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119TH CONGRESS
2D SESSION

H. R. 8981

To establish in the National Institute of Standards and Technology a program of measurement research for engineering biology, biomanufacturing, and biometrology, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MAY 21, 2026

Mrs. MCCLAIN DELANEY (for herself, Mr. OBERNOLTE, Ms. LOFGREN, and Mr. MOYLAN) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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A BILL

To establish in the National Institute of Standards and Technology a program of measurement research for engineering biology, biomanufacturing, and biometrology, and for other purposes.

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

SECTION 1. SHORT TITLE.

This Act may be cited as the ''Standards and Calibration for American Leadership in Engineering Biology Act'' or the ''SCALE Biology Act''.

SEC. 2. NIST BIOMETROLOGY LABORATORY PROGRAM.

(a) CERTAIN IMPLEMENTATION ACTIVITIES.—Subsection (c) of section 2 of the National Institute of Standards and Technology Act (15 U.S.C. 272) is amended—

(1) in the matter preceding paragraph (1), by inserting a comma after ''Director'';

(2) by redesignating paragraphs (22) through (32) as paragraphs (23) through (33), respectively; and

(3) by inserting after paragraph (21) the following new paragraph:

''(22) perform research to facilitate and support the development of a voluntary, consensus-based set of technical standards, guidelines, best practices, methodologies, procedures, and processes for engineering biology, biomanufacturing, biotechnology, and biometrology;''.

(b) BIOMETROLOGY LABORATORY PROGRAM.—The National Institute of Standards and Technology Act (15 U.S.C. 271 et seq.) is amended—

(1) by redesignating section 36 (15 U.S.C. 271 note) as section 37; and

(2) by inserting after section 35 (15 U.S.C. 278t) the following new section:

"SEC. 36. BIOMETROLOGY LABORATORY PROGRAM.

''(a) IN GENERAL.—The Secretary, acting through the Director, shall establish a program of measurement research for engineering biology, biomanufacturing, and biotechnology (in this section referred to as the 'biometrology laboratory program').

''(b) PURPOSES.—The purposes of biometrology laboratory program are the following:

''(1) To enable innovation and industrial competitiveness in engineering biology, biomanufacturing, and biotechnology.

''(2) To improve the accuracy, interoperability, and reliability of biological data and materials.

''(3) To support the safe, secure, and responsible development and application of biological technologies across sectors to support economic and national security.

''(c) ACTIVITIES.—In carrying out the biometrology laboratory program, the Director shall carry out the following:

''(1) Support basic measurement science and technology research for engineering biology, biomanufacturing, and biotechnology to advance the following:

''(A) Measurement technologies to support foundational understanding of the mechanisms

of conversion of DNA information into cellular function.

''(B) Technologies for measurement of biomolecular components and related systems used for engineering biology, biomanufacturing, and biotechnology, including biomolecular components and related systems pertinent to commercial scale and distributed manufacturing of products.

''(C) Tools, technical standards, guidelines, best practices, methodologies, procedures, and processes for biological data.

''(D) Life cycle and sustainability assessments of engineering biology, biomanufacturing, and biotechnology products.

''(E) The development of technical standards, guidelines, best practices, methodologies, procedures, and processes that can inform and address biorisk, biosafety, and biosecurity concerns.

''(F) Other areas of measurement science and technology research determined by the Director to be critical to the development and deployment of biometrology.

''(2) Inform and expand the development of measurements infrastructure needed to develop technical standards to establish interoperability and facilitate commercial development of the following:

''(A) Biometrology technology.

''(B) Engineering biology, biomanufacturing, and biotechnology.

''(3) Seek to convene representatives of industry, institutions of higher education, nonprofit organizations, Federal laboratories, and other Federal agencies engaged in engineering biology, biomanufacturing, and biotechnology research and development to develop coordinated technical roadmaps for authoritative measurement of the molecular components of the cell.

''(4) Provide access to user facilities with advanced or unique equipment, services, materials, and other resources to industry, institutions of higher education, nonprofit organizations, and Federal, State, and Tribal government agencies to perform research and testing.

