

**(d) Report**

The interagency working group shall—

(1) by not later than 180 days after August 9, 2022—

(A) conduct an initial review of Federal programs and resources with respect to the key technology focus areas identified pursuant to section 19107(a)(2) of this title, in order to—

(i) assess current level of efforts and characterize existing research infrastructure, as of the date of the review;

(ii) identify potential areas of overlap or duplication with respect to the key technology focus areas; and

(iii) identify potential cross-agency collaborations and joint funding opportunities; and<sup>1</sup>

(B) submit a report regarding the review described in subparagraph (A) to Congress; and

(C) seek stakeholder input and recommendations in the course of such review; and

(2) shall<sup>2</sup> carry out the annual reviews and updates required under section 19107(e) of this title.

**(e) Conflicts**

If any conflicts between Federal agencies arise while carrying out the activities under this section, the President shall make the final decision regarding resolution of the conflict.

(Pub. L. 117–167, div. B, title VI, §10651, Aug. 9, 2022, 136 Stat. 1682.)

**Editorial Notes**

## REFERENCES IN TEXT

This division, referred to in subsec. (c)(2), is div. B of Pub. L. 117–167, Aug. 9, 2022, 136 Stat. 1399, which enacted this chapter and enacted, amended, and repealed numerous other sections and notes in the Code. For complete classification of div. B to the Code, see Short Title note set out under section 18901 of this title and Tables.

Section 10621, referred to in subsec. (c)(2), means section 10621 of Pub. L. 117–167.

## PART E—QUANTUM NETWORKING AND COMMUNICATIONS

**§ 19261. Quantum networking and communications****(a) Definitions**

In this section:

**(1) Director**

The term “Director” means the Director of the National Science Foundation.

**(2) Appropriate committees of Congress**

The term “appropriate committees of Congress” has the meaning given such term in section 8801 of title 15.

**(3) Q2work Program**

The term “Q2Work Program” means the Q2Work Program supported by the Foundation.

**(b), (c) Omitted****(d) Quantum information science workforce evaluation and acceleration****(1) In general**

Not later than 180 days after August 9, 2022, the Director shall enter into an agreement with the National Academies of Sciences, Engineering, and Medicine to conduct a study to evaluate and make recommendations for the quantum information science workforce. The study shall—

(A) characterize the quantum information science workforce, including by—

(i) describing what constitutes a quantum information science qualified worker across sectors, including academia, the Federal Government, and industry; and

(ii) describing the size and makeup of the quantum information science workforce, including an assessment of current and future trends;

(B) identify near- and long-term quantum information science workforce needs across government, academia, and industry sectors, including identifying the cross-disciplinary academic degrees or academic courses necessary to—

(i) prepare students for multiple career pathways in quantum information sciences and related fields;

(ii) ensure the United States is competitive in the field of quantum information science while preserving national security; and

(iii) support the development of quantum applications;

(C) assess the state of quantum information science education and skills training at all education levels and identify gaps in meeting current and future workforce needs, including with respect to—

(i) elementary, middle, and high-school student access to foundational courses, age-appropriate quantum concepts, and hands-on learning opportunities;

(ii) elementary, middle, and high-school teacher professional development and access to resources, materials, lesson plans, modules, and curricula;

(iii) career pivot and skills training opportunities, including professional certificates and internships; and

(iv) higher education curricula, laboratory experiences in academia, the Federal Government, and industry settings, and cross-discipline degree programs aligned with workforce needs; and

(D) make recommendations for developing a diverse, flexible, and sustainable quantum information science workforce that meets the evolving needs of academia, the Federal Government, and industry.

**(2) Report**

Not later than two years after August 9, 2022, the National Academies of Science, Engineering, and Medicine shall submit to Congress and the Director a report containing the results of the study conducted pursuant to paragraph (1).

<sup>1</sup> So in original. The word “and” probably should not appear.

<sup>2</sup> So in original. The word “shall” probably should not appear.

