fective technical standards, metrology, testbeds, and conformance criteria, taking into account appropriate user concerns—

(1) to improve interoperability among identity management technologies;

(2) to strengthen authentication methods of identity management systems;

(3) to improve privacy protection in identity management systems, including health information technology systems, through authentication and security protocols; and

(4) to improve the usability of identity management systems.

(Pub. L. 113–274, title V, § 504, Dec. 18, 2014, 128 Stat. 2987.)

CHAPTER 101—NANOTECHNOLOGY RESEARCH AND DEVELOPMENT

Sec.

§ 7501. National Nanotechnology Program

(a) National Nanotechnology Program

The President shall implement a National Nanotechnology Program. Through appropriate agencies, councils, and the National Nanotechnology Coordination Office established in section 7502 of this title, the Program shall—

(1) establish the goals, priorities, and metrics for evaluation for Federal nanotechnology research, development, and other activities;

(2) invest in Federal research and development programs in nanotechnology and related sciences to achieve those goals; and

(3) provide for interagency coordination of Federal nanotechnology research, development, and other activities undertaken pursuant to the Program.

(b) Program activities

The activities of the Program shall include—

(1) developing a fundamental understanding of matter that enables control and manipulation at the nanoscale;

(2) providing grants to individual investigators and interdisciplinary teams of investigators;

(3) establishing a network of advanced technology user facilities and centers;

(4) establishing, on a merit-reviewed and competitive basis, interdisciplinary nanotechnology research centers, which shall—

(A) interact and collaborate to foster the exchange of technical information and best practices;

(B) involve academic institutions or national laboratories and other partners, which may include States and industry;

(C) make use of existing expertise in nanotechnology in their regions and nationally;

(D) make use of ongoing research and development at the micrometer scale to support their work in nanotechnology; and

(E) to the greatest extent possible, be established in geographically diverse locations, encourage the participation of Historically Black Colleges and Universities that are part B institutions as defined in section 1061(2) of title 20 and minority institutions (as defined in section 1067k(3) of title 20), and include institutions located in States participating in the Experimental Program to Stimulate Competitive Research (EPSCoR);

(5) ensuring United States global leadership in the development and application of nanotechnology;

(6) advancing the United States productivity and industrial competitiveness through stable, consistent, and coordinated investments in long-term scientific and engineering research in nanotechnology;

(7) accelerating the deployment and application of nanotechnology research and development in the private sector, including startup companies;

(8) encouraging interdisciplinary research, and ensuring that processes for solicitation and evaluation of proposals under the Program encourage interdisciplinary projects and collaborations;

(9) providing effective education and training for researchers and professionals skilled in the interdisciplinary perspectives necessary for nanotechnology so that a true interdisciplinary research culture for nanoscale science, engineering, and technology can emerge;

(10) ensuring that ethical, legal, environmental, and other appropriate societal concerns, including the potential use of nanotechnology in enhancing human intelligence and in developing artificial intelligence which exceeds human capacity, are considered during the development of nanotechnology by—

(A) establishing a research program to identify ethical, legal, environmental, and other appropriate societal concerns related to nanotechnology, and ensuring that the results of such research are widely disseminated;

(B) requiring that interdisciplinary nanotechnology research centers established under paragraph (4) include activities that address societal, ethical, and environmental concerns;

(C) insofar as possible, integrating research on societal, ethical, and environmental concerns with nanotechnology research and development, and ensuring that advances in nanotechnology bring about improvements in quality of life for all Americans; and

(D) providing, through the National Nanotechnology Coordination Office established in section 7502 of this title, for public input and outreach to be integrated into the Program by the convening of regular and ongoing public discussions, through mechanisms such as citizens' panels, consensus

conferences, and educational events, as appropriate; and

(11) encouraging research on nanotechnology advances that utilize existing processes and technologies.

(c) Program management

The National Science and Technology Council shall oversee the planning, management, and coordination of the Program. The Council, itself or through an appropriate subgroup it designates or establishes, shall—

(1) establish goals and priorities for the Program, based on national needs for a set of broad applications of nanotechnology;

(2) establish program component areas, with specific priorities and technical goals, that reflect the goals and priorities established for the Program;

(3) oversee interagency coordination of the Program, including with the activities of the Defense Nanotechnology Research and Development Program established under section 246 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003 (Public Law 107–314) and the National Institutes of Health;

(4) develop, not later than 5 years after the date of the release of the most-recent strategic plan, and update every 5 years thereafter, a strategic plan to guide the activities described under subsection (b) that describes—

(A) the near-term and long-term objectives for the Program;

(B) the anticipated schedule for achieving the near-term objectives; and[1]

(C) the metrics that will be used to assess progress toward the near-term and long-term objectives;

(D) how the Program will move results out of the laboratory and into application for the benefit of society;

(E) the Program's support for long-term funding for interdisciplinary research and development in nanotechnology; and

(F) the allocation of funding for interagency nanotechnology projects;

(5) propose a coordinated interagency budget for the Program to the Office of Management and Budget to ensure the maintenance of a balanced nanotechnology research portfolio and an appropriate level of research effort;

(6) exchange information with academic, industry, State and local government (including State and regional nanotechnology programs), and other appropriate groups conducting research on and using nanotechnology;

(7) develop a plan to utilize Federal programs, such as the Small Business Innovation Research Program and the Small Business Technology Transfer Research Program, in support of the activity stated in subsection (b)(7);

(8) identify research areas that are not being adequately addressed by the agencies' current research programs and address such research areas;

(9) encourage progress on Program activities through the utilization of existing manufacturing facilities and industrial infrastructures such as, but not limited to, the employment of underutilized manufacturing facilities in areas of high unemployment as production engineering and research testbeds; and

(10) in carrying out its responsibilities under paragraphs (1) through (9), take into consideration the recommendations of the Advisory Panel, suggestions or recommendations developed pursuant to subsection (b)(10)(D), and the views of academic, State, industry, and other appropriate groups conducting research on and using nanotechnology.

