10           “(A) An identification of the long-term  
11           strategic goals, objectives, and metrics of the  
12           Directorate, including those to address terrorist  
13           threats.

14           “(B) A technology transition strategy for  
15           the programs of the Directorate.

16           “(C) Short- and long-term strategic goals,  
17           and objectives for increasing the number of des-  
18           ignations and certificates issued under subtitle  
19           G of title VIII, including cybersecurity tech-  
20           nologies that could significantly reduce, or miti-  
21           gate the effects of, cybersecurity risks (as such  
22           term is defined in subsection (a)(1) of the sec-  
23           ond section 226, relating to the national cyber-  
24           security and communications integration cen-  
25           ter), without compromising the quality of the

1 evaluation of applications for such designations  
2 and certificates.

3 “(b) FIVE-YEAR RESEARCH AND DEVELOPMENT  
4 PLAN.—

5 “(1) IN GENERAL.—The Under Secretary for  
6 Science and Technology shall develop, and update at  
7 least once every 5 years, a 5-year research and de-  
8 velopment plan for the activities of the Directorate  
9 of Science and Technology. The Under Secretary  
10 shall develop the first such plan by the date that is  
11 not later than 1 year after the date of the enactment  
12 of this section.

13 “(2) CONTENTS.—Each 5-year research and de-  
14 velopment plan developed and revised under sub-  
15 section (a) shall—

16 “(A) define the Directorate of Science and  
17 Technology’s research, development, testing,  
18 and evaluation activities, priorities, performance  
19 metrics, and key milestones and deliverables  
20 for, as the case may be, the 5-fiscal-year period  
21 from 2016 through 2020, and for each 5-fiscal-  
22 year period thereafter;

23 “(B) describe, for the activities of the  
24 strategy developed under subsection (a), the  
25 planned annual funding levels for the period



1 covered by each such 5-year research and devel-  
2 opment plan;

3 “(C) indicate joint investments with other  
4 Federal partners where applicable, and en-  
5 hanced coordination, as appropriate, with orga-  
6 nizations as specified in paragraph (19) of sec-  
7 tion 302;

8 “(D) analyze how the research programs of  
9 the Directorate support achievement of the  
10 strategic goals and objectives identified in the  
11 strategy required under subsection (a);

12 “(E) describe how the activities and pro-  
13 grams of the Directorate meet the requirements  
14 or homeland security capability gaps or threats  
15 to the homeland identified by customers within  
16 and outside of the Department, including the  
17 first responder community; and

18 “(F) describe the policies of the Direc-  
19 torate regarding the management, organization,  
20 and personnel of the Directorate.

21 “(3) SCOPE.—The Under Secretary for Science  
22 and Technology shall ensure that each 5-year re-  
23 search and development plan developed and revised  
24 under subsection (a)—

1           “(A) reflects input from a wide range of  
2 stakeholders; and

3           “(B) takes into account how research and  
4 development by other Federal, State, private  
5 sector, and nonprofit institutions contributes to  
6 the achievement of the priorities identified in  
7 each plan, and avoids unnecessary duplication  
8 with such efforts.

9           “(4) REPORTS.—The Under Secretary for  
10 Science and Technology shall submit to the Com-  
11 mittee on Homeland Security and the Committee on  
12 Science, Space, and Technology of the House of  
13 Representatives and the Committee on Homeland  
14 Security and Governmental Affairs of the Senate an  
15 annual report for 7 years beginning not later than  
16 1 year after the date of the development of the ini-  
17 tial 5-year research and development plan under  
18 paragraph (1) on the status and results to date of  
19 the implementation of such plan and the updates to  
20 such plan, including—

21           “(A) a summary of the research and devel-  
22 opment activities for the previous fiscal year in  
23 each mission area, including such activities to  
24 address homeland security risks, including  
25 threats, vulnerabilities, and consequences, and a

