

The SPEAKER pro tempore. Pursuant to the rule, the gentleman from Texas (Mr. HURD) and the gentlewoman from the District of Columbia (Ms. NORTON) each will control 20 minutes.

The Chair recognizes the gentleman from Texas.

GENERAL LEAVE

Mr. HURD. Mr. Speaker, I ask unanimous consent that all Members may have 5 days in which to revise and extend their remarks and include extraneous material on the bill under consideration.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Texas?

There was no objection.

Mr. HURD. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I rise today in support of the SECURE Technology Act. This is a bill that I introduced with the majority leader, KEVIN MCCARTHY, and Representatives RATCLIFFE, LIEU, VELA, and LANGEVIN.

This bill includes two bipartisan proposals to strengthen Homeland Security. First, it requires a vulnerability disclosure policy and establishes a bug bounty program at the Department of Homeland Security. Second, it establishes requirements for supply chain security in products purchased by the Federal Government.

Title I of the bill incorporates H.R. 6735, which is the Public-Private Cybersecurity Cooperation Act, which was introduced by Leader MCCARTHY and passed by a voice vote by this House in September. It is cosponsored by myself and Representatives RATCLIFFE, LANGEVIN, and KHANNA.

Senator PORTMAN introduced the Senate companion to this bill, S. 3707, with Senator HASSAN.

This title seeks to protect the information systems of the Department of Homeland Security by establishing a program to report security vulnerabilities discovered on these systems. This program allows DHS to learn about security risks from private-sector experts and requires DHS to fix these at-risk systems.

DHS operates many of the systems and services other agencies use to protect their networks, so DHS should set the example for securing its own information systems.

Title I also includes S. 1281, the Hack the Department of Homeland Security Act of 2018, which was introduced by Senator HASSAN with Senators PORTMAN, MCCASKILL, HARRIS, and GARDNER.

Representative LIEU introduced the House companion to this bill, H.R. 2774, with Representative TAYLOR. It is cosponsored by Representatives MEEHAN, KHANNA, JAYAPAL, KILMER, KELLY, and EVANS. The bill authorizes DHS to create a bug bounty pilot program to compensate people who report security vulnerabilities to DHS.

Bug bounties are widely seen as an effective and inexpensive way to identify vulnerabilities in IT systems.

Title II of this bill incorporates S. 3085, the Federal Acquisition Supply Chain Security Act of 2018, which was introduced by Senator MCCASKILL and cosponsored by Senators LANKFORD and JOHNSON.

This bill passed the Senate by unanimous consent last night. This title helps ensure the integrity of information technology and communications equipment purchased by the Federal Government by addressing supply chain risks that are government-wide.

The bill sets up an interagency council to identify products that pose unacceptable risk to these systems and to set policy on information sharing and risk mitigation in Federal IT systems.

The bill recognizes the need to move away from an ad hoc approach to dealing with unacceptable products offered to the Federal Government by companies such as Kaspersky, ZTE, and Huawei. It also authorizes exclusion and removal orders for products found to pose an unacceptable risk to these Federal IT systems.

This legislation provides for due process, including judicial review, and certainty about how lawsuits will be handled in the future.

Mr. Speaker, I want to thank the numerous Members in the House and Senate who worked tirelessly on these two pieces of legislation, especially Leader MCCARTHY, members of the House Committee on Oversight and Government Reform and Committee on Homeland Security, and members of the Senate Homeland Security and Governmental Affairs Committee.

Mr. Speaker, I want to urge my colleagues to support the SECURE Technology Act, and I reserve the balance of my time.

□ 1630

Ms. NORTON. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I thank my good friend, Representative HURD, for his leadership in introducing this commonsense legislation. The bill before us today includes a number of different measures.

The bill includes a measure originally introduced by Senator MCCASKILL to deal with information technology threats to the Federal acquisition supply chain. The bill would address the serious cybersecurity risks that recently came to light after the discovery of Kaspersky products had been installed on many government computers.

The bill would establish the Federal Acquisition Security Council to facilitate information sharing among Federal agencies regarding supply chain risks when purchasing information technology products and create procedures for evaluating such risks.

The bill would give agencies the authority to mitigate supply chain IT risks and authorizes the Council to recommend excluding suppliers, if warranted.

The bill also would establish a judicial review process and reporting re-

quirements to ensure fairness and accountability if companies are excluded in the future.

In addition, the bill includes several provisions to improve cybersecurity at the Department of Homeland Security, one which was originally authored by Senator HASSAN of New Hampshire. It would create a pilot program through which the Department would be authorized to provide a financial reward to those who legitimately come forward to report vulnerabilities on DHS websites and software to prevent exploitation by cyber terrorists, State actors, and criminal organizations.

So-called white hat hackers are an enormous pool of talent that the Federal Government has largely failed to leverage. The bill would also require DHS to put in place policies to ensure that civic-minded hackers can identify and report bugs found on the Department's information systems without breaking the law.

I ask my colleagues to join me in supporting the SECURE Technology Act, and I reserve the balance of my time.

Mr. HURD. Mr. Speaker, I make my friend, the gentlewoman from the District of Columbia, whom I always take every opportunity to work with, aware that I have no further speakers, and I am prepared to close.

Mr. Speaker, I reserve the balance of my time.

Ms. NORTON. Mr. Speaker, I thank my good friend especially for his work on this bill and for his friendship and for our continuing work together.

Mr. Speaker, I have no further speakers, and I yield back the balance of my time.

