[DISCUSSION DRAFT]

NOVEMBER 1, 2013

113TH CONGRESS
1ST SESSION

H. R. _____

To provide for investment in innovation through scientific research and development, to improve the competitiveness of the United States, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

M__. _____ introduced the following bill; which was referred to the Committee on _____

A BILL

To provide for investment in innovation through scientific research and development, to improve the competitiveness of the United States, 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; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the ''Frontiers in Innovation, Research, Science, and Technology Act of 2013'' or the ''FIRST Act of 2013''.

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

Sec. 1. Short title; table of contents.

TITLE I—NATIONAL SCIENCE FOUNDATION

Sec. 101. Findings.
Sec. 102. Policy objectives.
Sec. 103. Definitions.
Sec. 104. Greater accountability in Federal funding for research.
Sec. 105. Social and behavioral sciences.
Sec. 106. Obligation of major research equipment and facilities construction funds.
Sec. 107. Graduate student support.
Sec. 108. Prohibition.
Sec. 109. Review of education programs.
Sec. 110. Recompetition of awards.
Sec. 111. Sense of the Congress regarding industry investment in STEM education.
Sec. 112. Misrepresentation of research results.
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Sec. 115. Computing resources study.
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TITLE II—SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

Sec. 201. Findings; sense of Congress.
Sec. 202. STEM Education Advisory Panel.
Sec. 203. Committee on STEM education.
Sec. 204. STEM Education Coordinating Office.

TITLE III—OFFICE OF SCIENCE AND TECHNOLOGY POLICY

Sec. 301. Regulatory efficiency.
Sec. 302. Public access to research articles and data.

TITLE IV—INNOVATION AND TECHNOLOGY TRANSFER

Subtitle A—NIST Reauthorization

Sec. 401. Standards and conformity assessment and other transaction authority.
Sec. 402. Visiting Committee on Advanced Technology.
Sec. 403. Police and security authority.
Sec. 404. International activities.
Sec. 405. Education and outreach.
Sec. 406. Programmatic planning report.
Sec. 407. Assessments by the National Research Council.

Sec. 408. Hollings Manufacturing Extension Partnership.
Sec. 409. Elimination of obsolete reports.
Sec. 410. Modifications to grants and cooperative agreements.

Subtitle B—Innovative Approaches to Technology Transfer

Sec. 421. Innovative approaches to technology transfer.

TITLE V—NETWORKING AND INFORMATION TECHNOLOGY RESEARCH AND DEVELOPMENT

Sec. 501. Short title.
Sec. 502. Program planning and coordination.
Sec. 503. Large-scale research in areas of national importance.
Sec. 504. Cyber-physical systems.
Sec. 505. Cloud computing services for research.
Sec. 506. National Coordination Office.
Sec. 507. Improving networking and information technology education.
Sec. 508. Conforming and technical amendments.

TITLE I—NATIONAL SCIENCE FOUNDATION

SEC. 101. FINDINGS.

Congress finds the following:

(1) The Foundation has made major contributions for more than 50 years to strengthen and sustain the Nation's academic research enterprise.

(2) The economic strength and national security of the United States, and the quality of life of all Americans, are grounded in the Nation's scientific and technological capabilities.

(3) The Foundation carries out important functions in supporting basic research in all science and engineering disciplines and in supporting science, mathematics, engineering, and technology education at all levels.

(4) The research and education activities of the Foundation promote the discovery, integration, dissemination, and application of new knowledge in service to society and prepare future generations of scientists, mathematicians, and engineers who will be necessary to ensure America's leadership in the global marketplace.

(5) The Foundation is charged with the responsibilities—

(A) to develop and encourage the pursuit of a national policy for the promotion of basic research and education in the sciences;

(B) to initiate, support, and conduct basic scientific research and to appraise the impact of research upon industrial development and the general welfare;

(C) to initiate, support, and conduct scientific research activities in connection with matters relating to the national defense, at the request of the Secretary of Defense;

(D) to award scholarships and graduate fellowships in the sciences;

(E) to foster the interchange of scientific information among scientists;

(F) to evaluate scientific research programs undertaken by agencies of the Federal Government, and to correlate the Foundation's scientific research with those undertaken by individuals and by public and private research groups;

(G) to establish such special commissions as the Board my deem necessary; and

(H) to maintain a register of scientific and technical personnel in the United States.

(6) The emerging global economic, scientific, and technical environment challenges long-standing assumptions about domestic and international policy, requiring the Foundation to play a more proactive role in sustaining the competitive advantage of the United States through superior research capabilities.

(7) Commercial application of the results of Federal investment in basic and computing science is consistent with longstanding United States technology transfer policy for cybersecurity and other homeland security applications, because of the urgent needs of commercial, academic, and individual users as well as the Federal and State Governments.

SEC. 102. POLICY OBJECTIVES.

In allocating resources made available under this subtitle, the Foundation shall have the following policy objectives:

(1) To strengthen the Nation's lead in science and technology by—

(A) increasing the national investment in general scientific research and increasing investment in strategic areas vital to the national interest;

(B) balancing the Nation's research portfolio among the life sciences, mathematics, the physical sciences, computer and information science, geosciences, engineering, and social, behavioral, and economic sciences, all of which are important for the continued development of enabling technologies necessary for sustained international competitiveness;

(C) expanding the pool of scientists and engineers in the United States;

(D) modernizing the Nation's research infrastructure; and

(E) establishing and maintaining cooperative international relationships with premier research institutions.

(2) To increase overall workforce skills by—

(A) improving the quality of and access to mathematics and science education, particularly in kindergarten through grade 12; and

(B) expanding STEM training opportunities at institutions of higher education.

(3) To strengthen innovation by expanding the focus of competitiveness and innovation policy at the regional and local level.

SEC. 103. DEFINITIONS.

In this title:

(1) BOARD.—The term ''Board'' means the National Science Board.

(2) DIRECTOR.—The term ''Director'' means the Director of the Foundation.

(3) FOUNDATION.—The term ''Foundation'' means the National Science Foundation established under section 2 of the National Science Foundation Act of 1950 (42 U.S.C. 1861).

(4) 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)).