''(5) Establish or expand, as appropriate, collaborative partnerships or consortia with other Federal agencies engaged in engineering biology, biomanufacturing, and biotechnology research and de-

velopment, institutions of higher education, Federal laboratories, and industry to advance engineering biology, biomanufacturing, and biotechnology applications.

''(6) Support graduate and postgraduate research and training in biometrology.

''(7) Establish and periodically update, as appropriate, common definitions and terminology pertaining to engineering biology, biomanufacturing, biotechnology, and the bioeconomy, and maintain a publicly available lexicon of such definitions and terminology.

''(8) Support extramural research, as appropriate, that helps the Institute in advancing measurement science, standards, and guidelines for biometrology, engineering biology, biomanufacturing, and biotechnology.

''(9) In coordination with the heads of relevant Federal agencies, as appropriate, identify where technical standards, standardized assessments, or other governance pathways are needed to manage risks and support the commercialization of novel engineering biology, biomanufacturing, and biotechnology.

''(d) ENGINEERING BIOLOGY FOUNDRY.—In carrying out the biometrology laboratory program, and in partnership with industry, institutions of higher education, and nonprofit organizations, the Director shall support the development of engineering biology related foundries to improve measurement assurance and make the engineering of living measurement systems more predicable, scalable, and routine.

''(e) OUTREACH.—In carrying out the activities under subsection (c), the Director shall seek input from other Federal agencies, institution of higher education, nonprofit organizations, and industry, on an ongoing basis, to help inform research and development priorities, including through workshops and other multistakeholder activities.

''(f) COORDINATION.—

''(1) FEDERAL DEPARTMENTS AND AGENCIES.—In carrying out the activities under subsection (c), the Director shall coordinate with the heads of appropriate Federal departments and agencies, including the Executive Office of the President and the National Engineering Biology Research and Development Initiative established pursuant to section 10402 of the Research and Development, Competition, and Innovation Act (42 U.S.C. 19132).

''(2) MANUFACTURING USA PROGRAM.—The Director shall coordinate the activities carried out pursuant to subsection (c) with the Manufacturing USA Program, as the Director considers appropriate, to support United States leadership in biomanufacturing.

''(3) BIOMASS FEEDSTOCK UTILIZATION.—The Director, as practicable and appropriate, shall support efforts relating to the coordination and development of biomass feedstock utilization with the Secretary of Energy and the Biomass Research and Development Board established pursuant to section 9008 of the Farm Security and Rural Investment Act of 2002 (7 U.S.C. 8108).

''(g) CONTROLS.—In carrying out the biometrology laboratory program, the Director shall ensure proper security controls are in place to protect sensitive information, as appropriate.

''(h) REPORT.—Not later than three years after the date of the enactment of this section, the Director shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate, and make publicly available on the website of the Institute,

a report regarding the implementation by the Institute of the biometrology laboratory program.

''(i) IMPLEMENTATION PLAN.—Not later than the end of the first fiscal year after the date of the enactment of this section, the Director shall submit to the Committee on Science, Space, and Technology and the Committee on Appropriations of the House of Representatives and the Committee on Commerce, Science, and Transportation and the Committee on Appropriations of the Senate, and make available on a public website of the Institute, a plan to carry out the biometrology laboratory program, including the following:

''(1) A plan for establishing the Biometrology Laboratory Program within the Institute as described by this section, including in relation to the Institute's Material Measurement Lab and Physical Measurement Lab.

''(2) A plan of how the Institute will carry out the biometrology laboratory program's activities under section.

''(3) A plan of how to leverage existing Institute infrastructure and expertise to drive international cooperation for the advancement of voluntary consensus standards.

''(j) AUTHORIZATIONS.—There are authorized to be appropriated to the Director to carry out this section as follows:

''(1) $55,000,000 for fiscal year 2026.

''(2) $60,000,000 for fiscal year 2027.

''(3) $70,000,000 for fiscal year 2028.