**(e) Omitted****(f) Quantum Education Pilot Program****(1) In general**

Not later than one year after August 9, 2022, the Director, building on the National Science Foundation's role in the National Q-12 Education Partnership and programs such as Q2Work Program, shall make awards to institutions of higher education, non-profit organizations, or consortia thereof to carry out a pilot program, to be known as the "Next Generation Quantum Leaders Pilot Program" (in this subsection referred to as the "Program"), for the education and training of the next generation of students and teachers in the fundamental principles of quantum mechanics.

**(2) Requirements****(A) In general**

In carrying out the Program, the Director shall—

(i) encourage awardees to coordinate with educational service agencies (as such term "educational service agency" is defined in section 1401(5) of title 20), associations that support STEM educators or local educational agencies, and partnerships through the Q-12 Education Partnership, to encourage elementary schools, middle schools, and secondary schools, and State educational agencies to participate in the Program;<sup>1</sup>

(ii) require that awardees partner with elementary schools, middle schools, or secondary schools, or consortia thereof, and State educational agencies, to carry out activities under the Program;<sup>2</sup>

**(B) Use of funds**

In carrying out the Program, the Director shall make competitive, merit-reviewed awards to—

(i) support testing, evaluation, dissemination, and implementation of age-appropriate quantum information sciences curricula and resources, including the integration of quantum information science and engineering into the STEM curriculum pursuant to subsection (d) of section 8841 of title 15, as added by subsection (e);

(ii) support opportunities for informal education on quantum concepts, including informal hands-on learning opportunities;

(iii) support opportunities for students to further explore quantum information science education and related careers;

(iv) develop and implement training, research, and professional development programs for teachers, including innovative pre-service and in-service programs, in quantum information science and related fields; and

(v) carry out such other activities as the Director determines appropriate.

**(C) Distribution**

In carrying out the Program and to the extent practicable, the Director shall ensure

there is a wide, equitable distribution of Program participants across diverse geographic areas and that the Program includes a diverse representation of students, including students from groups historically under-represented in STEM.

**(3) Consultation**

The Director shall carry out the Program in consultation with the QIS Workforce Working Group of the Subcommittee on Quantum Information Science of the National Science and Technology Council and the Advancing Informal STEM Learning Program.

**(4) Reporting**

Not later than four years after August 9, 2022, the Director shall submit to Congress a report that includes the following:

(A) An assessment, that includes feedback from a wide range of stakeholders in academia, K-12 education, and the private sector, of the effectiveness of the Program in scaling up implementation of effective quantum education and training innovations.

(B) If determined to be effective, a plan for integrating the Program into existing programs, including the feasibility and advisability of expanding the scope of the Program to include additional technology areas, grade levels, and educational institutions beyond those originally selected to participate in the Program.

**(5) Authorization of appropriations**

There are authorized to be appropriated to the Director \$8,000,000 for each of fiscal years 2023 through 2026 to carry out this section.

**(6) Termination**

This subsection shall terminate on the date that is four years after August 9, 2022.

(Pub. L. 117-167, div. B, title VI, §10661, Aug. 9, 2022, 136 Stat. 1683.)

**Editorial Notes****CODIFICATION**

Section is comprised of section 10661 of Pub. L. 117-167. Subsecs. (b), (c), and (e) of section 10661 of Pub. L. 117-167 amended sections 8813, 8831, and 8841, respectively, of Title 15, Commerce and Trade.

**PART F—BLOCKCHAIN SPECIALIST****§ 19271. Establishment of blockchain and cryptocurrency specialist position within OSTP**

The Director of the Office of Science and Technology Policy shall establish or designate a blockchain and cryptocurrencies advisory specialist position within the Office to coordinate Federal activities and advise the President on matters of research and development relating to blockchain, cryptocurrencies, and distributed ledger technologies.

(Pub. L. 117-167, div. B, title VI, §10671, Aug. 9, 2022, 136 Stat. 1688.)

<sup>1</sup> So in original. Probably should be followed by "and".

<sup>2</sup> So in original. The semicolon probably should be a period.