(5) STATE.—The term ''State'' means one of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands,

Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, or any other territory or possession of the United States.

(6) STEM.—The term ''STEM'' means science, technology, engineering, and mathematics.

(7) UNITED STATES.—The term ''United States'' means the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, and any other territory or possession of the United States.

SEC. 104. GREATER ACCOUNTABILITY IN FEDERAL FUNDING FOR RESEARCH.

(a) STANDARD FOR AWARD OF GRANTS.—The Foundation may award Federal funding for basic research and education in the sciences through a new research grant or cooperative agreement only if an affirmative determination is made under subsection (b) and a written justification relating thereto is published under subsection (c).

(b) DETERMINATION.—A determination referred to in subsection (a) is a determination by the Director as to why the research grant or cooperative agreement—

(1) is in the national interest;

(2) is worthy of Federal funding; and

(3) achieves one or more of the following goals:

(A) Increased economic competitiveness of the United States.

(B) Advancement of the health and welfare of the American public.

(C) Development of a STEM workforce and increased public scientific literacy in the United States.

(D) Increased partnerships between academia and industry in the United States.

(E) Promotion of the progress of science in the United States.

(F) Support for the national defense.

(c) WRITTEN JUSTIFICATION.—Prior to any award of Federal funding described in subsection (a), the Foundation shall publish on its public website a written justification relating to the determination under subsection (b), along with the name of the employee or employees who made the determination and any other information about the research proposal the Director considers appropriate.

(d) IMPLEMENTATION.—A determination under subsection (b) shall be made after a research grant or cooperative agreement proposal has satisfied the Foundation's reviews for Merit and Broader Impacts.

(e) EMPLOYEE TRAINING.—The Director shall ensure that employees of the Foundation are aware of the restriction in subsection (a), and that the employees are trained in how to make a determination and provide written justification as required under this section.

(f) ANNUAL AUDITS.—The Director shall ensure that the standard in subsection (a) is properly applied by an annual audit of the research grants and cooperative agreements awarded by the Foundation for the previous fiscal year. The Director shall annually report the results of this audit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate by February of the following fiscal year.

SEC. 105. SOCIAL AND BEHAVIORAL SCIENCES.

A directorate of the Foundation other than the Directorate for Social, Behavioral, and Economic Sciences may fund social and behavioral science research focused on its mission areas if such research is determined to be a higher priority than other research in that directorate's mission portfolio.

SEC. 106. OBLIGATION OF MAJOR RESEARCH EQUIPMENT AND FACILITIES CONSTRUCTION FUNDS.

No funds may be obligated for Major Research Equipment and Facilities Construction for the Foundation

until 30 days after the report required with respect to each such fiscal year under section 14(a)(2) of the National Science Foundation Authorization Act of 2002 (42 U.S.C. 1862n–4(a)(2)) is transmitted to the Congress.

SEC. 107. GRADUATE STUDENT SUPPORT.

Section 510(b) of the America COMPETES Reauthorization Act of 2010 (42 U.S.C. 1869 note) is amended to read as follows:

''(b) EQUAL TREATMENT OF IGERT AND GRF.—

''(1) RATE OF FUNDING INCREASES.—For any fiscal year, the Director may only increase funding for the Foundation's Graduate Research Fellowship program (or any successor thereto) over the previous fiscal year's funding level at the same rate as a corresponding funding increase for the Foundation's Integrative Graduate Education and Research Traineeship program (or any successor thereto).

''(2) ESSENTIAL ELEMENTS OF IGERT.—The essential elements of the Foundation's Integrative Graduate Education and Research Traineeship program (or any successor thereto) shall be maintained, including—

''(A) collaborative research that transcends traditional disciplinary boundaries to solve large

and complex research problems of significant scientific and societal importance; and

''(B) providing students the opportunity to become leaders in the science and engineering of the future.''.

SEC. 108. PROHIBITION.

The Foundation may not implement any STEM education program and activity changes proposed for the Foundation in the budget for fiscal year 2014 transmitted to Congress under section 1105(a) of title 31, United States Code.

SEC. 109. REVIEW OF EDUCATION PROGRAMS.

(a) IN GENERAL.—The Director shall review the education programs of the Foundation that are in operation as of the date of enactment of this Act to determine—

(1) whether any of such programs duplicate target groups, services provided, fields of focus, or objectives; and

(2) how those programs are being evaluated and assessed for outcome-oriented effectiveness.

(b) REPORT.—Not later than 1 year after the date of enactment of this Act, and annually thereafter as part of the annual budget submission to Congress, the Director shall complete a report on the review carried out under this section and shall submit the report to the Committee

on Science, Space, and Technology and the Committee on Appropriations of the House of Representatives, and to the Committee on Commerce, Science, and Transportation, the Committee on Health, Education, Labor, and Pensions, and the Committee on Appropriations of the Senate.

SEC. 110. RECOMPETITION OF AWARDS.

(a) FINDINGS.—The Congress finds that—

(1) the merit-reviewed competition of grant and award proposals is a hallmark of the Foundation grant and award making process;

(2) the majority of Foundation-funded multiuser facilities have transitioned to five-year cooperative agreements, and every five years the program officer responsible for the facility makes a recommendation to the National Science Board as to the renewal, recompetition, or termination of support for the facility; and

(3) requiring expiring awards to be recompeted follows from the conviction that competition is the process most likely to ensure the effective stewardship of Foundation funds for supporting research and education.

(b) RECOMPETITION.—The Director shall ensure that the system for recompetition of Maintenance and Oper-

ations of facilities, equipment and instrumentation is fair, consistent, and transparent and is applied in a manner that renews grants and awards in a timely manner. The Director shall periodically evaluate whether the criteria of the system are being applied in a manner that is transparent, reliable, and valid.

SEC. 111. SENSE OF THE CONGRESS REGARDING INDUSTRY INVESTMENT IN STEM EDUCATION.

It is the sense of Congress that—

(1) in order to bolster the STEM workforce pipeline, many industry sectors are becoming involved in K-12 initiatives and supporting undergraduate and graduate work in STEM subject areas and fields;

(2) partnerships with education providers, STEM focused competitions, and other opportunities have become important pieces of private sector efforts to strengthen the STEM workforce;

(3) understanding the work private sector organizations are undertaking in the STEM fields will inform the Federal Government's role in STEM education; and

(4) industry initiatives that support STEM education should be encouraged and supported by the Foundation.

