

(I) all other areas deemed by the Director to be critical to the development and deployment of trustworthy artificial intelligence;

(2) produce curated, standardized, representative, high-value, secure, aggregate, and privacy protected data sets for artificial intelligence research, development, and use;

(3) support one or more institutes as described in section 9431(b) of this title for the purpose of advancing measurement science, voluntary consensus standards, and guidelines for trustworthy artificial intelligence systems;

(4) support and strategically engage in the development of voluntary consensus standards, including international standards, through open, transparent, and consensus-based processes; and

(5) 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 division.¹

(c) Risk management framework

Not later than 2 years after January 1, 2021, the Director shall work to develop, and periodically update, in collaboration with other public and private sector organizations, including the National Science Foundation and the Department of Energy, a voluntary risk management framework for trustworthy artificial intelligence systems. The framework shall—

(1) identify and provide standards, guidelines, best practices, methodologies, procedures and processes for—

(A) developing trustworthy artificial intelligence systems;

(B) assessing the trustworthiness of artificial intelligence systems; and

(C) mitigating risks from artificial intelligence systems;

(2) establish common definitions and characterizations for aspects of trustworthiness, including explainability, transparency, safety, privacy, security, robustness, fairness, bias, ethics, validation, verification, interpretability, and other properties related to artificial intelligence systems that are common across all sectors;

(3) provide case studies of framework implementation;

(4) align with international standards, as appropriate;

(5) incorporate voluntary consensus standards and industry best practices; and

(6) not prescribe or otherwise require the use of specific information or communications technology products or services.

(d) Participation in standard setting organizations

(1) Requirement

The Institute shall participate in the development of standards and specifications for artificial intelligence.

¹ See References in Text note below.

(2) Purpose

The purpose of this participation shall be to ensure—

(A) that standards promote artificial intelligence systems that are trustworthy; and

(B) that standards relating to artificial intelligence reflect the state of technology and are fit-for-purpose and developed in transparent and consensus-based processes that are open to all stakeholders.

(e) Data sharing best practices

Not later than 1 year after January 1, 2021, the Director shall, in collaboration with other public and private sector organizations, develop guidance to facilitate the creation of voluntary data sharing arrangements between industry, federally funded research centers, and Federal agencies for the purpose of advancing artificial intelligence research and technologies, including options for partnership models between government entities, industry, universities, and nonprofits that incentivize each party to share the data they collected.

(f) Best practices for documentation of data sets

Not later than 1 year after January 1, 2021, the Director shall, in collaboration with other public and private sector organizations, develop best practices for datasets used to train artificial intelligence systems, including—

(1) standards for metadata that describe the properties of datasets, including—

(A) the origins of the data;

(B) the intent behind the creation of the data;

(C) authorized uses of the data;

(D) descriptive characteristics of the data, including what populations are included and excluded from the datasets; and

(E) any other properties as determined by the Director; and

(2) standards for privacy and security of datasets with human characteristics.

(g) Authorization of appropriations

There are authorized to be appropriated to the National Institute of Standards and Technology to carry out this section—

(1) \$64,000,000 for fiscal year 2021;

(2) \$70,400,000 for fiscal year 2022;

(3) \$77,440,000 for fiscal year 2023;

(4) \$85,180,000 for fiscal year 2024; and

(5) \$93,700,000 for fiscal year 2025.

(Mar. 3, 1901, ch. 872, §22A, as added Pub. L. 116-283, div. E, title LIII, §5301, Jan. 1, 2021, 134 Stat. 4536.)

REFERENCES IN TEXT

This division, referred to in subsec. (b)(5), probably means div. E of Pub. L. 116-283, Jan. 1, 2021, 134 Stat. 4523, which is classified principally to chapter 119 of this title.

§ 278i. Reports to Congress

(a) Information to Congress on Institute activities

The Director shall keep the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives

fully and currently informed with regard to all of the activities of the Institute.