Mr. HURD. Mr. Speaker, this is another example of how we can actually get things done up here in Washington, D.C., if we work together. This is a piece of legislation that is going to help secure our networks, make sure we are protecting the American people, and I urge the adoption of this bill.

Mr. Speaker, I yield back the balance of my time.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Texas (Mr. HURD) that the House suspend the rules and pass the bill, H.R. 7327.

The question was taken.

The SPEAKER pro tempore. In the opinion of the Chair, two-thirds being in the affirmative, the ayes have it.

Mr. MASSIE. Mr. Speaker, I object to the vote on the ground that a quorum is not present and make the point of order that a quorum is not present.

The SPEAKER pro tempore. Pursuant to clause 8 of rule XX, further proceedings on this question will be postponed.

The point of no quorum is considered withdrawn.

NATIONAL QUANTUM INITIATIVE ACT

Mr. SMITH of Texas. Mr. Speaker, I move to suspend the rules and concur

in the Senate amendment to the bill (H.R. 6227) to provide for a coordinated Federal program to accelerate quantum research and development for the economic and national security of the United States.

The Clerk read the title of the bill.

The text of the Senate amendment is as follows:

Senate amendment:

Strike all after the enacting clause and insert the following:

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) **SHORT TITLE.**—This Act may be cited as the “National Quantum Initiative Act”.

(b) **TABLE OF CONTENTS.**—The table of contents of this Act is as follows:

Sec. 1. Short title; table of contents.

Sec. 2. Definitions.

Sec. 3. Purposes.

TITLE I—NATIONAL QUANTUM INITIATIVE

Sec. 101. National Quantum Initiative Program.

Sec. 102. National Quantum Coordination Office.

Sec. 103. Subcommittee on Quantum Information Science.

Sec. 104. National Quantum Initiative Advisory Committee.

Sec. 105. Sunset.

TITLE II—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY QUANTUM ACTIVITIES

Sec. 201. National Institute of Standards and Technology activities and quantum consortium.

TITLE III—NATIONAL SCIENCE FOUNDATION QUANTUM ACTIVITIES

Sec. 301. Quantum information science research and education program.

Sec. 302. Multidisciplinary Centers for Quantum Research and Education.

TITLE IV—DEPARTMENT OF ENERGY QUANTUM ACTIVITIES

Sec. 401. Quantum Information Science Research program.

Sec. 402. National Quantum Information Science Research Centers.

SEC. 2. DEFINITIONS.

In this Act:

(1) **ADVISORY COMMITTEE.**—The term “Advisory Committee” means the National Quantum Initiative Advisory Committee established under section 104(a).

(2) **APPROPRIATE COMMITTEES OF CONGRESS.**—The term “appropriate committees of Congress” means—

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

(B) the Committee on Energy and Natural Resources of the Senate; and

(C) the Committee on Science, Space, and Technology of the House of Representatives.

(3) **COORDINATION OFFICE.**—The term “Coordination Office” means the National Quantum Coordination Office established under section 102(a).

(4) **INSTITUTION OF HIGHER EDUCATION.**—The term “institution of higher education” has the meaning given the term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(5) **PROGRAM.**—The term “Program” means the National Quantum Initiative Program implemented under section 101(a).

(6) **QUANTUM INFORMATION SCIENCE.**—The term “quantum information science” means the use of the laws of quantum physics for the storage, transmission, manipulation, computing, or measurement of information.

(7) **SUBCOMMITTEE.**—The term “Subcommittee” means the Subcommittee on Quantum Information Science of the National Science and Technology Council established under section 103(a).

SEC. 3. PURPOSES.

The purpose of this Act is to ensure the continued leadership of the United States in quantum information science and its technology applications by—

(1) supporting research, development, demonstration, and application of quantum information science and technology—

(A) to expand the number of researchers, educators, and students with training in quantum information science and technology to develop a workforce pipeline;

(B) to promote the development and inclusion of multidisciplinary curriculum and research opportunities for quantum information science at the undergraduate, graduate, and postdoctoral level;

(C) to address basic research knowledge gaps, including computational research gaps;

(D) to promote the further development of facilities and centers available for quantum information science and technology research, testing and education; and

(E) to stimulate research on and promote more rapid development of quantum-based technologies;

(2) improving the interagency planning and coordination of Federal research and development of quantum information science and technology;

(3) maximizing the effectiveness of the Federal Government’s quantum information science and technology research, development, and demonstration programs;

(4) promoting collaboration among the Federal Government, Federal laboratories, industry, and universities; and

(5) promoting the development of international standards for quantum information science and technology security—

(A) to facilitate technology innovation and private sector commercialization; and

(B) to meet economic and national security goals.

TITLE I—NATIONAL QUANTUM INITIATIVE

SEC. 101. NATIONAL QUANTUM INITIATIVE PROGRAM.

(a) **IN GENERAL.**—The President shall implement a National Quantum Initiative Program.

(b) **REQUIREMENTS.**—In carrying out the Program, the President, acting through Federal agencies, councils, working groups, subcommittees, and the Coordination Office, as the President considers appropriate, shall—

(1) establish the goals, priorities, and metrics for a 10-year plan to accelerate development of quantum information science and technology applications in the United States;

(2) invest in fundamental Federal quantum information science and technology research, development, demonstration, and other activities to achieve the goals established under paragraph (1);

(3) invest in activities to develop a quantum information science and technology workforce pipeline;

(4) provide for interagency planning and coordination of Federal quantum information science and technology research, development, demonstration, standards engagement, and other activities under the Program;

(5) partner with industry and universities to leverage knowledge and resources; and

(6) leverage existing Federal investments efficiently to advance Program goals and priorities established under paragraph (1).