SEC. 112. MISREPRESENTATION OF RESEARCH RESULTS.

(a) CERTIFICATION.—As a condition of receiving a research grant from the Foundation, a principal investigator shall sign a statement certifying that the findings and conclusions of any article authored by such principal investigator, using the results of the research conducted under the grant, that is published in a peer-reviewed publication will be based on an accurate and truthful representation of the research results.

(b) INVESTIGATION.—The Inspector General of the Foundation shall investigate suspected violations of a certification signed under subsection (a), and shall submit to the Director the results of such investigation, along with a recommendation with respect to whether a violation has occurred.

(c) DETERMINATION.—

(1) IN GENERAL.—Based on the results of the investigation conducted under subsection (b), the Director shall make a determination of whether the principal investigator knowingly misrepresented the results of research conducted with funding from the Foundation.

(2) PUBLICATION.—The Director shall make publicly available any determination made under paragraph (1), which shall include the name of the principal investigator.

(d) 10-YEAR BAN.—The Foundation may not, for a period of 10 years, provide a research grant or grant extension to a principal investigator who has knowingly misrepresented the results of research through—

(1) publication in a peer-reviewed publication;

(2) submission of data to the repository established under section 306(a)(1); or

(3) an application for a research grant or grant extension from the Foundation.

(e) APPEAL.—The Director shall establish a process by which a principal investigator may appeal a determination made under subsection (c) and a ban under subsection (e). If the Director determines that the determination made under subsection (c) was not correct, the Director shall make that correction publicly available. The Director may shorten the period of a ban under subsection (d) based on information provided in the appeal process under this subsection.

SEC. 113. CITATIONS SUPPORTING RESEARCH GRANT APPLICATIONS.

A peer-reviewed research grant proposal application to the Foundation may not include, with respect to a principal investigator, more than 5 citations to articles published by the principal investigator in a peer-reviewed publication. The Foundation may not consider more than 5

citations to such articles in determining whether to award such a research grant.

SEC. 114. RESEARCH GRANT CONDITIONS.

The Foundation shall establish procedures to ensure that—

(1) a research grant awarded by the Foundation to a principal investigator does not duplicate the scientific aims and scope of any grant awarded to the same investigator by another Federal agency;

(2) a principal investigator includes in any application for a research grant awarded by the Foundation a list of all Federal research funding received by the principal investigator, as well as any funding that is being requested as of that time;

(3) unpublished research results used to support a grant proposal made to the Foundation do not include any knowing misrepresentations of data;

(4) principal investigators who have received more than 5 years of Foundation funding at any point in their careers, other than graduate and postdoctoral traineeship awards, are only awarded additional research grants by the Foundation if they will be contributing substantial original research under the grant; and

(5) principal investigators who receive Foundation research grant funding under more than one grant at the same time have sufficient resources to conduct the proposed research under each of those grants appropriately under the terms of the grant.

SEC. 115. COMPUTING RESOURCES STUDY.

Not later than 1 year after the date of enactment of this Act, the Comptroller General shall transmit to the Congress a report detailing the results of a study on the use of computing resources funded by the Foundation at institutions of higher education. Such study shall assess—

(1) efficiencies that can be achieved by using shared computing resources for projects that have similar scientific computing requirements or projects where specialized software solutions could be shared with other practitioners in the scientific community;

(2) efficiencies that can be achieved by using shared hardware that can be cost effectively procured from cloud computing services;

(3) efficiencies that can be achieved by using shared software from an open source repository or platform; and

(4) cost savings that could be achieved by potential sharing of computing resources across all Foundation grants.

SEC. 116. ALTERNATIVE RESEARCH FUNDING MODELS.

(a) IN GENERAL.—The Director of the Office of Science and Technology Policy, in consultation with the Director of the Foundation, shall identify and conduct appropriate pilot programs to validate alternative research funding models, including scientific breakthrough prize programs.

(b) REPORT.—Not later than 1 year after the date of enactment of this Act, and annually thereafter as part of the annual budget submission to Congress, the Director of the Office of Science and Technology Policy shall transmit to the Congress a report on programs identified and conducted under subsection (a).

SEC. 117. REPEAL OF SUSTAINABLE CHEMISTRY BASIC RESEARCH PROGRAM.

Section 509 of the America COMPETES Reauthorization Act of 2010 (42 U.S.C. 1862p–3) is repealed.

SEC. 118. ROTATING PERSONNEL.

The Director shall ensure that the cost to the Foundation of employing individuals who are not permanent employees of the Foundation, including individuals employed pursuant to the Intergovernmental Personnel Act of 1970 (42 U.S.C. 4701 note), does not exceed the cost of employing permanent employees of the Foundation to perform the same functions.

SEC. 119. REPORT OF THE NSB TASK FORCE ON ADMINISTRATIVE BURDEN.

The National Science Board Task Force on Administrative Burden shall provide a report to Congress on its activities, findings, and recommendations within 90 days after the date of enactment of this Act.

SEC. 120. STUDY TO EVALUATE FEDERAL SCIENTIFIC FUNDING OF NON-UNITED STATES CITIZENS.

Not later than 18 months after the date of enactment of this Act, the Comptroller General shall transmit to the Congress a report detailing the results of a study, based on quantifiable metrics, on non-United States citizens, including students, postdoctoral researchers, research associates, and tenure-track faculty, funded by Federal science agencies that—

(1) evaluates their importance to the United States scientific enterprise;

(2) quantifies their economic value and impact to the United States; and

(3) assesses the Nation's economic opportunity cost of those who return to their home countries, in particular, quantifying contributions to the scientific, technological, industrial, and educational base of their final country of residence.

TITLE II—SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

SEC. 201. FINDINGS; SENSE OF CONGRESS.

(a) FINDINGS.—Congress finds the following:

(1) According to the National Science Board's Science and Engineering Indicators, the science and engineering workforce has shown sustained growth for more than half a century and workers with science and engineering degrees tend to earn more than other comparable workers.