1 summary of the coordination activities under-  
2 taken by the Directorate of Science and Tech-  
3 nology for components and offices of the De-  
4 partment, together with the results of the proc-  
5 ess specified in paragraph (15) of section 302;

6 “(B) clear links between the Directorate’s  
7 budget and each mission area or program, in-  
8 cluding those mission areas or programs to ad-  
9 dress homeland security risks, including  
10 threats, vulnerabilities, and consequences, speci-  
11 fying which mission areas or programs fall  
12 under which budget lines, and clear links be-  
13 tween Directorate coordination work and prior-  
14 ities and annual expenditures for such work and  
15 priorities, including joint investments with other  
16 Federal partners, where applicable;

17 “(C) an assessment of progress of the re-  
18 search and development activities based on the  
19 performance metrics and milestones set forth in  
20 such plan; and

21 “(D) any changes to such plan.

22 **“SEC. 320. MONITORING OF PROGRESS.**

23 “(a) IN GENERAL.—The Under Secretary for Science  
24 and Technology shall establish and utilize a system to  
25 track the progress of the research, development, testing,

1 and evaluation activities undertaken by the Directorate of  
2 Science and Technology, and shall provide to the Com-  
3 mittee on Homeland Security and the Committee on  
4 Science, Space, and Technology of the House of Rep-  
5 resentatives and the Committee on Homeland Security  
6 and Governmental Affairs of the Senate and customers of  
7 such activities, at a minimum on a biannual basis, regular  
8 updates on such progress.

9 “(b) REQUIREMENTS.—In order to provide the  
10 progress updates required under subsection (a), the Under  
11 Secretary for Science and Technology shall develop a sys-  
12 tem that—

13 “(1) monitors progress toward project mile-  
14 stones identified by the Under Secretary;

15 “(2) maps progress toward deliverables identi-  
16 fied in each 5-year research and development plan  
17 required under section 319(b);

18 “(3) generates up-to-date reports to customers  
19 that transparently disclose the status and progress  
20 of research, development, testing, and evaluation ef-  
21 forts of the Directorate of Science and Technology;  
22 and

23 “(4) allows the Under Secretary to report the  
24 number of products and services developed by the  
25 Directorate that have been transitioned into acquisi-

1 tion programs and resulted in successfully fielded  
2 technologies.

3 “(c) EVALUATION METHODS.—

4 “(1) EXTERNAL INPUT, CONSULTATION, AND  
5 REVIEW.—The Under Secretary for Science and  
6 Technology shall implement procedures to engage  
7 outside experts to assist in the evaluation of the  
8 progress of research, development, testing, and eval-  
9 uation activities of the Directorate of Science and  
10 Technology, including through—

11 “(A) consultation with experts, including  
12 scientists and practitioners, to gather inde-  
13 pendent expert peer opinion and advice on a  
14 project or on specific issues or analyses con-  
15 ducted by the Directorate; and

16 “(B) periodic, independent, external review  
17 to assess the quality and relevance of the Direc-  
18 torate’s programs and projects.

19 “(2) COMPONENT FEEDBACK.—The Under Sec-  
20 retary for Science and Technology shall establish a  
21 formal process to collect feedback from customers of  
22 the Directorate of Science and Technology on the  
23 performance of the Directorate that includes—

24 “(A) appropriate methodologies through  
25 which the Directorate can assess the quality

1 and usefulness of technology and services deliv-  
2 ered by the Directorate;

3 “(B) development of metrics for measuring  
4 the usefulness of any technology or service pro-  
5 vided by the Directorate; and

6 “(C) standards for high-quality customer  
7 service.

8 **“SEC. 321. HOMELAND SECURITY SCIENCE AND TECH-**  
9 **NOLOGY FELLOWS PROGRAM.**

10 “(a) ESTABLISHMENT.—The Secretary, acting  
11 through the Under Secretary for Science and Technology  
12 and the Under Secretary for Management, shall establish  
13 a fellows program, to be known as the Homeland Security  
14 Science and Technology Fellows Program (in this section  
15 referred to as the ‘Program’), under which the Under Sec-  
16 retary for Science and Technology, in coordination with  
17 the Office of University Programs of the Department,  
18 shall facilitate the placement of fellows in relevant sci-  
19 entific or technological fields for up to 2 years in compo-  
20 nents and offices of the Department with a need for sci-  
21 entific and technological expertise.