(d) Annual report

The Council shall prepare an annual report, to be submitted to the Senate Committee on Commerce, Science, and Transportation and the House of Representatives Committee on Science, and other appropriate committees, at the time of the President's budget request to Congress, that includes—

(1) the Program budget, for the current fiscal year, for each agency that participates in the Program, including a breakout of spending for the development and acquisition of research facilities and instrumentation, for each program component area, and for all activities pursuant to subsection (b)(10);

(2) the proposed Program budget for the next fiscal year, for each agency that participates in the Program, including a breakout of spending for the development and acquisition of research facilities and instrumentation, for each program component area, and for all activities pursuant to subsection (b)(10);

(3) an analysis of the progress made toward achieving the goals and priorities established for the Program;

(4) an analysis of the extent to which the Program has incorporated the recommendations of the Advisory Panel; and

(5) an assessment of how Federal agencies are implementing the plan described in subsection (c)(7), and a description of the amount of Small Business Innovative Research and Small Business Technology Transfer Research funds supporting the plan.

(Pub. L. 108–153, §2, Dec. 3, 2003, 117 Stat. 1923; Pub. L. 114–329, title II, §204(b)(1), Jan. 6, 2017, 130 Stat. 2999.)

REFERENCES IN TEXT

Section 246 of the Bob Stump National Defense Authorization Act for Fiscal Year 2003, referred to in subsec. (c)(3), is section 246 of Pub. L. 107–314, which is set out as a note under section 2358 of Title 10, Armed Forces.

AMENDMENTS

2017—Subsec. (c)(4). Pub. L. 114–329 amended par. (4) generally. Prior to amendment, par. (4) read as follows: ''develop, within 12 months after December 3, 2003, and update every 3 years thereafter, a strategic plan to guide the activities described under subsection (b), meet the goals, priorities, and anticipated outcomes of the participating agencies, and describe—

''(A) how the Program will move results out of the laboratory and into application for the benefit of society;

''(B) the Program's support for long-term funding for interdisciplinary research and development in nanotechnology; and

[1] So in original. The word ''and'' probably should not appear.

''(C) the allocation of funding for interagency nanotechnology projects;''.

CHANGE OF NAME

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.

SHORT TITLE

Pub. L. 108–153, § 1, Dec. 3, 2003, 117 Stat. 1923, provided that: ''This Act [enacting this chapter] may be cited as the '21st Century Nanotechnology Research and Development Act'.''

§ 7502. Program coordination

(a) In general

The President shall establish a National Nanotechnology Coordination Office, with a Director and full-time staff, which shall—

(1) provide technical and administrative support to the Council and the Advisory Panel;

(2) serve as the point of contact on Federal nanotechnology activities for government organizations, academia, industry, professional societies, State nanotechnology programs, interested citizen groups, and others to exchange technical and programmatic information;

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

(4) 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 United States industry, including startup companies.

(b) Funding

The National Nanotechnology Coordination Office shall be funded through interagency funding in accordance with section 631 of Public Law 108–7.

(c) Report

Within 90 days after December 3, 2003, the Director of the Office of Science and Technology Policy shall report to the Senate Committee on Commerce, Science, and Transportation, and the House of Representatives Committee on Science on the funding of the National Nanotechnology Coordination Office. The report shall include—

(1) the amount of funding required to adequately fund the Office;

(2) the adequacy of existing mechanisms to fund this Office; and

(3) the actions taken by the Director to ensure stable funding of this Office.

(Pub. L. 108–153, § 3, Dec. 3, 2003, 117 Stat. 1926.)

REFERENCES IN TEXT

Section 631 of Public Law 108–7, referred to in subsec. (b), is section 631 of Pub. L. 108–7, div. J, title VI, Feb. 20, 2003, 117 Stat. 471, which is not classified to the Code.

CHANGE OF NAME

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.

§ 7503. Advisory Panel

(a) In general

The President shall establish or designate a National Nanotechnology Advisory Panel.

(b) Qualifications

The Advisory Panel established or designated by the President under subsection (a) shall consist primarily of members from academic institutions and industry. Members of the Advisory Panel shall be qualified to provide advice and information on nanotechnology research, development, demonstrations, education, technology transfer, commercial application, or societal and ethical concerns. In selecting or designating an Advisory Panel, the President may also seek and give consideration to recommendations from the Congress, industry, the scientific community (including the National Academy of Sciences, scientific professional societies, and academia), the defense community, State and local governments, regional nanotechnology programs, and other appropriate organizations.

(c) Duties

The Advisory Panel shall advise the President and the Council on matters relating to the Program, including assessing—

(1) trends and developments in nanotechnology science and engineering;

(2) progress made in implementing the Program;

(3) the need to revise the Program;

(4) the balance among the components of the Program, including funding levels for the program component areas;

(5) whether the program component areas, priorities, and technical goals developed by the Council are helping to maintain United States leadership in nanotechnology;

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

(7) whether societal, ethical, legal, environmental, and workforce concerns are adequately addressed by the Program.

(d) Reports

Not later than 4 years after the date of the most recent assessment under subsection (c), and quadrennially thereafter, the Advisory Panel shall submit to the President, 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 its[1] assessments under subsection (c) and its recommendations for ways to improve the Program.

(e) Travel expenses of non-Federal members

Non-Federal members of the Advisory Panel, while attending meetings of the Advisory Panel or while otherwise serving at the request of the head of the Advisory Panel away from their

[1] So in original.