(2) According to the Program for International Student Assessment 2009 results, America lags behind many other nations when it comes to STEM education. American students rank 23d in science and 31st in math.

(3) Junior Achievement USA and ING recently found a decrease of 25 percent in the number of teens interested in STEM careers.

(4) According to a 2007 report from the Department of Labor, industries and firms dependent upon a strong science and math workforce pipeline have launched a variety of programs that target K-12 students and undergraduate and graduate students in STEM fields.

(5) While the Federal Government spends nearly $3 billion annually on STEM education related programs and activities, finding ways to improve STEM education activities beyond the scope of the Federal Government is key to the future technical and economic competitiveness of our Nation.

(b) SENSE OF CONGRESS.—It is the sense of Congress that—

(1) more must be done to ensure that Federal investment in STEM education is going to provide a substantial return;

(2) leveraging private and nonprofit investments in STEM education will be essential to strengthening the Federal STEM portfolio;

(3) strengthening the Federal STEM portfolio may result in program consolidations and terminations, but those changes should be made based on evidence with stakeholder input;

(4) the President's fiscal year 2014 budget proposal did not adequately explain proposed consolidations and cuts in the Federal STEM portfolio and did not utilize outside expertise in making those critical decisions, resulting in the need for Congress to limit the Administration's forward movement on that proposal; and

(5) coordinating STEM programs and activities across the Federal Government in order to limit duplication and engage stakeholders will strengthen the results of our Federal STEM education programs and activities and in turn strengthen the United States economy.

SEC. 202. STEM EDUCATION ADVISORY PANEL.

(a) ESTABLISHMENT.—The President shall establish or designate a STEM Education Advisory Panel that incorporates key stakeholders from the education and industry sectors within the President's Council of Advisors on Science and Technology.

(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 STEM education research, development, training, implementation, interventions, professional development, or workforce needs or 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),

State and local governments, and other appropriate organizations.

(c) DUTIES.—The Advisory Panel shall advise the President, the committee on STEM education established under the National Science and Technology Council, and the STEM Education Coordinating Office on matters relating to STEM education, and shall each year provide general guidance to every Federal agency with STEM education programs or activities, including in the preparation of requests for appropriations for activities related to STEM education. The Advisory Panel shall also assess—

(1) trends and developments in STEM education;

(2) progress made in STEM education;

(3) ways to encourage public private-partnerships to strengthen STEM education;

(4) ways to leverage private and nonprofit investments and utilize expertise resulting from STEM-related competitions to help build the STEM education and workforce pipeline;

(5) ways to incorporate workforce needs into Federal STEM education programs;

(6) the management, coordination, implementation, and activities of the STEM Education Coordinating Office and the committee on STEM edu-

cation established under the National Science and Technology Council; and

(7) whether societal and workforce concerns are adequately addressed by current Federal STEM education programs and activities.

(d) REPORTS.—The Advisory Panel shall report, not less frequently than once every 2 fiscal years, to the President and Congress on its assessments under subsection (c) and its recommendations for ways to improve Federal STEM education programs. The first report under this subsection shall be submitted within 1 year after the date of enactment of this Act.

(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 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 Panel 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.

SEC. 203. COMMITTEE ON STEM EDUCATION.

Section 101 of the America COMPETES Reauthorization Act of 2010 (42 U.S.C. 6621) is amended to read as follows:

"SEC. 101. COORDINATION OF FEDERAL STEM EDUCATION.

''(a) MAINTENANCE OF THE COMMITTEE ON STEM EDUCATION.—The Director of the Office of Science and Technology Policy shall maintain the committee on STEM education established under the National Science and Technology Council, including the Office of Management and Budget, National Science Foundation, the Department of Energy, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Institute of Standards and Technology, and all other Federal agencies with STEM education programs or activities.

''(b) RESPONSIBILITIES.—The committee described in subsection (a) shall develop recommendations for the STEM Education Coordinating office to consider. These recommendations shall focus on—

''(1) priority areas for Federal funding in STEM education, which may include student engagement, student retention, informal education, and teaching;

''(2) access to innovations and expertise derived from agency activities across the Federal Government;

''(3) significant links among K-12 education, higher education, and industry; and

''(4) the teaching of innovation and entrepreneurship as part of STEM education activities.

''(c) REPORT.—The Director of Office of Science and Technology Policy shall transmit a report annually to Congress at the time of the President's budget request describing the work, findings, and recommendations of the committee described in subsection (a).''.

SEC. 204. STEM EDUCATION COORDINATING OFFICE.

(a) ESTABLISHMENT.—The Director of the Foundation shall establish within the Directorate for Education and Human Resources a STEM Education Coordinating Office, which shall have a Director.

(b) RESPONSIBILITIES.—The STEM Education Coordinating Office shall—

(1) coordinate the STEM education activities and programs of the Federal Government, including at the National Science Foundation, the Department of Energy, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Institute of Standards

and Technology, the Environmental Protection Agency, and any other Federal agency with STEM education programs or activities;

(2) coordinate STEM education activities and programs with the Office of Management and Budget;

(3) review STEM education activities and programs to ensure they are not redundant, overlapping or duplicative of similar efforts within the Federal Government;

(4) periodically update and maintain the inventory of federally sponsored STEM education programs and activities conducted by the committee on STEM education established under the National Science and Technology Council, including documentation of assessments of the outcome-oriented effectiveness of such programs and activities and metrics used to evaluate those programs and activities;

(5) provide technical and administrative support to the committee on STEM education established under the National Science and Technology Council and the Advisory Panel established under section 202; and

(6) serve as the point of contact on Federal STEM education activities for government agencies, academia, industry, professional societies, State STEM education programs, interested citizen groups, and other STEM stakeholders to exchange technical and programmatic information.

(c) 3-YEAR STRATEGIC PLAN.—

(1) IN GENERAL.—The STEM Education Coordinating Office shall—

(A) at the time of the President's budget request, and every 3 years thereafter, in consultation with Federal agencies having STEM education programs or activities, the committee on STEM education established under the National Science and Technology Council, and the Advisory Panel established under section 202, update the Federal Government STEM education strategic plan established in May 2013 by the committee on STEM education established under the National Science and Technology Council; and

(B) coordinate the implementation of such plan through such agencies.

