

117TH CONGRESS  
1ST SESSION

# S. 1705

To establish a coordinated Federal initiative to accelerate the research, development, procurement, fielding, and sustainment of artificial intelligence for the economic and national security interests of the United States, and for other purposes.

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IN THE SENATE OF THE UNITED STATES

MAY 19, 2021

Mr. HEINRICH (for himself and Mr. PORTMAN) introduced the following bill;  
which was read twice and referred to the Committee on Armed Services

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## A BILL

To establish a coordinated Federal initiative to accelerate the research, development, procurement, fielding, and sustainment of artificial intelligence for the economic and national security interests of the United States, 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 “Artificial Intelligence  
5 Capabilities and Transparency Act of 2021” or the “AICT  
6 Act of 2021”.

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

2 (a) FINDINGS.—Congress finds the following:

3 (1) By enacting section 1051 of the John S.  
4 McCain National Defense Authorization Act for Fis-  
5 cal Year 2019 (Public Law 115–232), Congress es-  
6 tablished the National Security Commission on Arti-  
7 ficial Intelligence (NSCAI) to “consider the methods  
8 and means necessary to advance the development of  
9 artificial intelligence, machine learning, and associ-  
10 ated technologies by the United States to com-  
11 prehensively address the national security and de-  
12 fense needs of the United States”.

13 (2) The National Security Commission on Arti-  
14 ficial Intelligence was comprised of technology and  
15 policy experts with combined expertise in their field.

16 (3) The National Security Commission on Arti-  
17 ficial Intelligence released its final report to Con-  
18 gress in March of 2021.

19 (4) This Act is primarily based on the con-  
20 sensus recommendations of the National Security  
21 Commission on Artificial Intelligence.

22 (5) The National Science Foundation (NSF) es-  
23 tablished the National Artificial Intelligence (AI)  
24 Research Institutes program in 2020 to invest in  
25 long-term research into artificial intelligence.

1 (b) SENSE OF CONGRESS.—It is the sense of Con-  
2 gress that—

3 (1) artificial intelligence, machine learning, and  
4 associated technologies will play a critical role in the  
5 economic and national security interests of the  
6 United States and its allies;

7 (2) two additional themes for Artificial Intel-  
8 ligence Research Institutes should be established in  
9 the areas of artificial intelligence safety and artificial  
10 intelligence ethics; and

11 (3) the Director of the National Science Foun-  
12 dation should stand up the thematic programs de-  
13 scribed in paragraph (2) as soon as practicable.

14 **SEC. 3. DEFINITIONS.**

15 In this Act:

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

18 (A) Any artificial system that performs  
19 tasks under varying and unpredictable cir-  
20 cumstances without significant human over-  
21 sight, or that can learn from experience and im-  
22 prove performance when exposed to data sets.

23 (B) An artificial system developed in com-  
24 puter software, physical hardware, or other con-  
25 text that solves tasks requiring human-like per-

1           ception, cognition, planning, learning, commu-  
2           nication, or physical action.

3           (C) An artificial system designed to think  
4           or act like a human, including cognitive archi-  
5           tectures and neural networks.

6           (D) A set of techniques, including machine  
7           learning, that is designed to approximate a cog-  
8           nitive task.

9           (E) An artificial system designed to act ra-  
10          tionally, including an intelligent software agent  
11          or embodied robot that achieves goals using  
12          perception, planning, reasoning, learning, com-  
13          municating, decisionmaking and acting.

14          (2) ARTIFICIAL INTELLIGENCE ETHICS.—The  
15          term “artificial intelligence ethics” includes the  
16          quantitative analysis of artificial intelligence systems  
17          to address matters relating to the effects of such  
18          systems on individuals and society, such as matters  
19          of fairness or the potential for discrimination.

20          (3) ARTIFICIAL INTELLIGENCE SAFETY.—The  
21          term “artificial intelligence safety” includes tech-  
22          nical efforts to improve artificial intelligence systems  
23          in order to reduce adverse and unintentional effects  
24          of such systems.

1           (4) CONGRESSIONAL DEFENSE COMMITTEES.—  
2           The term “congressional defense committees” has  
3           the meaning given such term in section 101(a) of  
4           title 10, United States Code.

5           (5) INTELLIGENCE COMMUNITY.—The term  
6           “intelligence community” has the meaning given  
7           such term in section 3 of the National Security Act  
8           of 1947 (50 U.S.C. 3003).