(b) Justification for changes in policies and fees

The Director shall justify in writing all changes in policies regarding fees for standard reference materials and calibration services occurring after June 30, 1987, including a description of the anticipated impact of any proposed changes on demand for and anticipated revenues from the materials and services. Changes in policy and fees shall not be effective unless and until the Director has submitted the proposed schedule and justification to the Congress and 30 days on which both Houses of Congress are in session have elapsed since such submission, except that the requirement of this sentence shall not apply with respect to adjustments which are based solely on changes in the costs of raw materials or of producing and delivering standard reference materials or calibration services.

(Mar. 3, 1901, ch. 872, §23, as added Pub. L. 100-418, title V, §5114(2), Aug. 23, 1988, 102 Stat. 1432; amended Pub. L. 110-69, title III, §3004, Aug. 9, 2007, 121 Stat. 590; Pub. L. 114-329, title II, §204(a)(1)(B)(i), Jan. 6, 2017, 130 Stat. 2998.)

AMENDMENTS

2017—Subsecs. (c), (d). Pub. L. 114-329 struck out subsecs. (c) and (d) which required the Director to submit to Congress a 3-year programmatic planning document for the Institute and annual updates.

2007—Subsecs. (c), (d). Pub. L. 110-69 added subsecs. (c) and (d).

CHANGE OF NAME

Committee on Science, Space, and Technology of House of Representatives treated as referring to Committee on Science of House of Representatives by section 1(a) of Pub. L. 104-14, set out as a note preceding section 21 of Title 2, The Congress. Committee on Science of House of Representatives changed to Committee on Science and Technology of House of Representatives by House Resolution No. 6, One Hundred Tenth Congress, Jan. 5, 2007. Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

§ 278j. Studies by National Research Council

The Director may periodically contract with the National Research Council for advice and studies to assist the Institute to serve United States industry and science. The subjects of such advice and studies may include—

(1) the competitive position of the United States in key areas of manufacturing and emerging technologies and research activities which would enhance that competitiveness;

(2) potential activities of the Institute, in cooperation with industry and the States, to assist in the transfer and dissemination of new technologies for manufacturing and quality assurance; and

(3) identification and assessment of likely barriers to widespread use of advanced manufacturing technology by the United States workforce, including training and other initiatives which could lead to a higher percentage of manufacturing jobs of United States companies being located within the borders of our country.

(Mar. 3, 1901, ch. 872, §24, as added Pub. L. 100-418, title V, §5114(2), Aug. 23, 1988, 102 Stat. 1432.)

§ 278k. Hollings Manufacturing Extension Partnership

(a) Definitions

In this section:

(1) Appropriate committees of congress

The term “appropriate committees of Congress” means—

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

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

(2) Area career and technical education school

The term “area career and technical education school” has the meaning given the term in section 2302 of title 20.

(3) Center

The term “Center” means a manufacturing extension center that—

(A) is created under subsection (b); and

(B) is affiliated with an eligible entity that applies for and is awarded financial support under subsection (e).

(4) Community college

The term “community college” means an institution of higher education (as defined under section 1001(a) of title 20) at which the highest degree that is predominately awarded to students is an associate’s degree.

(5) Eligible entity

The term “eligible entity” means a United States-based nonprofit institution, or consortium thereof, an institution of higher education, or a State, United States territory, local, or tribal government.

(6) Hollings Manufacturing Extension Partnership or Program

The term “Hollings Manufacturing Extension Partnership” or “Program” means the program established under subsection (b).

(7) MEP advisory board

The term “MEP Advisory Board” means the Manufacturing Extension Partnership Advisory Board established under subsection (n).¹

(b) Establishment and purpose

The Secretary, acting through the Director and, if appropriate, through other Federal officials, shall establish a program to provide assistance for the creation and support of manufacturing extension centers for the transfer of manufacturing technology and best business practices.

(c) Objective

The objective of the Program shall be to enhance competitiveness, productivity, and technological performance in United States manufacturing through—

(1) the transfer of manufacturing technology and techniques developed at the Institute to

¹ So in original. Probably should refer to subsec. (m).