(2) CONTENTS.—The strategic plan shall—

(A) specify and prioritize annual and long-term objectives, including a description of the role of each agency in supporting programs and activities designed to achieve the objectives;

(B) specify the common metrics that will be used to assess progress toward achieving the objectives; and

(C) describe the approaches that will be taken by each agency to assess the effectiveness of its STEM education programs and activities.

(d) REPORT.—The Director of the STEM Education Coordinating Office shall transmit a report annually to Congress at the time of the President's budget request. The annual report shall include—

(1) a description of the STEM education programs and activities across the Federal Government for the previous and current fiscal years, and the proposed programs and activities under the President's budget request, of every Federal agency with STEM education programs or activities;

(2) an evaluation of the extent of duplication and fragmentation of the programs and activities described under paragraph (1), and any recommendations for consolidations or terminations to remedy those problems;

(3) a description of ways the Federal Government is leveraging private and nonprofit investments and utilizing expertise resulting from STEM-related competitions to build the STEM education workforce pipeline; and

(4) a description of the progress made in carrying out the 3-year strategic plan, including a description of the outcome of any program assessments completed in the previous year, and any changes made to that plan since the previous annual report.

(e) RESPONSIBILITIES OF NSF.—The Director of the National Science Foundation shall encourage and monitor the efforts of the STEM Education Coordinating Office to ensure that the strategic plan under subsection (c) is implemented effectively and that the objectives of the strategic plan are met.

TITLE III—OFFICE OF SCIENCE AND TECHNOLOGY POLICY

SEC. 301. REGULATORY EFFICIENCY.

(a) IN GENERAL.—The Director of the Office of Science and Technology Policy shall establish a working group under the authority of the National Science and Technology Council, to include the Office of Management and Budget The working group shall be responsible for reviewing Federal regulations affecting research and re-

search universities and making recommendations on how to—

(1) harmonize, streamline, and eliminate duplicative Federal regulations and reporting requirements; and

(2) minimize the regulatory burden on United States institutions of higher education performing federally funded research while maintaining accountability for Federal tax dollars.

(b) REPORT.—Not later than 1 year after the date of enactment of this Act, and annually thereafter for 3 years, the Director shall report to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate on what steps have been taken to carry out the recommendations of the working group established under subsection (a).

SEC. 302. PUBLIC ACCESS TO RESEARCH ARTICLES AND DATA.

(a) PUBLIC ACCESS POLICIES AND PROCEDURES.—

(1) ESTABLISHMENT.—Not later than 18 months after the date of enactment of this Act, the National Science and Technology Council, in consultation with the Federal science agencies, shall establish policies, procedures, and standards for the

Federal science agencies to enable archiving and retrieving covered material in digital form for public availability in perpetuity.

(2) REQUIREMENTS.—Such policies, procedures, and standards shall—

(A) use existing information technology infrastructure to the extent practicable, including infrastructure of the National Center for Biotechnology Information, the National Center for Atmospheric Research, and the private sector that facilitate public access to covered material;

(B) minimize the cost of storing, archiving, and retrieving articles and data;

(C) minimize the burden of providing articles and data archiving, and of retrieving articles and data; and

(D) facilitate maximum access to covered material by clearly linking articles and data.

(3) STAKEHOLDER INPUT.—In developing policies, procedures, and standards under paragraph (1), the National Science and Technology Council shall use a transparent process for soliciting views from stakeholders, including federally funded researchers, institutions of higher education, libraries,

publishers, users of federally funded research results, and civil science society groups.

(b) GRANT RECIPIENT REQUIREMENTS.—A recipient of a research grant made by a Federal science agency shall make, or enable others on their behalf to make, covered material associated with such grant available consistent with the policies, procedures, and standards established under subsection (a).

(c) FEDERAL SCIENCE AGENCY REQUIREMENTS.—In implementing the policies, procedure, and standards established pursuant to subsection (a), each Federal science agency shall provide for—

(1) submission of, or linking to, an electronic version of covered material by or on behalf of recipients of research grants made by the agency;

(2) free online public access to such covered material—

(A) in the case of a research article, not later than 24 months after publication of the research article in a peer-reviewed publication; and

(B) in the case of data used to support the findings and conclusions of such article, not later than 60 days after the article is published in a peer-reviewed publication;

(3) a searchable archive for long-term preservation and productive use of covered material;

(4) production of an online bibliography of all research papers that are publicly accessible in its repository, with each entry linking to the corresponding free online full text; and

(5) inclusion in its repository of all data that is used directly or indirectly by the agency to support the promulgation of a Federal regulation.

(d) REVIEW.—At least once every 5 years, the National Science and Technology Council shall review the policies, procedures, and standards established under subsection (a) and revise such policies, procedures, and standards as appropriate.

(e) EXTENSION.—Each Federal science agency may extend the time period specified in subsection (c)(2) by 6 to 12 months, in consultation with the stakeholders described in subsection (a)(3), if the agency head, or designee, determines that the scientific field and stakeholders described in subsection (a)(3) will be uniquely harmed without such extension.

(f) PATENT OR COPYRIGHT LAW.—Except as provided in this section, nothing in this section shall be construed to affect any right under the provisions of title 17 or title 35, United States Code.

(g) DEFINITIONS.—For purposes of this section:

(1) COVERED MATERIAL.—The term ''covered material'' means—

(A) a manuscript of an article accepted for publication in a peer-reviewed publication that results from research funded in whole or in majority part by a grant from a Federal science agency; and

(B) data that was used to support the findings and conclusions of such article, except for data that is protected from disclosure under section 552 of title 5, United States Code.

(2) DATA.—The term ''data'' includes raw data, computer code, and algorithms, but does not include—

(A) commercially available software used to analyze the data or code;

(B) preliminary work and analyses;

(C) drafts of scientific papers not accepted or intended for publication; or

(D) plans for future research.

(3) FEDERAL SCIENCE AGENCY.—The term ''Federal science agency'' means an Executive agency, as defined in section 105 of title 5, United States

Code, that is a member of the National Science and Technology Council.