9           (6) UNITED STATES PERSON.—The term  
10          “United States person” does not include a member  
11          of the Armed Forces or an employee of the Depart-  
12          ment of Defense.

13 **SEC. 4. DIGITAL TALENT RECRUITING OFFICERS.**

14          (a) DIGITAL TALENT RECRUITING FOR THE DE-  
15          PARTMENT OF DEFENSE.—

16               (1) DESIGNATION OF CHIEF DIGITAL RECRUIT-  
17               ING OFFICER.—Not later than 270 days after the  
18               date of the enactment of this Act, the Secretary of  
19               Defense shall designate a chief digital recruiting of-  
20               ficer within the office of the Under Secretary of De-  
21               fense for Personnel and Readiness to oversee a dig-  
22               ital recruiting office to carry out the responsibilities  
23               set forth in paragraph (2).

24               (2) RESPONSIBILITIES.—The chief digital re-  
25               cruiting officer designated under paragraph (1)

1 shall, in coordination with the Director for the Joint  
2 Artificial Intelligence Center (JAIC), be responsible  
3 for—

4 (A) identifying needs of the Department of  
5 Defense for specific types of digital talent;

6 (B) recruiting technologists, in partnership  
7 with the military services and Department com-  
8 ponents, including by attending conferences and  
9 career fairs, and actively recruiting on univer-  
10 sity campuses and from the private sector;

11 (C) integrating Federal scholarship for  
12 service programs into Department civilian re-  
13 cruiting; and

14 (D) partnering with human resource teams  
15 in the military services and Department compo-  
16 nents to use direct-hire authorities to accelerate  
17 hiring.

18 (3) STAFF AND RESOURCES.—The Secretary of  
19 Defense shall ensure that the chief digital recruiting  
20 officer designated under paragraph (1) is provided  
21 with staff and resources sufficient to maintain an of-  
22 fice and to carry out the responsibilities set forth in  
23 paragraph (2).

24 (b) DIGITAL TALENT RECRUITING FOR THE INTEL-  
25 LIGENCE COMMUNITY.—

1           (1) DESIGNATION OF CHIEF DIGITAL RECRUIT-  
2           ING OFFICER.—Not later than 270 days after the  
3           date of the enactment of this Act, the Director of  
4           National Intelligence shall designate a chief digital  
5           recruiting officer to oversee a digital recruiting office  
6           to carry out the responsibilities set forth in para-  
7           graph (2).

8           (2) RESPONSIBILITIES.—The chief digital re-  
9           cruiting officer designated under paragraph (1) shall  
10          be responsible for—

11                 (A) identifying needs of the intelligence  
12                 community for specific types of digital talent;

13                 (B) recruiting technologists, in partnership  
14                 with components of the intelligence community,  
15                 by attending conferences and career fairs, and  
16                 actively recruiting on college campuses;

17                 (C) integrating Federal scholarship for  
18                 service programs into intelligence community  
19                 recruiting;

20                 (D) offering recruitment and referral bo-  
21                 nuses; and

22                 (E) partnering with human resource teams  
23                 in the components of the intelligence commu-  
24                 nity to use direct-hire authorities to accelerate  
25                 hiring.

1           (3) STAFF AND RESOURCES.—The Director of  
2 National Intelligence shall ensure that the chief dig-  
3 ital recruiting officer designated under paragraph  
4 (1) is provided with staff and resources sufficient to  
5 maintain an office and to carry out the responsibil-  
6 ities set forth in paragraph (2).

7           (c) DIGITAL TALENT RECRUITING FOR THE DEPART-  
8 MENT OF ENERGY.—

9           (1) CHIEF DIGITAL RECRUITING OFFICER.—  
10 Not later than 270 days after the date of the enact-  
11 ment of this Act, the Secretary of Energy shall des-  
12 ignate a chief digital recruiting officer to oversee a  
13 digital recruiting office to carry out the responsibil-  
14 ities set forth in paragraph (2).

15           (2) RESPONSIBILITIES.—The chief digital re-  
16 cruiting officer designated under paragraph (1) shall  
17 be responsible for—

18           (A) identifying Department of Energy  
19 needs for specific types of digital talent;

20           (B) recruiting technologists, in partnership  
21 with Department programs, by attending con-  
22 ferences and career fairs, and actively recruit-  
23 ing on college campuses;

24           (C) integrating Federal scholarship for  
25 service programs into civilian recruiting;



1 (D) offering recruitment and referral bo-  
 2 nuses; and

3 (E) partnering with human resource teams  
 4 in Department programs to use direct-hire au-  
 5 thorities to accelerate hiring.