SEC. 102. NATIONAL QUANTUM COORDINATION OFFICE.

(a) **ESTABLISHMENT.**—

(1) **IN GENERAL.**—The President shall establish a National Quantum Coordination Office.

(2) **ADMINISTRATION.**—The Coordination Office shall have—

(A) a Director appointed by the Director of the Office of Science and Technology Policy, in consultation with the Secretary of Commerce, the Director of the National Science Foundation, and the Secretary of Energy; and

(B) staff comprised of employees detailed from the Federal departments and agencies described in section 103(b).

(b) **RESPONSIBILITIES.**—The Coordination Office shall—

(1) provide technical and administrative support to—

(A) the Subcommittee; and

(B) the Advisory Committee;

(2) oversee interagency coordination of the Program, including by encouraging and supporting joint agency solicitation and selection of applications for funding of activities under the Program;

(3) serve as the point of contact on Federal civilian quantum information science and technology activities for Federal departments and agencies, industry, universities professional societies, State governments, and such other persons as the Coordination Office considers appropriate to exchange technical and programmatic information;

(4) ensure coordination among the collaborative ventures or consortia established under section 201(a), Multidisciplinary Centers for Quantum Research and Education established under section 302(a), and the National Quantum Information Science Research Centers established under section 402(a);

(5) conduct public outreach, including the dissemination of findings and recommendations of the Advisory Committee, as appropriate;

(6) promote access to and early application of the technologies, innovations, and expertise derived from Program activities to agency missions and systems across the Federal Government, and to industry, including startup companies; and

(7) promote access, through appropriate Federal Government agencies, and an open and competitive merit-reviewed process, to existing quantum computing and communication systems developed by industry, universities, and Federal laboratories to the general user community in pursuit of discovery of the new applications of such systems.

(c) **FUNDING.**—Funds necessary to carry out the activities of the Coordination Office shall be made available each fiscal year by the Federal departments and agencies described in section 103(b), as determined by the Director of the Office of Science and Technology Policy.

SEC. 103. SUBCOMMITTEE ON QUANTUM INFORMATION SCIENCE.

(a) **ESTABLISHMENT.**—The President shall establish, through the National Science and Technology Council, the Subcommittee on Quantum Information Science.

(b) **MEMBERSHIP.**—The Subcommittee shall include a representative of—

(1) the National Institute of Standards and Technology;

(2) the National Science Foundation;

(3) the Department of Energy;

(4) the National Aeronautics and Space Administration;

(5) the Department of Defense;

(6) the Office of the Director of National Intelligence;

(7) the Office of Management and Budget;

(8) the Office of Science and Technology Policy; and

(9) such other Federal department or agency as the President considers appropriate.

(c) **CHAIRPERSONS.**—The Subcommittee shall be jointly chaired by the Director of the National Institute of Standards and Technology, the Director of the National Science Foundation, and the Secretary of Energy.

(d) **RESPONSIBILITIES.**—The Subcommittee shall—

(1) coordinate the quantum information science and technology research, information sharing about international standards development and use, and education activities and programs of the Federal agencies;

(2) establish goals and priorities of the Program, based on identified knowledge and workforce gaps and other national needs;

(3) assess and recommend Federal infrastructure needs to support the Program;

(4) assess the status, development, and diversity of the United States quantum information science workforce;

(5) assess the global outlook for quantum information science research and development efforts;

(6) evaluate opportunities for international cooperation with strategic allies on research and development in quantum information science and technology; and

(7) propose a coordinated interagency budget for the Program to the Office of Management and Budget to ensure the maintenance of a balanced quantum information science research portfolio and an appropriate level of research effort.

(e) **STRATEGIC PLANS.**—In order to guide the activities of the Program and meet the goals, priorities, and anticipated outcomes of the Federal departments and agencies described in subsection (b), the Subcommittee shall—

(1) not later than 1 year after the date of enactment of this Act, develop a 5-year strategic plan;

(2) not later than 6 years after the date of enactment of this Act, develop a subsequent 5-year strategic plan; and

(3) periodically update each plan, as necessary.

(f) **SUBMITTAL TO CONGRESS.**—The chairpersons of the Subcommittee shall submit to the President, the Advisory Committee, and the appropriate committees of Congress each strategic plan developed under subsection (e) and any updates thereto.

(g) **ANNUAL PROGRAM BUDGET REPORT.**—

(1) **IN GENERAL.**—Each year, concurrent with the annual budget request submitted by the President to Congress under section 1105 of title 31, United States Code, the chairpersons of the Subcommittee shall submit to the appropriate committees of Congress and such other committees of Congress as the chairpersons deem appropriate a report on the budget for the Program.

(2) **CONTENTS.**—Each report submitted under paragraph (1) shall include the following:

(A) The budget of the Program for the current fiscal year, for each Federal department and agency described in subsection (b).

(B) The budget proposed for the Program for the next fiscal year, for each Federal department and agency described in subsection (b).

(C) An analysis of the progress made toward achieving the goals and priorities established under subsection (d)(2).

SEC. 104. NATIONAL QUANTUM INITIATIVE ADVISORY COMMITTEE.

(a) **IN GENERAL.**—The President shall establish a National Quantum Initiative Advisory Committee.

(b) **QUALIFICATIONS.**—The Advisory Committee shall consist of members, appointed by the President, who are representative of industry, universities, and Federal laboratories and are qualified to provide advice and information on quantum information science and technology research, development, demonstrations, standards, education, technology transfer, commercial application, or national security and economic concerns.