(4) PEER-REVIEWED PUBLICATION.—The term ''peer-reviewed publication'' means a publication for which articles are assigned to at least 1 external viewer to assess the validity of the articles' scientific findings and conclusions.

TITLE IV—INNOVATION AND TECHNOLOGY TRANSFER

Subtitle A—NIST Reauthorization

SEC. 401. STANDARDS AND CONFORMITY ASSESSMENT AND OTHER TRANSACTION AUTHORITY.

Section 2 of the National Institute of Standards and Technology Act (15 U.S.C. 272) is amended—

(1) in subsection (b)—

(A) in the matter preceding paragraph (1), by striking ''authorized to take'' and inserting ''authorized to serve as the President's principal adviser on standards policy pertaining to the Nation's technological competitiveness and innovation ability and to take'';

(B) in paragraph (3), by striking ''compare standards'' and all that follows through ''Federal Government'' and inserting ''facilitate

standards-related information sharing and cooperation between Federal agencies'';

(C) by striking paragraph (4) and inserting the following:

''(4) to enter into and perform such contracts, cooperative research and development arrangements, grants, cooperative agreements, leases, or other transactions as may be necessary in the conduct of its work and on such terms as it may consider appropriate in furtherance of the purposes of this Act;''; and

(D) in paragraph (13), by striking ''Federal, State, and local'' and all that follows through ''private sector'' and inserting ''technical standards activities and conformity assessment activities of Federal, State, and local governments with private sector''; and

(2) in subsection (c)—

(A) in paragraph (21), by striking ''and'' after the semicolon;

(B) by redesignating paragraph (22) as paragraph (25); and

(C) by inserting after paragraph (21) the following:

''(22) participate in and support scientific and technical conferences;

''(23) collect and retain fees for conferences and use such fees to pay for expenses of such conferences, notwithstanding section 1345 of title 31, United States Code;

''(24) perform pre-competitive measurement science and technology research in partnership with institutions of higher education and industry to promote United States industrial competitiveness; and''.

SEC. 402. VISITING COMMITTEE ON ADVANCED TECHNOLOGY.

Section 10 of the National Institute of Standards and Technology Act (15 U.S.C. 278) is amended—

(1) in subsection (a)—

(A) by striking ''15 members'' and inserting ''not fewer than 9 members'';

(B) by striking ''at least 10'' and inserting ''at least three-fifths''; and

(C) by adding at the end the following: ''The Committee may consult with the National Research Council in making recommendations regarding general policy for the Institute.''; and

(2) in subsection (h)(1), by striking '', including the Program established under section 28,''.

SEC. 403. POLICE AND SECURITY AUTHORITY.

Section 15 of the National Institute of Standards and Technology Act (15 U.S.C. 278e) is amended—

(1) by striking ''of the Government; and'' and inserting ''of the Government;''; and

(2) by striking ''United States Code.'' and inserting ''United States Code; and (i) for the protection of Institute buildings and other plant facilities, equipment, and property, and of employees, associates, visitors, or other persons located therein or associated therewith, notwithstanding any other provision of law, the direction of such of the officers and employees of the Institute as the Secretary considers necessary in the public interest to carry firearms while in the conduct of their official duties, and the authorization of employees of contractors and subcontractors of the Institute who are engaged in the protection of property owned by the United States, and located at facilities owned by, leased by, used by, or under the control of the United States, to carry firearms while in the conduct of their official duties, and, under regulations prescribed by the Secretary and approved by the Attorney General, the authorization of officers and employees of the Institute and of its contractors and subcontractors authorized to carry firearms to arrest without warrant

for any offense against the United States committed in their presence, or for any felony cognizable under the laws of the United States if they have reasonable grounds to believe that the person to be arrested has committed or is committing such felony, provided that such authority to make arrests may be exercised only while guarding and protecting buildings and other plant facilities, equipment, and property owned or leased by, used by, or under the control of the United States under the administration and control of the Secretary''.

SEC. 404. INTERNATIONAL ACTIVITIES.

Section 17(a) of the National Institute of Standards and Technology Act (15 U.S.C. 278g(a)) is amended—

(1) by striking ''financial assistance,'' and inserting ''financial and logistical assistance,''; and

(2) by adding at the end the following: ''Financial and logistical assistance may include transportation to and from the Institute of foreign dignitaries and representatives of foreign national metrology institutes.''

SEC. 405. EDUCATION AND OUTREACH.

(a) IN GENERAL.—The National Institute of Standards and Technology Act is (15 U.S.C. 271 et seq.) is

amended by striking sections 18, 19, and 19A and inserting the following:

"SEC. 18. EDUCATION AND OUTREACH.

''(a) IN GENERAL.—The Director may support, promote, and coordinate activities and efforts to enhance public awareness and understanding of measurement sciences, standards, and technology by the general public, industry, and academia in support of the Institute's mission.

''(b) RESEARCH FELLOWSHIPS.—

''(1) IN GENERAL.—The Director may award research fellowships and other forms of financial and logistical assistance, including direct stipend awards, to—

''(A) students at institutions of higher education within the United States who show promise as present or future contributors to the mission of the Institute; and

''(B) United States citizens for research and technical activities of the Institute.

''(2) SELECTION.—The Director shall select persons to receive such fellowships and assistance on the basis of ability and of the relevance of the proposed work to the mission and programs of the Institute.

''(3) DEFINITION.—For the purposes of this subsection, financial and logistical assistance includes, notwithstanding section 1345 of title 31, United States Code, or any contrary provision of law, temporary housing and transportation to and from the Institute facilities.

''(c) POST-DOCTORAL FELLOWSHIP PROGRAM.—The Director shall establish and conduct a post-doctoral fellowship program, subject to the availability of appropriations, that shall include not less than 20 nor more than 120 new fellows per fiscal year. In evaluating applications for fellowships under this subsection, the Director shall give consideration to the goal of promoting the participation of underrepresented minorities in research areas supported by the Institute.''.

(b) PROHIBITION.—

(1) IN GENERAL.—The National Institute of Standards and Technology may not implement any STEM education program and activity changes proposed for the Institute in the budget for fiscal year 2014 transmitted to Congress under section 1105(a) of title 31, United States Code.