22 “(b) UTILIZATION OF FELLOWS.—

23 “(1) IN GENERAL.—Under the Program, the  
24 Department may employ fellows—

1           “(A) for the use of the Directorate of  
2 Science and Technology; or

3           “(B) for the use of a component or office  
4 of the Department outside the Directorate,  
5 under a memorandum of agreement with the  
6 head of such a component or office under which  
7 such component or office will reimburse the Di-  
8 rectorate for the costs of such employment.

9           “(2) RESPONSIBILITIES.—Under an agreement  
10 referred to in subparagraph (B) of paragraph (1)—

11           “(A) the Under Secretary for Science and  
12 Technology and the Under Secretary for Man-  
13 agement shall—

14           “(i) solicit and accept applications  
15 from individuals who are currently enrolled  
16 in or who are graduates of postgraduate  
17 programs in scientific and engineering  
18 fields related to the promotion of securing  
19 the homeland or critical infrastructure sec-  
20 tors;

21           “(ii) screen applicants and interview  
22 them as appropriate to ensure that such  
23 applicants possess the appropriate level of  
24 scientific and engineering expertise and  
25 qualifications;

1           “(iii) provide a list of qualified appli-  
2 cants to the heads of components and of-  
3 fices of the Department seeking to utilize  
4 qualified fellows;

5           “(iv) subject to the availability of ap-  
6 propriations, pay financial compensation to  
7 such fellows;

8           “(v) coordinate with the Chief Secu-  
9 rity Officer to facilitate and expedite provi-  
10 sion of security and suitability clearances  
11 to such fellows, as appropriate; and

12           “(vi) otherwise administer all aspects  
13 of the employment of such fellows with the  
14 Department; and

15           “(B) the head of the component or office  
16 of the Department utilizing a fellow shall—

17           “(i) select such fellow from the list of  
18 qualified applicants provided by the Under  
19 Secretary;

20           “(ii) reimburse the Under Secretary  
21 for the costs of employing such fellow, in-  
22 cluding administrative costs; and

23           “(iii) be responsible for the day-to-day  
24 management of such fellow.



1           “(c) APPLICATIONS FROM NONPROFIT ORGANIZA-  
2 TIONS.—The Under Secretary for Science and Technology  
3 may accept an application under subsection (b)(2)(A) that  
4 is submitted by a nonprofit organization on behalf of indi-  
5 viduals whom such nonprofit organization has determined  
6 may be qualified applicants under the Program.

7 **“SEC. 322. CYBERSECURITY RESEARCH AND DEVELOP-**  
8 **MENT.**

9           “(a) IN GENERAL.—The Under Secretary for Science  
10 and Technology shall support research, development, test-  
11 ing, evaluation, and transition of cybersecurity technology,  
12 including fundamental research to improve the sharing of  
13 information, analytics, and methodologies related to cyber-  
14 security risks and incidents, consistent with current law.

15           “(b) ACTIVITIES.—The research and development  
16 supported under subsection (a) shall serve the components  
17 of the Department and shall—

18                   “(1) advance the development and accelerate  
19 the deployment of more secure information systems;

20                   “(2) improve and create technologies for detect-  
21 ing attacks or intrusions, including real-time contin-  
22 uous diagnostics and real-time analytic technologies;

23                   “(3) improve and create mitigation and recov-  
24 ery methodologies, including techniques and policies

1 for real-time containment of attacks, and develop-  
2 ment of resilient networks and information systems;

3 “(4) support, in coordination with the private  
4 sector, the review of source code that underpins crit-  
5 ical infrastructure information systems;

6 “(5) develop and support infrastructure and  
7 tools to support cybersecurity research and develop-  
8 ment efforts, including modeling, testbeds, and data  
9 sets for assessment of new cybersecurity tech-  
10 nologies;

11 “(6) assist the development and support of  
12 technologies to reduce vulnerabilities in industrial  
13 control systems; and

14 “(7) develop and support cyber forensics and  
15 attack attribution.