(c) **MEMBERSHIP CONSIDERATION.**—In selecting the members of the Advisory Committee, the President may seek and give consideration to recommendations from the Congress, industry, the scientific community (including the National Academy of Sciences, scientific professional societies, and universities), the defense community, and other appropriate organizations.

(d) **DUTIES.**—

(1) **IN GENERAL.**—The Advisory Committee shall advise the President and the Subcommittee and make recommendations for the President to consider when reviewing and revising the Program.

(2) **INDEPENDENT ASSESSMENTS.**—The Advisory Committee shall conduct periodic, independent assessments of—

(A) any trends or developments in quantum information science and technology;

(B) the progress made in implementing the Program;

(C) the management, coordination, implementation, and activities of the Program;

(D) whether the Program activities and the goals and priorities established under section 103(d)(2) are helping to maintain United States leadership in quantum information science and technology;

(E) whether a need exists to revise the Program;

(F) whether opportunities exist for international cooperation with strategic allies on research and development in, and the development of open standards for, quantum information science and technology; and

(G) whether national security, societal, economic, legal, and workforce concerns are adequately addressed by the Program.

(e) **REPORTS.**—Not later than 180 days after the date of enactment of this Act, and at least biennially thereafter, the Advisory Committee shall submit to the President, the appropriate committees of Congress, and such other committees of Congress as the Advisory Committee deems appropriate a report on the findings of the independent assessment under subsection (d), including any recommendations for improvements to the Program.

(f) **TRAVEL EXPENSES OF NON-FEDERAL MEMBERS.**—Non-Federal members of the Advisory Committee, while attending meetings of the Advisory Committee or while otherwise serving at the request of the head of the Advisory Committee away from their homes or regular places of business, may be allowed travel expenses, including per diem in lieu of subsistence, as authorized by section 5703 of title 5, United States Code, for individuals in the Government serving without pay. Nothing in this subsection shall be construed to prohibit members of the Advisory Committee who are officers or employees of the United States from being allowed travel expenses, including per diem in lieu of subsistence, in accordance with existing law.

(g) **FACA EXEMPTION.**—The Advisory Committee shall be exempt from section 14 of the Federal Advisory Committee Act (5 U.S.C. App.).

SEC. 105. SUNSET.

(a) **IN GENERAL.**—Except as provided in subsection (b), the authority to carry out sections 101, 102, 103, and 104 shall terminate on the date that is 11 years after the date of enactment of this Act.

(b) **EXTENSION.**—The President may continue the activities under such sections if the President determines that such activities are necessary to meet national economic or national security needs.

TITLE II—NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY QUANTUM ACTIVITIES

SEC. 201. NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACTIVITIES AND QUANTUM CONSORTIUM.

(a) **NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY ACTIVITIES.**—As part of the Program, the Director of the National Institute of Standards and Technology—

(1) shall continue to support and expand basic and applied quantum information science and technology research and development of measurement and standards infrastructure necessary to advance commercial development of quantum applications;

(2) shall use the existing programs of the National Institute of Standards and Technology, in collaboration with other Federal departments and agencies, as appropriate, to train scientists in quantum information science and technology to increase participation in the quantum fields;

(3) shall establish or expand collaborative ventures or consortia with other public or private sector entities, including industry, universities, and Federal laboratories for the purpose of ad-

vancing the field of quantum information science and engineering; and

(4) may enter into and perform such contracts, including cooperative research and development arrangements and grants and cooperative agreements or other transactions, as may be necessary in the conduct of the work of the National Institute of Standards and Technology and on such terms as the Director considers appropriate, in furtherance of the purposes of this Act.

(b) **QUANTUM CONSORTIUM.**—

(1) **IN GENERAL.**—Not later than 1 year after the date of enactment of this Act, the Director of the National Institute of Standards and Technology shall convene a consortium of stakeholders to identify the future measurement, standards, cybersecurity, and other appropriate needs for supporting the development of a robust quantum information science and technology industry in the United States.

(2) **GOALS.**—The goals of the consortium shall be—

(A) to assess the current research on the needs identified in paragraph (1);

(B) to identify any gaps in the research necessary to meet the needs identified in paragraph (1); and

(C) to provide recommendations on how the National Institute of Standards and Technology and the Program can address the gaps in the necessary research identified in subparagraph (B).

(3) **REPORT TO CONGRESS.**—Not later than 2 years after the date of enactment of this Act, the Director of the National Institute of Standards and Technology shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report summarizing the findings of the consortium.

(c) **FUNDING.**—The Director of the National Institute of Standards and Technology shall allocate up to \$80,000,000 to carry out the activities under this section for each of fiscal years 2019 through 2023, subject to the availability of appropriations. Amounts made available to carry out this section shall be derived from amounts appropriated or otherwise made available to the National Institute of Standards and Technology.

TITLE III—NATIONAL SCIENCE FOUNDATION QUANTUM ACTIVITIES

SEC. 301. NATIONAL INFORMATION SCIENCE RESEARCH AND EDUCATION PROGRAM.

(a) **IN GENERAL.**—The Director of the National Science Foundation shall carry out a basic research and education program on quantum information science and engineering, including the competitive award of grants to institutions of higher education or eligible nonprofit organizations (or consortia thereof).

(b) **PROGRAM COMPONENTS.**—

(1) **IN GENERAL.**—In carrying out the program under subsection (a), the Director of the National Science Foundation shall carry out activities that—

(A) support basic interdisciplinary quantum information science and engineering research; and

(B) support human resources development in all aspects of quantum information science and engineering.