(2) DEFINITION.—The term ''STEM'' means science, technology, engineering, and mathematics.

SEC. 406. PROGRAMMATIC PLANNING REPORT.

Section 23(d) of the National Institute of Standards and Technology Act (15 U.S.C. 278i(d)) is amended by adding at the end the following: ''The 3-year programmatic planning document shall also describe how the Director is addressing recommendations from the Visiting Committee on Advanced Technology established under section 10.''.

SEC. 407. ASSESSMENTS BY THE NATIONAL RESEARCH COUNCIL.

Section 24 of the National Institute of Standards and Technology Act (15 U.S.C. 278j) is amended to read as follows:

''SEC. 24. ASSESSMENTS BY THE NATIONAL RESEARCH COUNCIL.

''(a) IN GENERAL.—The Institute shall contract with the National Research Council to perform and report on assessments of the technical quality and impact of the work conducted at Institute laboratories.

''(b) SCHEDULE.—Individual assessments shall be completed biennially by conducting annual assessments of at least 3 laboratories.

''(c) SUMMARY REPORT.—In the second year of each biennial period under subsection (b), the Institute shall contract with the National Research Council to prepare

a report that summarizes the findings common across the individual assessment reports.

''(d) ADDITIONAL ASSESSMENTS.—The Institute, at the discretion of the Director, also may contract with the National Research Council to conduct additional assessments of Institute programs and projects that involve collaboration across the Institute laboratories and centers and assessments of selected scientific and technical topics.

''(e) CONSULTATION WITH VISITING COMMITTEE ON ADVANCED TECHNOLOGY.—The National Research Council may consult with the Visiting Committee on Advanced Technology established under section 10 in performing the assessments under this section.

''(f) REPORTS.—Not later than 30 days after the completion of each assessment, the Institute shall transmit the report on such assessment to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate.''.

SEC. 408. HOLLINGS MANUFACTURING EXTENSION PARTNERSHIP.

Section 25 of the National Institute of Standards and Technology Act (15 U.S.C. 278k) is amended to read as follows:

"SEC. 25. HOLLINGS MANUFACTURING EXTENSION PARTNERSHIP.

''(a) ESTABLISHMENT AND PURPOSE.—

''(1) IN GENERAL.—The Secretary, through the Director and, if appropriate, through other officials, shall provide assistance for the creation and support of manufacturing extension centers, to be known as the 'Hollings Manufacturing Extension Centers', for the transfer of manufacturing technology and best business practices (in this Act referred to as the 'Centers'). The program under this section shall be known as the 'Hollings Manufacturing Extension Partnership'.

''(2) AFFILIATIONS.—Such Centers shall be affiliated with any United States-based public or nonprofit institution or organization, or group thereof, that applies for and is awarded financial assistance under this section.

''(3) OBJECTIVE.—The objective of the Centers is to enhance competitiveness, productivity, and technological performance in United States manufacturing through—

''(A) the transfer of manufacturing technology and techniques developed at the Institute to Centers and, through them, to manufacturing companies throughout the United States;

''(B) the participation of individuals from industry, institutions of higher education, State governments, other Federal agencies, and, when appropriate, the Institute in cooperative technology transfer activities;

''(C) efforts to make new manufacturing technology and processes usable by United States-based small and medium-sized companies;

''(D) the active dissemination of scientific, engineering, technical, and management information about manufacturing to industrial firms, including small and medium-sized manufacturing companies;

''(E) the utilization, when appropriate, of the expertise and capability that exists in Federal laboratories other than the Institute; and

''(F) the provision to community colleges of information about the job skills needed in small and medium-sized manufacturing businesses in the regions they serve.

''(b) ACTIVITIES.—The activities of the Centers shall include—

''(1) the establishment of automated manufacturing systems and other advanced production tech-

nologies, based on Institute-supported research, for the purpose of demonstrations and technology transfer; and

''(2) the active transfer and dissemination of research findings and Center expertise to a wide range of companies and enterprises, particularly small and medium-sized manufacturers.

''(c) OPERATIONS.—

''(1) FINANCIAL SUPPORT.—The Secretary may provide financial support to any Center created under subsection (a) for a period not to exceed 6 years. The Secretary may not provide to a Center more than 50 percent of the capital and annual operating and maintenance funds required to create and maintain such Center.

''(2) REGULATIONS.—The Secretary shall implement, review, and update the sections of the Code of Federal Regulations related to this section at least once every 3 years.

''(3) APPLICATION.—

''(A) IN GENERAL.—Any nonprofit institution, or consortium thereof, may submit to the Secretary an application for financial support under this section, in accordance with the procedures established by the Secretary.

''(B) COST-SHARING.—In order to receive assistance under this section, an applicant for financial assistance under subparagraph (A) shall provide adequate assurances that non-Federal assets obtained from the applicant and the applicant's partnering organizations will be used as a funding source to meet not less than 50 percent of the costs incurred for the first 3 years and an increasing share for each of the last 3 years. For purposes of the preceding sentence, the costs incurred means the costs incurred in connection with the activities undertaken to improve the competitiveness, management, productivity, and technological performance of small and medium-sized manufacturing companies.

''(C) AGREEMENTS WITH OTHER ENTITIES.—In meeting the 50 percent requirement, it is anticipated that a Center will enter into agreements with other entities such as private industry, institutions of higher education, and State governments to accomplish programmatic objectives and access new and existing resources that will further the impact of the Federal in-

vestment made on behalf of small and medium-sized manufacturing companies.

''(D) LEGAL RIGHTS.—Each applicant under subparagraph (A) shall also submit a proposal for the allocation of the legal rights associated with any invention which may result from the proposed Center's activities.

''(4) MERIT REVIEW.—The Secretary shall subject each such application to merit review. In making a decision whether to approve such application and provide financial support under this section, the Secretary shall consider, at a minimum, the following:

''(A) The merits of the application, particularly those portions of the application regarding technology transfer, training and education, and adaptation of manufacturing technologies to the needs of particular industrial sectors.

''(B) The quality of service to be provided.

''(C) Geographical diversity and extent of service area.