16 “(c) COORDINATION.—In carrying out this section,  
17 the Under Secretary for Science and Technology shall co-  
18 ordinate activities with—

19 “(1) the Under Secretary appointed pursuant to  
20 section 103(a)(1)(H);

21 “(2) the heads of other relevant Federal depart-  
22 ments and agencies, including the National Science  
23 Foundation, the Defense Advanced Research  
24 Projects Agency, the Information Assurance Direc-  
25 torate of the National Security Agency, the National

1 Institute of Standards and Technology, the Depart-  
2 ment of Commerce, the Networking and Information  
3 Technology Research and Development Program Of-  
4 fice, Sector Specific Agencies for critical infrastruc-  
5 ture, and other appropriate working groups estab-  
6 lished by the President to identify unmet needs and  
7 cooperatively support activities, as appropriate; and  
8 “(3) industry and academia.

9 “(d) TRANSITION TO PRACTICE.—The Under Sec-  
10 retary for Science and Technology shall support projects  
11 through the full life cycle of such projects, including re-  
12 search, development, testing, evaluation, pilots, and tran-  
13 sitions. The Under Secretary shall identify mature tech-  
14 nologies that address existing or imminent cybersecurity  
15 gaps in public or private information systems and net-  
16 works of information systems, identify and support nec-  
17 essary improvements identified during pilot programs and  
18 testing and evaluation activities, and introduce new cyber-  
19 security technologies throughout the Homeland Security  
20 Enterprise through partnerships and commercialization.  
21 The Under Secretary shall target federally funded cyberse-  
22 curity research that demonstrates a high probability of  
23 successful transition to the commercial market within 2  
24 years and that is expected to have notable impact on the

1 cybersecurity of the information systems or networks of  
2 information systems of the United States.

3 “(e) DEFINITIONS.—In this section:

4 “(1) CYBERSECURITY RISK.—The term ‘cyber-  
5 security risk’ has the meaning given such term in  
6 the second section 226, relating to the national cy-  
7 bersecurity and communications integration center.

8 “(2) HOMELAND SECURITY ENTERPRISE.—The  
9 term ‘Homeland Security Enterprise’ means relevant  
10 governmental and nongovernmental entities involved  
11 in homeland security, including Federal, State, local,  
12 and tribal government officials, private sector rep-  
13 resentatives, academics, and other policy experts.

14 “(3) INCIDENT.—The term ‘incident’ has the  
15 meaning given such term in the second section 226,  
16 relating to the national cybersecurity and commu-  
17 nications integration center.

18 “(4) INFORMATION SYSTEM.—The term ‘infor-  
19 mation system’ has the meaning given that term in  
20 section 3502(8) of title 44, United States Code.

21 **“SEC. 323. INTEGRATED PRODUCT TEAMS.**

22 “(a) IN GENERAL.—The Secretary shall establish in-  
23 tegrated product teams to serve as a central mechanism  
24 for the Department to identify, coordinate, and align re-  
25 search and development efforts with departmental mis-

1 sions. Each team shall be managed by the Under Sec-  
2 retary for Science and Technology and the relevant senior  
3 leadership of operational components, and shall be respon-  
4 sible for the following:

5           “(1) Identifying and prioritizing homeland secu-  
6 rity capability gaps or threats to the homeland with-  
7 in a specific mission area and technological solutions  
8 to address such gaps.

9           “(2) Identifying ongoing departmental research  
10 and development activities and component acquisi-  
11 tions of technologies that are outside of depart-  
12 mental research and development activities to ad-  
13 dress a specific mission area.