(2) **REQUIREMENTS.**—The activities described in paragraph (1) shall include—

(A) using the existing programs of the National Science Foundation, in collaboration with other Federal departments and agencies, as appropriate—

(i) to improve the teaching and learning of quantum information science and engineering at the undergraduate, graduate, and postgraduate levels; and

(ii) to increase participation in the quantum fields, including by individuals identified in sections 33 and 34 of the Science and Engineering

Equal Opportunities Act (42 U.S.C. 1885a, 1885b);

(B) formulating goals for quantum information science and engineering research and education activities to be supported by the National Science Foundation;

(C) leveraging the collective body of knowledge from existing quantum information science and engineering research and education activities;

(D) coordinating research efforts funded through existing programs across the directorates of the National Science Foundation; and

(E) engaging with other Federal departments and agencies, research communities, and potential users of information produced under this section.

(c) **GRADUATE TRAINEESHIPS.**—The Director of the National Science Foundation may establish a program to provide traineeships to graduate students at institutions of higher education within the United States who are citizens of the United States and who choose to pursue masters or doctoral degrees in quantum information science.

SEC. 302. MULTIDISCIPLINARY CENTERS FOR QUANTUM RESEARCH AND EDUCATION.

(a) **IN GENERAL.**—The Director of the National Science Foundation, in consultation with other Federal departments and agencies, as appropriate, shall award grants to institutions of higher education or eligible nonprofit organizations (or consortia thereof) to establish at least 2, but not more than 5, Multidisciplinary Centers for Quantum Research and Education (referred to in this section as “Centers”).

(b) **COLLABORATIONS.**—A collaboration receiving an award under this subsection may include institutions of higher education, nonprofit organizations, and private sector entities.

(c) **PURPOSE.**—The purpose of the Centers shall be to conduct basic research and education activities in support of the goals and priorities established under section 103(d)(2), including by—

(1) continuing to advance quantum information science and engineering;

(2) supporting curriculum and workforce development in quantum information science and engineering; and

(3) fostering innovation by bringing industry perspectives to quantum research and workforce development, including by leveraging industry knowledge and resources.

(d) **REQUIREMENTS.**—

(1) **IN GENERAL.**—An institution of higher education or an eligible nonprofit organization (or a consortium thereof) seeking funding under this section shall submit an application to the Director of the National Science Foundation at such time, in such manner, and containing such information as the Director may require.

(2) **APPLICATIONS.**—Each application under paragraph (1) shall include a description of—

(A) how the Center will work with other research institutions and industry partners to leverage expertise in quantum science, education and curriculum development, and technology transfer;

(B) how the Center will promote active collaboration among researchers in multiple disciplines involved in quantum research, including physics, engineering, mathematics, computer science, chemistry, and material science;

(C) how the Center will support long-term and short-term workforce development in the quantum field;

(D) how the Center can support an innovation ecosystem to work with industry to translate Center research into applications; and

(E) a long-term plan to become self-sustaining after the expiration of funding under this section.

(e) **SELECTION AND DURATION.**—

(1) **IN GENERAL.**—Each Center established under this section is authorized to carry out activities for a period of 5 years.

(2) **REAPPLICATION.**—An awardee may reapply for additional, subsequent periods of 5 years on a competitive, merit-reviewed basis.

(3) **TERMINATION.**—Consistent with the authorities of the National Science Foundation, the Director of the National Science Foundation may terminate an underperforming Center for cause during the performance period.

(f) **FUNDING.**—The Director of the National Science Foundation shall allocate up to \$10,000,000 for each Center established under this section for each of fiscal years 2019 through 2023, subject to the availability of appropriations. Amounts made available to carry out this section shall be derived from amounts appropriated or otherwise made available to the National Science Foundation.

**TITLE IV—DEPARTMENT OF ENERGY
QUANTUM ACTIVITIES**

SEC. 401. QUANTUM INFORMATION SCIENCE RESEARCH PROGRAM.

(a) **IN GENERAL.**—The Secretary of Energy shall carry out a basic research program on quantum information science.

(b) **PROGRAM COMPONENTS.**—In carrying out the program under subsection (a), the Secretary of Energy shall—

(1) formulate goals for quantum information science research to be supported by the Department of Energy;

(2) leverage the collective body of knowledge from existing quantum information science research;

(3) provide research experiences and training for additional undergraduate and graduate students in quantum information science, including in the fields of—

(A) quantum information theory;

(B) quantum physics;

(C) quantum computational science;

(D) applied mathematics and algorithm development;

(E) quantum networking;

(F) quantum sensing and detection; and

(G) materials science and engineering;

(4) coordinate research efforts funded through existing programs across the Department of Energy, including—

(A) the Nanoscale Science Research Centers;

(B) the Energy Frontier Research Centers;

(C) the Energy Innovation Hubs;

(D) the National Laboratories;

(E) the Advanced Research Projects Agency; and

(F) the National Quantum Information Science Research Centers; and

(5) coordinate with other Federal departments and agencies, research communities, and potential users of information produced under this section.

SEC. 402. NATIONAL QUANTUM INFORMATION SCIENCE RESEARCH CENTERS.

(a) **ESTABLISHMENT.**—

(1) **IN GENERAL.**—The Secretary of Energy, acting through the Director of the Office of Science (referred to in this section as the “Director”), shall ensure that the Office of Science carries out a program, in consultation with other Federal departments and agencies, as appropriate, to establish and operate at least 2, but not more than 5, National Quantum Information Science Research Centers (referred to in this section as “Centers”) to conduct basic research to accelerate scientific breakthroughs in quantum information science and technology and to support research conducted under section 401.