6 (3) STAFF AND RESOURCES.—The Secretary of  
 7 Energy shall ensure that the chief digital recruiting  
 8 officer designated under paragraph (1) is provided  
 9 with staff and resources sufficient to maintain an of-  
 10 fice and to carry out the responsibilities set forth in  
 11 paragraph (2).

12 **SEC. 5. DEPARTMENT OF DEFENSE PILOT PROGRAM ON ES-**  
 13 **TABLISHING AN ARTIFICIAL INTELLIGENCE**  
 14 **DEVELOPMENT AND PROTOTYPING FUND.**

15 (a) ESTABLISHMENT OF PILOT PROGRAM AND ARTI-  
 16 FICIAL INTELLIGENCE DEVELOPMENT AND PROTOTYPING  
 17 FUND.—

18 (1) PILOT PROGRAM.—The Secretary of De-  
 19 fense shall establish and carry out a pilot program  
 20 to assess the feasibility and advisability of estab-  
 21 lishing a fund for the purpose set forth in subsection  
 22 (b).

23 (2) ARTIFICIAL INTELLIGENCE DEVELOPMENT  
 24 AND PROTOTYPING FUND.—Under the pilot pro-  
 25 gram, the Secretary shall establish a fund to be

1 known as the “Artificial Intelligence Development  
2 and Prototyping Fund” (in this section referred to  
3 as the “Fund”).

4 (b) PURPOSE.—The purpose of the pilot program and  
5 the Fund is to support operational prototyping and speed  
6 the transition of artificial intelligence-enabled applications  
7 into both service-specific and joint mission capabilities  
8 with priority on joint mission capabilities for Combatant  
9 Commanders.

10 (c) MANAGEMENT OF THE FUND.—The Fund shall  
11 be managed by the Secretary, acting through the Joint  
12 Artificial Intelligence Center, in consultation with the  
13 Under Secretary of Defense for Research and Engineer-  
14 ing, the Joint Staff, and the military services.

15 (d) USE OF FUNDS FOR DEVELOPMENT OR PROTO-  
16 TYPING.—

17 (1) IN GENERAL.—The Secretary, acting  
18 through the Joint Artificial Intelligence Center, may  
19 transfer such amounts in the Fund as the Secretary  
20 considers appropriate to a military service for the  
21 purpose of carrying out a development or proto-  
22 typing program selected by the Secretary for the  
23 purpose described in subsection (b).

1           (2) TREATMENT OF TRANSFERRED FUNDS.—

2           Any amount transferred under paragraph (1) shall  
3           be credited to the account to which it is transferred.

4           (3) SUPPLEMENT, NOT SUPPLANT.—The trans-  
5           fer authority provided in this subsection is in addi-  
6           tion to any other transfer authority available to the  
7           Secretary or the Under Secretary.

8           (e) CONGRESSIONAL NOTICE.—

9           (1) NOTICE REQUIRED.—The Secretary shall  
10          notify the congressional defense committees of all  
11          transfers under subsection (d).

12          (2) CONTENTS.—Each notice under paragraph  
13          (1) shall specify the amount transferred, the purpose  
14          of the transfer, and the total projected cost and esti-  
15          mated cost to complete the program to which the  
16          funds were transferred.

17          (f) TERMINATION.—The pilot program and the Fund  
18          established under subsection (a) shall both terminate on  
19          the date that is two years after the date of the enactment  
20          of this Act.

21          (g) AUTHORIZATION OF APPROPRIATIONS.—There  
22          are authorized to be appropriated \$50,000,000 to be de-  
23          posited into the Fund and to carry out this section.

1 **SEC. 6. DEPARTMENT OF DEFENSE RESOURCING PLAN FOR**  
2 **DIGITAL ECOSYSTEM.**

3 (a) IN GENERAL.—Within one year after the date of  
4 the enactment of this Act, the Secretary of Defense shall  
5 develop a plan for the development of a modern digital  
6 ecosystem that embraces state-of-the-art tools and modern  
7 processes to enable development, testing, fielding, and con-  
8 tinuous update of artificial intelligence-powered applica-  
9 tions at speed and scale from headquarters to the tactical  
10 edge.