14           “(3) Assessing the appropriateness of a tech-  
15 nology to address a specific mission area.

16           “(4) Identifying unnecessary redundancy in de-  
17 partmental research and development activities with-  
18 in a specific mission area.

19           “(5) Informing the Secretary and the annual  
20 budget process regarding whether certain techno-  
21 logical solutions are able to address homeland secu-  
22 rity capability gaps or threats to the homeland with-  
23 in a specific mission area.

24           “(b) CONGRESSIONAL OVERSIGHT.—Not later than 2  
25 years after the date of enactment of this section, the Sec-

1 retary shall provide to the Committee on Homeland Secu-  
2 rity and the Committee on Science, Space, and Technology  
3 of the House of Representatives and the Committee on  
4 Homeland Security and Governmental Affairs of the Sen-  
5 ate information on the impact and effectiveness of the  
6 mechanism described in subsection (a) on research and de-  
7 velopment efforts, component relationships, and how the  
8 process has informed the research and development budget  
9 and enhanced decision making, including acquisition deci-  
10 sion making, at the Department. The Secretary shall seek  
11 feedback from the Under Secretary for Science and Tech-  
12 nology, Under Secretary for Management, and the senior  
13 leadership of operational components regarding the impact  
14 and effectiveness of such mechanism and include such  
15 feedback in the information provided under this sub-  
16 section.

17 **“SEC. 324. HOMELAND SECURITY-STEM SUMMER INTERN-**  
18 **SHIP PROGRAM.**

19 “(a) IN GENERAL.—The Under Secretary for Science  
20 and Technology shall establish a Homeland Security-  
21 STEM internship program (in this section referred to as  
22 the ‘program’) to carry out the objectives of this subtitle.

23 “(b) PROGRAM.—The program shall provide students  
24 with exposure to Department mission-relevant research  
25 areas, including threats to the homeland, to encourage

1 such students to pursue STEM careers in homeland secu-  
2 rity related fields. Internships offered under the program  
3 shall be for up to 10 weeks during the summer.

4 “(c) ELIGIBILITY.—The Under Secretary for Science  
5 and Technology shall develop criteria for participation in  
6 the program, including the following:

7 “(1) At the time of application, an intern  
8 shall—

9 “(A) have successfully completed not less  
10 than 1 academic year of study at an institution  
11 of higher education in a STEM field;

12 “(B) be enrolled in a course of study in a  
13 STEM field at an institution of higher edu-  
14 cation; and

15 “(C) plan to continue such course of study  
16 or pursue an additional course of study in a  
17 STEM field at an institution of higher edu-  
18 cation in the academic year following the in-  
19 ternship.

20 “(2) An intern shall be pursuing career goals  
21 aligned with the Department’s mission, goals, and  
22 objectives.

23 “(3) Any other criteria the Under Secretary de-  
24 termines appropriate.

1           “(d) COOPERATION.—The program shall be adminis-  
2   tered in cooperation with the university-based centers for  
3   homeland security under section 308. Interns in the pro-  
4   gram shall be provided hands-on research experience and  
5   enrichment activities focused on Department research  
6   areas.

7           “(e) ACADEMIC REQUIREMENTS; OPERATION.—The  
8   Under Secretary for Science and Technology shall deter-  
9   mine the academic requirements, other selection criteria,  
10  and standards for successful completion of each internship  
11  period in the program. The Under Secretary shall be re-  
12  sponsible for the design, implementation, and operation of  
13  the program.

14          “(f) RESEARCH MENTORS.—The Under Secretary  
15  for Science and Technology shall ensure that each intern  
16  in the program is assigned a research mentor to act as  
17  counselor and advisor and provide career-focused advice.

18          “(g) OUTREACH TO CERTAIN UNDER-REPRESENTED  
19  STUDENTS.—The Under Secretary for Science and Tech-  
20  nology shall conduct outreach to students who are mem-  
21  bers of groups under-represented in STEM careers to en-  
22  courage their participation in the program.