(2) **REQUIREMENTS.**—

(A) **COMPETITIVE, MERIT-REVIEWED PROCESS.**—The Centers shall be established through a competitive, merit-reviewed process.

(B) **APPLICATIONS.**—An eligible applicant under this subsection shall submit to the Director an application at such time, in such manner, and containing such information as the Director determines to be appropriate.

(C) **ELIGIBLE APPLICANTS.**—The Director shall consider applications from National Labora-

tories, institutions of higher education, research centers, multi-institutional collaborations, and any other entity that the Secretary of Energy determines to be appropriate.

(b) **COLLABORATIONS.**—A collaboration that receives an award under this section may include multiple types of research institutions and private sector entities.

(c) **REQUIREMENTS.**—To the maximum extent practicable, the Centers developed, constructed, operated, or maintained under this section shall serve the needs of the Department of Energy, industry, the academic community, and other relevant entities to create and develop processes for the purpose of advancing basic research in quantum information science and improving the competitiveness of the United States.

(d) **COORDINATION.**—The Secretary of Energy shall ensure the coordination, and avoid unnecessary duplication, of the activities of each Center with the activities of—

(1) other research entities of the Department of Energy, including—

(A) the Nanoscale Science Research Centers;

(B) the Energy Frontier Research Centers;

(C) the Energy Innovation Hubs; and

(D) the National Laboratories;

(2) institutions of higher education; and

(3) industry.

(e) **DURATION.**—

(1) **IN GENERAL.**—Each Center established under this section is authorized to carry out activities for a period of 5 years.

(2) **REAPPLICATION.**—An awardee may reapply for additional, subsequent periods of 5 years. The Director shall approve or disapprove of each reapplication on a competitive, merit-reviewed basis.

(3) **TERMINATION.**—Consistent with the authorities of the Department of Energy, the Secretary of Energy may terminate an underperforming Center for cause during the performance period.

(f) **FUNDING.**—The Secretary of Energy shall allocate up to \$25,000,000 for each Center established under this section for each of fiscal years 2019 through 2023, subject to the availability of appropriations. Amounts made available to carry out this section shall be derived from amounts appropriated or otherwise made available to the Department of Energy.

The SPEAKER pro tempore. Pursuant to the rule, the gentleman from Texas (Mr. SMITH) and the gentlewoman from Texas (Ms. EDDIE BERNICE JOHNSON) each will control 20 minutes.

The Chair recognizes the gentleman from Texas.

GENERAL LEAVE

Mr. SMITH of Texas. Mr. Speaker, I ask unanimous consent that all Members have 5 legislative days to revise and extend their remarks and include extraneous material on H.R. 6227, the bill now under consideration.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Texas?

There was no objection.

Mr. SMITH of Texas. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, today, the House considers H.R. 6227, the National Quantum Initiative Act, before sending it on to the President.

H.R. 6227 passed the House unanimously in September. After negotiations with the Senate, we reached a bicameral, bipartisan agreement. I introduced this legislation, along with House Science, Space, and Technology Committee Ranking Member EDDIE

BERNICE JOHNSON, who is on the floor this evening, as well as 28 other committee members from both parties.

America is now in a race with China and Europe to develop the next technological breakthroughs based on the power of quantum science. It is a race we must win for our economic and national security.

The National Quantum Initiative Act creates a 10-year Federal program to accelerate quantum research and development in the United States. The bill leverages the expertise and resources of U.S. industry, academia, and government to move quantum information science to the next level. Quantum information science uses quantum physics for the storage, transmission, manipulation, computing, and measurement of information.

This legislation establishes a National Quantum Coordination Office within the White House Office of Science and Technology Policy. This office will oversee interagency coordination and strategic planning, serve as a central point of contact for stakeholders, conduct outreach, and promote commercialization of Federal research by the private sector.

The bill also supports basic research, education, and standards development at the National Institute of Standards and Technology, the National Science Foundation, and the Department of Energy.

Up to \$255 million a year of these agencies' funding will be directed to new quantum research centers and laboratory research. Their activities will address fundamental research gaps, create a stronger workforce, and generate transformative innovations to give U.S. companies and workers a competitive advantage.

The bill ensures that U.S. high-tech companies, which are investing heavily in quantum research, and a surge of quantum technology startups will contribute their knowledge and resources to a national effort.

H.R. 6227 was developed with input from industry, academia, national laboratories, Federal agencies, and the administration. The result is a strong consensus bill, which I urge my colleagues to support.

Mr. Speaker, I reserve the balance of my time.

Ms. EDDIE BERNICE JOHNSON of Texas. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, I rise in support of H.R. 6227, the National Quantum Initiative Act, and I thank Chairman SMITH and our colleagues in the Senate, Senators THUNE, NELSON, MURKOWSKI, and CANTWELL, for their leadership on this bill.

This is a good, bipartisan bill, and I am happy that we will be voting today to enact this bill into law before the Congress expires. H.R. 6227 is the product of extensive formal and informal engagement with key stakeholders in industry, academia, and the Federal Government.

The Science, Space, and Technology Committee held a hearing late in 2017

in which we heard from Federal agency, university, and industry representatives about ongoing research and future opportunities in quantum sensing, quantum communication, and quantum computing. We also heard about investments in quantum research across our agencies and the need for a strategic and coordinated approach going forward. In addition to the hearing, committee staff held numerous bipartisan meetings and roundtables to inform the development of this committee.