11 (b) CONTENTS OF PLAN.—At a minimum, the plan  
12 required by subsection (a) shall include—

13 (1) an open architecture and an evolving ref-  
14 erence design and guidance for needed technical in-  
15 vestments in the proposed ecosystem that address  
16 issues including common interfaces, authentication,  
17 applications, platforms, software, hardware, and  
18 data infrastructure;

19 (2) a governance structure, together with asso-  
20 ciated policies and guidance, to drive the implemen-  
21 tation of the reference throughout the Department  
22 on a federated basis; and

23 (3) a review of relevant authorities to operate  
24 and all information technology policies that may im-  
25 pede progress of a digital ecosystem.

1 **SEC. 7. ACCREDITED ASSESSMENT OF ARTIFICIAL INTEL-**  
2 **LIGENCE SYSTEMS.**

3 (a) ACCREDITATION ASSESSMENT FOR ARTIFICIAL  
4 INTELLIGENCE TESTING ORGANIZATIONS.—

5 (1) IN GENERAL.—Not later than 540 days  
6 after the date of the enactment of this Act, the Di-  
7 rector of the National Institute of Standards and  
8 Technology shall establish a program under which  
9 the Director provides accreditation to organizations  
10 that the Director determines competent at evalu-  
11 ating the potential, direct privacy, civil rights, and  
12 civil liberties effects of artificial intelligence systems  
13 used by covered agencies on United States persons.

14 (2) LIST.—The Director shall maintain a list of  
15 organizations accredited under the program estab-  
16 lished under paragraph (1).

17 (b) COVERED AGENCIES.—For the purposes of this  
18 section, a covered agency is—

19 (1) the Department of Defense;

20 (2) an element of the intelligence community  
21 (as defined in section 3 of the National Security Act  
22 of 1947 (50 U.S.C. 3003)); or

23 (3) the Federal Bureau of Investigation.

24 (c) ARTIFICIAL INTELLIGENCE SYSTEM CRITERIA  
25 AND TESTING.—

1           (1) IN GENERAL.—The privacy and civil lib-  
2           erties officers of covered agencies shall establish cri-  
3           teria for when an artificial intelligence system of a  
4           covered agency warrants accredited testing for pri-  
5           vacy, civil liberties, and civil rights implications for  
6           individuals in the United States.

7           (2) ADOPTION BY AGENCIES.—The head of a  
8           covered agency shall—

9                   (A) adopt the criteria established under  
10                  paragraph (1); and

11                   (B) submit each artificial intelligence sys-  
12                  tem of the covered agency that meets the cri-  
13                  teria for testing established under paragraph  
14                  (1) to an organization accredited under the pro-  
15                  gram established under subsection (a)(1) for  
16                  evaluation in accordance with subsection (e).

17           (d) TESTING.—

18           (1) IN GENERAL.—The head of a covered agen-  
19           cy shall submit an artificial intelligence system that  
20           meets the criteria for testing established under sub-  
21           section (c)(1) to an organization for an assessment  
22           of the performance of the artificial intelligence sys-  
23           tem according to the risk management framework  
24           developed under section 22A(c) of the National In-

1       stitute of Standards and Technology Act (15 U.S.C.  
2       278h-1(c))—

3               (A) before procuring, fielding, or using the  
4               artificial intelligence system; and

5               (B) after the artificial intelligence system  
6               passes an evaluation performed by an organiza-  
7               tion under subsection (e).

8       (e) SCOPE OF TESTING.—Each organization accred-  
9       ited under the program established under subsection  
10      (a)(1) shall, in evaluating an artificial intelligence system  
11      of a covered agency and as a condition on maintenance  
12      of such accreditation—

13              (1) utilize metrics relevant to the mission and  
14              authorities of the covered agency;

15              (2) develop approaches to test—

16                      (A) a software product used in an artificial  
17                      intelligence system, as installed in a test facil-  
18                      ity; and

19                      (B) cloud-based services relevant to the ar-  
20                      tificial intelligence system;

21              (3) engage in binding agreements that enable  
22              the covered agency and other stakeholders to share  
23              confidential and proprietary data with the organiza-  
24              tion; and

1           (4) collaborate with the covered agency to reach  
2           consensus on appropriate protocols and approaches  
3           for handling data, test results, and analyses.

4           (f) ANNUAL REPORTS.—Once the Director of the Na-  
5           tional Institute of Standards and Technology establishes  
6           the program required by subsection (a)(1), each privacy  
7           and civil liberties officer of a covered agency shall, not less  
8           frequently than once each year, submit to Congress a re-  
9           port on the results of the testing on artificial intelligence  
10          systems of the covered agency under this section to ensure  
11          Congress understands the potential, direct privacy, civil  
12          rights, and civil liberties effects of such artificial intel-  
13          ligence systems.

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