23          “(h) INSTITUTION OF HIGHER EDUCATION DE-  
24  FINED.—In this section, the term ‘institution of higher  
25  education’ has the meaning given the term in section 102



1 of the Higher Education Act of 1965 (20 U.S.C. 1002),  
2 except that the term does not include institutions de-  
3 scribed in subparagraph (C) of such section 102(a)(1).”.

4 (b) EFFECTIVE DATE.—The amendments made by  
5 subsection (a) shall take effect on the date that is 30 days  
6 after the date of the enactment of this section.

7 (c) CLERICAL AMENDMENT.—The table of contents  
8 in section 1(b) of the Homeland Security Act of 2002 is  
9 amended by inserting after the item relating to section  
10 317 the following new items:

- “Sec. 318. Identification and prioritization of research and development.
- “Sec. 319. Development of Directorate strategy and research and development  
plan.
- “Sec. 320. Monitoring of progress.
- “Sec. 321. Homeland Security Science and Technology Fellows Program.
- “Sec. 322. Cybersecurity research and development.
- “Sec. 323. Integrated product teams.
- “Sec. 324. Homeland Security-STEM summer internship program.”.

11 (d) RESEARCH AND DEVELOPMENT PROJECTS.—  
12 Section 831 of the Homeland Security Act of 2002 (6  
13 U.S.C. 391) is amended—

14 (1) in subsection (a)—

15 (A) in the matter preceding paragraph (1),  
16 by striking “2015” and inserting “2020”;

17 (B) in paragraph (1), by striking the last  
18 sentence; and

19 (C) by adding at the end the following new  
20 paragraph:

1           “(3) PRIOR APPROVAL.—In any case in which  
2           a component or office of the Department seeks to  
3           utilize the authority under this section, such office  
4           or component shall first receive prior approval from  
5           the Secretary by providing to the Secretary a pro-  
6           posal that includes the rationale for the use of such  
7           authority, the funds to be spent on the use of such  
8           authority, and the expected outcome for each project  
9           that is the subject of the use of such authority. In  
10          such a case, the authority for evaluating the pro-  
11          posal may not be delegated by the Secretary to any-  
12          one other than the Under Secretary for Manage-  
13          ment.”;

14           (2) in subsection (c)—

15           (A) in paragraph (1), in the matter pre-  
16           ceding subparagraph (A), by striking “2015”  
17           and inserting “2020”; and

18           (B) by amending paragraph (2) to read as  
19           follows:

20           “(2) REPORT.—The Secretary shall annually  
21           submit to the Committee on Homeland Security and  
22           the Committee on Science, Space, and Technology of  
23           the House of Representatives and the Committee on  
24           Homeland Security and Governmental Affairs of the  
25           Senate a report detailing the projects for which the

1 authority granted by subsection (a) was used, the  
2 rationale for such use, the funds spent using such  
3 authority, the extent of cost-sharing for such  
4 projects among Federal and non-Federal sources,  
5 the extent to which use of such authority has ad-  
6 dressed a homeland security capability gap or threat  
7 to the homeland identified by the Department, the  
8 total amount of payments, if any, that were received  
9 by the Federal Government as a result of the use of  
10 such authority during the period covered by each  
11 such report, the outcome of each project for which  
12 such authority was used, and the results of any au-  
13 dits of such projects.”; and

14 (3) by adding at the end the following new sub-  
15 sections:

16 “(e) TRAINING.—The Secretary shall develop a train-  
17 ing program for acquisitions staff in the use of other  
18 transaction authority to help ensure the appropriate use  
19 of such authority.

20 “(f) OTHER TRANSACTION AUTHORITY DEFINED.—  
21 In this section, the term ‘other transaction authority’  
22 means authority under subsection (a).”.