Quantum sensors are already beginning to enter the marketplace, with potential applications across all sectors—from environmental sensing, to biomedical imaging, to the military battlefield. The race is on to lead the world on long-range quantum communications, which, in theory, at least, would be unhackable.

Quantum communications is the area of quantum technology development where the U.S. is most at risk in ceding its leadership. Our R&D investments pale in comparison to the scale of investments being made in China and elsewhere.

Many believe quantum computing technology has the potential to accelerate progress on some of our most pressing challenges, including how to address climate change and understand complex diseases like cancer.

It is truly an exciting time for this field and for the broad spectrum of innovators that are planning to take advantage of these breakthrough capabilities. It is also a time of increasing international competition, and the stakes are high.

Global leadership in quantum computing brings with it a military and intelligence edge, as well as a competitive advantage in what many expect to be a massive industry for decades to come. We must invest more in research. We must also ensure that we are educating and training the next generation of top quantum scientists and engineers.

Our Nation's progress in advancing research in quantum science and capitalizing on these investments to develop real-world technologies will depend on partnerships among our Federal agencies, universities, and the private sector. The National Quantum Initiative Act will set us on the right path.

H.R. 6227 directs the President to establish a 10-year National Quantum Initiative Program, with the National Institute of Standards and Technology, the National Science Foundation, and the Department of Energy playing leading roles. Through the establishment of a national coordination office, an outside advisory committee, and an interagency working group, the program will take a whole-of-government approach to accelerating progress in quantum research and technology development and building a strong quantum science and engineering workforce.

Mr. Speaker, I reserve the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, first, I thank Senator THUNE and Senator NELSON, the chairman and ranking member of the Senate Commerce, Science, and Transportation Committee, who introduced a companion bill to H.R. 6227 in the Senate.

I also acknowledge Senator LISA MURKOWSKI and Senator MARIA CANTWELL, the chair and ranking member of the Senate Energy and Natural Resources Committee, for their work on this bill as well.

Finally, the President's White House Office of Science and Technology Policy, as well as the leadership at NSF, NIST, and the Department of Energy have been steadfast in their support.

This legislation will help the U.S. to become the world's leader in quantum development. Let's support this bill and send it to the President's desk.

Mr. Speaker, I reserve the balance of my time.

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Ms. EDDIE BERNICE JOHNSON of Texas. Mr. Speaker, I have no requests for time. I urge passage, and I yield back the balance of my time.

Mr. SMITH of Texas. Mr. Speaker, with the Speaker's allowance and permission, we have another speaker on his way to the House floor who we expect to be here in another 30 seconds, so if I could talk slowly and go on for another 30 seconds, I think the gentleman from Texas (Mr. WEBER) will be here and would like to have the last word.

Mr. Speaker, I have no other requests for time, and I yield back the balance of my time.

Mr. WEBER of Texas. Mr. Speaker, I rise today in support of H.R. 6227, the National Quantum Initiative Act. I wish to commend Chairman SMITH on his six years at the helm of the Science Committee, and on his 32 years of dedicated service to the people of Texas' 21st Congressional District. It has been an honor to work with him. Because of his steadfast leadership, this bill is on its way to becoming law. I thank Chairman SMITH.

This bill coordinates a federal program to accelerate quantum research and development for the economic and national security of the United States. Quantum technology is a field positioned to fundamentally change the way we move and process data.

Theoretically, quantum computing could allow for the solutions to exponentially large problems—things that cannot be accomplished by even the fastest supercomputers today. It could allow us to visualize the structures of complex chemicals and materials, to model highly detailed flows of potential mass evacuations with precise accuracy, and to quantify subatomic interactions on the cutting edge of nuclear research.

Quantum computing may also have profound implications for cybersecurity technology. Should China and Russia beat us to achieving quantum encryption, our current security encryption measures would be rendered obsolete. It is imperative that the U.S. maintain its leadership in this field.

In order to achieve this kind of revolutionary improvement in technology, we need foundational knowledge in the advanced computing and materials science required to construct quantum systems.

The Department of Energy (DOE) Office of Science is the leading federal sponsor of basic research in the physical sciences and funds robust quantum technology research. At Lawrence Berkeley National Lab, the National Energy Research Scientific Computing Center (NERSC) allows scientists to run simulations of quantum architectures. At Argonne National Lab's Center for Nanoscale Materials, researchers study atomic-scale materials in order to engineer the characteristics of quantum information systems. And at Fermi National Accelerator Laboratory, scientists are applying their experience in high energy physics to the study of quantum materials. Earlier this year, I invited several of my colleagues to join me on a visit to Argonne and Fermi labs, and we had the privilege of speaking with the scientists conducting this groundbreaking research.

Support for basic research in computer science and for computational partnerships between industry, academia, and the national labs is necessary to develop the technology needed for future commercial quantum systems.

For these reasons, I encourage my colleagues to join me in supporting H.R. 6227.

The SPEAKER pro tempore. The question is on the motion offered by the gentleman from Texas (Mr. SMITH) that the House suspend the rules and concur in the Senate amendment to the bill, H.R. 6227.

The question was taken.

The SPEAKER pro tempore. In the opinion of the Chair, two-thirds being in the affirmative, the ayes have it.

Mr. SMITH of Texas. Mr. Speaker, I object to the vote on the ground that a quorum is not present and make the point of order that a quorum is not present.

The SPEAKER pro tempore. Pursuant to clause 8 of rule XX, further proceedings on this question will be postponed.

The point of no quorum is considered withdrawn.