''(4) $78,000,000 for fiscal year 2029.

''(5) $85,000,000 for fiscal year 2030.

''(k) DEFINITIONS.—In this section:

''(1) IN GENERAL.—The following terms have the meanings given such terms, respectively, in section 10401 of the Research and Development, Competition, and Innovation Act (42 U.S.C. 19131):

''(A) Bioeconomy.

''(B) Biological data.

''(C) Biomanufacturing.

''(D) Biomass.

''(E) Biometrology.

''(F) Biorisk.

''(G) Biosafety.

''(H) Biosecurity.

''(I) Biotechnology.

''(J) Engineering biology.

''(2) ADDITIONAL TERMS.—

"(A) DIRECTOR.—The term 'Director' means the Director of the National Institute of Standards and Technology.

"(B) INSTITUTE.—The term 'Institute' means the National Institute of Standards and Technology.

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

"(D) NONPROFIT ORGANIZATION.—The term 'nonprofit organization' means an organization described in section 501(c)(3) of the Internal Revenue Code of 1986 and exempt from tax under section 501(a) of such code.

"(E) SECRETARY.—The term 'Secretary' means the Secretary of Commerce.

"(F) TECHNICAL STANDARD.—The term 'technical standard' has the meaning given such term in section 12(d)(5) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note).".

SEC. 3. TECHNICAL AND CONFORMING AMENDMENTS.

(a) REPEAL.—Section 10221 of the Research and Development, Competition, and Innovation Act (42 U.S.C. 18931) is repealed, and the item relating to such section in the table of contents in sections 1 and 10000 for such Act is struck.

(b) DEFINITIONS.—

(1) GLOBAL DEFINITIONS.—Section 10002 of the Research and Development, Competition, and Innovation Act (42 U.S.C. 18901) is amended—

(A) by striking paragraphs (4) and (6); and

(B) by redesignating—

(i) paragraph (5) as paragraph (4); and

(ii) paragraphs (7) through (30) as paragraphs (5) through (28), respectively.

(2) TITLE DEFINITIONS.—Section 10401 of the Research and Development, Competition, and Innovation Act (42 U.S.C. 19131) is amended—

(A) by redesignating paragraphs (1) and (2) as paragraphs (10) and (11), respectively; and

(B) by inserting before paragraph (10), as so redesignated, the following new paragraphs:

''(1) BIOECONOMY.—The term 'bioeconomy' means the economic activity derived from the life sciences, particularly in the areas of biotechnology and biomanufacturing, including industries, products, services, and the workforce.

''(2) BIOLOGICAL DATA.—The term 'biological data' means the information, including associated descriptors, derived from the structure, function, or process of a biological system(s) that is measured, collected, or aggregated for analysis.

''(3) BIOMANUFACTURING.—The term 'biomanufacturing' means the use of biological systems, including the use of biomass as a feedstock, to produce commercially important goods and services.

''(4) BIOMASS.—The term 'biomass' means any material of biological origin that is available on a renewable or recurring basis.

''(5) BIORISK.—The term 'biorisk' means the effect of uncertainty expressed by the combination of the consequences and the associated likelihood of occurrence that a biological event will adversely affect the health of humans, nonhuman animals, or the environment.

''(6) BIOSAFETY.—The term 'biosafety' means the practices, controls, and containment infrastruc-

ture that reduce the risk of unintended exposure to, contamination with, release of, or harm from pathogens, toxics, and biological materials.

''(7) BIOSECURITY.—The term 'biosecurity' means the security measures designed to prevent the loss, theft, misuse, diversion, unauthorized possession or material introduction, or intentional release of pathogens, toxics, biological materials, and related information or technology.

''(8) BIOTECHNOLOGY.—The term 'biotechnology' means technology that applies to or is enabled by life sciences innovation or product development.

''(9) ENGINEERING BIOLOGY.—The term 'engineering biology' means the design, construction, or assembly of the components of living systems (such as genetics circuits, enzymes, or metabolic pathways) to achieve an intended function or outcome.''.

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