23 (e) AMENDMENT TO DEFINITION.—Paragraph (2) of  
24 subsection (a) of the second section 226 of the Homeland  
25 Security Act of 2002 (6 U.S.C. 148; relating to the na-

1 tional cybersecurity and communications integration cen-  
2 ter) is amended to read as follows:

3           “(2) INCIDENT.—The term ‘incident’ means an  
4           occurrence that actually or imminently jeopardizes,  
5           without lawful authority, the integrity, confiden-  
6           tiality, or availability of information on an informa-  
7           tion system, or actually or imminently jeopardizes,  
8           without lawful authority, an information system.”.

9           (f) GAO STUDY OF UNIVERSITY-BASED CENTERS.—

10           (1) IN GENERAL.—Not later than 120 days  
11           after the date of the enactment of this Act, the  
12           Comptroller General of the United States shall ini-  
13           tiate a study to assess the university-based centers  
14           for homeland security program authorized by section  
15           308(b)(2) of the Homeland Security Act of 2002 (6  
16           U.S.C. 188(b)(2)), and provide recommendations to  
17           the Committee on Homeland Security and the Com-  
18           mittee on Science, Space, and Technology of the  
19           House of Representatives and the Committee on  
20           Homeland Security and Governmental Affairs of the  
21           Senate for appropriate improvements.

22           (2) SUBJECT MATTERS.—The study required  
23           under subsection (a) shall include the following:

24                   (A) A review of the Department of Home-  
25                   land Security’s efforts to identify key areas of

1 study needed to support the homeland security  
2 mission, and criteria that the Department uti-  
3 lized to determine those key areas for which the  
4 Department should maintain, establish, or  
5 eliminate university-based centers.

6 (B) A review of the method by which uni-  
7 versity-based centers, federally funded research  
8 and development centers, and Department of  
9 Energy national laboratories receive tasking  
10 from the Department of Homeland Security, in-  
11 cluding a review of how university-based re-  
12 search is identified, prioritized, and funded.

13 (C) A review of selection criteria for desig-  
14 nating university-based centers and a weighting  
15 of such criteria.

16 (D) An examination of best practices from  
17 other agencies' efforts to organize and use uni-  
18 versity-based research to support their missions.

19 (E) A review of the Department of Home-  
20 land Security's criteria and metrics to measure  
21 demonstrable progress achieved by university-  
22 based centers in fulfilling Department taskings,  
23 and mechanisms for delivering and dissemi-  
24 nating the research results of designated uni-

1           versity-based centers within the Department  
2           and to other Federal, State, and local agencies.

3           (F) An examination of the means by which  
4           academic institutions that are not designated or  
5           associated with the designated university-based  
6           centers can optimally contribute to the research  
7           mission of the Directorate of Science and Tech-  
8           nology of the Department of Homeland Secu-  
9           rity.

10          (G) An assessment of the interrelationship  
11          between the different university-based centers  
12          and the degree to which outreach and collabora-  
13          tion among a diverse array of academic institu-  
14          tions is encouraged by the Department of  
15          Homeland Security, particularly with histori-  
16          cally Black colleges and universities and minor-  
17          ity-serving institutions.

18          (H) A review of any other essential ele-  
19          ments of the programs determined in the con-  
20          duct of the study.

21          (g) PRIZE AUTHORITY.—The Under Secretary for  
22          Science and Technology of the Department of Homeland  
23          Security shall utilize, as appropriate, prize authority  
24          granted pursuant to current law.

1           (h) PROHIBITION ON NEW FUNDING.—No funds are  
2 authorized to be appropriated to carry out this section and  
3 the amendments made by this section. Such section and  
4 amendments shall be carried out using amounts otherwise  
5 appropriated or made available for such purposes.

          Passed the House of Representatives December 10,  
2015.

Attest:

*Clerk.*

114<sup>TH</sup> CONGRESS  
1<sup>ST</sup> SESSION

**H. R. 3578**

---

**AN ACT**

To amend the Homeland Security Act of 2002 to strengthen and make improvements to the Directorate of Science and Technology of the Department of Homeland Security, and for other purposes.