REAUTHORIZE THE NEW JERSEY COASTAL HERITAGE TRAIL ROUTE

Mr. MCCLINTOCK. Mr. Speaker, I move to suspend the rules and pass the bill (H.R. 6602) to reauthorize the New Jersey Coastal Heritage Trail Route, and for other purposes.

The Clerk read the title of the bill.

The text of the bill is as follows:

H.R. 6602

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. NEW JERSEY COASTAL HERITAGE TRAIL ROUTE.

(a) REAUTHORIZATION.—Section 6 of Public Law 100–515 (16 U.S.C. 1244 note) is amended—

(1) by striking subsection (a);

(2) by redesignating subsections (b) and (c) as subsections (a) and (b), respectively;

(3) in subsection (a) (as so redesignated by paragraph (2)), by striking “under subsection (a)” each place that it appears and inserting “to carry out this Act”; and

(4) in subsection (b) (as so redesignated by paragraph (2)), by striking “2011” and inserting “2025”.

(b) STRATEGIC PLAN.—

(1) IN GENERAL.—

(A) PLAN REQUIRED.—Not later than 3 years after the date on which funds are first made available after the date of enactment of this Act to carry out Public Law 100–515 (16 U.S.C. 1244 note), the Secretary of the Interior shall prepare a strategic plan for the New Jersey Coastal Heritage Trail Route.

(B) CONTENTS.—The strategic plan shall describe—

(i) opportunities to increase participation by national and local private and public interests in the planning, development, and administration of the New Jersey Coastal Heritage Trail Route; and

(ii) organizational options for sustaining the New Jersey Coastal Heritage Trail Route.

(2) CONFORMING AMENDMENT.—Section 703(b) of the National Heritage Areas Act of 2006 (Public Law 109–338; 120 Stat. 1859) is repealed.

The SPEAKER pro tempore. Pursuant to the rule, the gentleman from California (Mr. MCCLINTOCK) and the gentleman from Arizona (Mr. GRIJALVA) each will control 20 minutes.

The Chair recognizes the gentleman from California.

GENERAL LEAVE

Mr. MCCLINTOCK. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days to revise and extend their remarks and include extraneous material on the bill under consideration.

The SPEAKER pro tempore. Is there objection to the request of the gentleman from California?

There was no objection.

Mr. MCCLINTOCK. Mr. Speaker, I yield myself such time as I may consume.

The New Jersey Coastal Heritage Trail Route was authorized by Congress in 1988, and it runs along the entire eastern coast of New Jersey.

The National Park Service, the State of New Jersey, the Pinelands Commission, and other local organizations have partnered to promote recreation and appreciation of New Jersey's coastal areas along that route. The route links wildlife refuges, historic sites, and natural areas to tell the story of New Jersey's role in shaping U.S. history and in providing important habitat for birds and other wildlife. The coalition's efforts to enhance public enjoyment and access bring more visitors to these special places from New Jersey and beyond.

H.R. 6602 will reauthorize the Secretary of the Interior's authority to co-manage the New Jersey Coastal Heritage Trail Route through 2025 and to provide technical assistance. This authority expired in 2011.

Congressman FRANK LOBIONDO should be commended for his support for his constituents and for the Coastal Heritage Trail, and I am pleased to move this legislation before his retirement from the House.

Mr. Speaker, I urge adoption of the measure, and I reserve the balance of my time.

Mr. GRIJALVA. Mr. Speaker, I yield myself such time as I may consume.

Mr. Speaker, H.R. 6602 would reauthorize the New Jersey Coastal Heritage Trail Route through 2025.

H.R. 6602 would also instruct the Secretary of the Interior to draft a strategic plan to enhance the trail route for the future, providing opportunities to sustain this very worthwhile program.

I congratulate Representative LOBIONDO for his hard work on this legislation. I urge my colleagues to support the legislation.

Mr. Speaker, I reserve the balance of my time.

Mr. MCCLINTOCK. Mr. Speaker, Congressman LOBIONDO is going to be retiring from this House after many, many years of distinguished service at the close of this session, and it has been my distinct honor and pleasure to serve with him.

Mr. Speaker, it is my distinct honor and pleasure to yield such time as he may consume to the gentleman from New Jersey (Mr. LOBIONDO).

Mr. LOBIONDO. Mr. Speaker, I thank my colleague from California for the kind words and for his service to our country, and I say ditto about an honor to serve with him and everyone else in this body.

I rise today to urge passage of H.R. 6602, to reauthorize the New Jersey Coastal Heritage Trail. This was something that I worked on with the late Senator Frank Lautenberg a number of years ago.

Since its inception in 1988, the Coastal Heritage Trail has been a major success throughout my district, as well as the entire State.

Now, although there are 12 Members of Congress from the State of New Jersey, the Second Congressional District, which I have had the honor of representing, is about 40 percent of the State geographically, so this trail spans nearly 300 miles, covering much of New Jersey's coastline. It was designed to provide an educational and enjoyable understanding of the natural, maritime, and cultural sites of our coast, which, I must admit, are many.

The Coastal Heritage Trail is divided into five regions linked by the common heritage of life on the Jersey shore, as well as the Raritan and Delaware Bays.

Finally, this trail has been a great example of the work that can be done through collaboration with public and private partnerships, and I think the success of the trail is really because of these collaborations and the different, various groups that have come together to understand how working together can really make a difference.

Through partnership with the National Park Service, Congress, and local organizations, the Coastal Heritage Trail has received support and has been beautifully maintained until authorization recently lapsed. With this lapse of authorization, the public sector groups and the private sector