''(D) The percentage of funding and amount of in-kind commitment from other sources.

''(5) EVALUATION.—

''(A) IN GENERAL.—Each Center that receives financial assistance under this section shall be evaluated during its third year of operation by an evaluation panel appointed by the Secretary.

''(B) COMPOSITION.—Each such evaluation panel shall be composed of private experts, none of whom shall be connected with the involved Center, and Federal officials.

''(C) CHAIR.—An official of the Institute shall chair the panel.

''(D) PERFORMANCE MEASUREMENT.—Each evaluation panel shall measure the involved Center's performance against the objectives specified in this section.

''(E) POSITIVE EVALUATION.—If the evaluation is positive, the Secretary may provide continued funding through the sixth year at declining levels.

''(F) PROBATION.—The Secretary shall not provide funding for the fourth through the sixth years of a Center's operation unless the evaluation is positive. A Center that has not received a positive evaluation by the evaluation

panel shall be notified by the panel of the deficiencies in its performance and shall be placed on probation for one year, after which time the panel shall reevaluate the Center. If the Center has not addressed the deficiencies identified by the panel, or shown a significant improvement in its performance, the Director shall conduct a new competition to select an operator for the Center or may close the Center.

''(G) ADDITIONAL FINANCIAL SUPPORT.—After the sixth year, a Center may receive additional financial support under this section if it has received a positive evaluation through an independent review, under procedures established by the Institute. Such an independent review shall be required at least every two years after the sixth year of operation. Funding received for a fiscal year under this section after the sixth year of operation shall not exceed one third of the capital and annual operating and maintenance costs of the Center under the program.

''(6) PATENT RIGHTS.—The provisions of chapter 18 of title 35, United States Code, shall apply, to the extent not inconsistent with this section, to

the promotion of technology from research by Centers under this section except for contracts for such specific technology extension or transfer services as may be specified by statute or by the Director.

''(7) PROTECTION OF CENTER CLIENT CONFIDENTIAL INFORMATION.—Section 552 of title 5, United States Code, shall apply to the following information obtained by the Federal Government on a confidential basis in connection with the activities of any participant involved in the Hollings Manufacturing Extension Partnership:

''(A) Information on the business operation of any participant in a Hollings Manufacturing Extension Partnership program or of a client of a Center.

''(B) Trade secrets possessed by any client of a Center.

''(8) ADVISORY BOARDS.—Each Center's advisory boards shall institute a conflict of interest policy, approved by the Director, that ensures the Board represents local small and medium-sized manufacturers in the Center's region. Board Members may not be current clients of the Center they serve, may not serve as a vendor or provide services to the

Center, nor may they serve on more than one Center's oversight board simultaneously.

''(d) ACCEPTANCE OF FUNDS.—

''(1) IN GENERAL.—In addition to such sums as may be appropriated to the Secretary and Director to operate the Hollings Manufacturing Extension Partnership, the Secretary and Director also may accept funds from other Federal departments and agencies and, under section 2(c)(7), from the private sector for the purpose of strengthening United States manufacturing.

''(2) ALLOCATION OF FUNDS.—

''(A) FUNDS ACCEPTED FROM OTHER FEDERAL DEPARTMENTS OR AGENCIES.—The Director shall determine whether funds accepted from other Federal departments or agencies shall be counted in the calculation of the Federal share of capital and annual operating and maintenance costs under subsection (c).

''(B) FUNDS ACCEPTED FROM THE PRIVATE SECTOR.—Funds accepted from the private sector under section 2(c)(7), if allocated to a Center, may not be considered in the calculation of the Federal share under subsection (c) of this section.

''(e) MEP ADVISORY BOARD.—

''(1) ESTABLISHMENT.—There is established within the Institute a Manufacturing Extension Partnership Advisory Board (in this subsection referred to as the 'MEP Advisory Board').

''(2) MEMBERSHIP.—

''(A) IN GENERAL.—The MEP Advisory Board shall consist of not fewer than 10 members broadly representative of stakeholders, to be appointed by the Director. At least 2 members shall be employed by or on an advisory board for the Centers, and at least 5 other members shall be from United States small businesses in the manufacturing sector. No member shall be an employee of the Federal Government.

''(B) TERM.—Except as provided in subparagraph (C) or (D), the term of office of each member of the MEP Advisory Board shall be 3 years.

''(C) VACANCIES.—Any member appointed to fill a vacancy occurring prior to the expiration of the term for which his predecessor was appointed shall be appointed for the remainder of such term.

''(D) SERVING CONSECUTIVE TERMS.—Any person who has completed two consecutive full terms of service on the MEP Advisory Board shall thereafter be ineligible for appointment during the one-year period following the expiration of the second such term.

''(3) MEETINGS.—The MEP Advisory Board shall meet not less than 2 times annually and shall provide to the Director—

''(A) advice on Hollings Manufacturing Extension Partnership programs, plans, and policies;

''(B) assessments of the soundness of Hollings Manufacturing Extension Partnership plans and strategies; and

''(C) assessments of current performance against Hollings Manufacturing Extension Partnership program plans.

''(4) FEDERAL ADVISORY COMMITTEE ACT APPLICABILITY.—

''(A) IN GENERAL.—In discharging its duties under this subsection, the MEP Advisory Board shall function solely in an advisory capacity, in accordance with the Federal Advisory Committee Act.

''(B) EXCEPTION.—Section 14 of the Federal Advisory Committee Act shall not apply to the MEP Advisory Board.

''(5) REPORT.—The MEP Advisory Board shall transmit an annual report to the Secretary for transmittal to Congress within 30 days after the submission to Congress of the President's annual budget request in each year. Such report shall address the status of the program established pursuant to this section and comment on the relevant sections of the programmatic planning document and updates thereto transmitted to Congress by the Director under subsections (c) and (d) of section 23.

''(f) COMPETITIVE GRANT PROGRAM.—

''(1) ESTABLISHMENT.—The Director shall establish, within the Hollings Manufacturing Extension Partnership, a program of competitive awards among participants described in paragraph (2) for the purposes described in paragraph (3).

''(2) PARTICIPANTS.—Participants receiving awards under this subsection shall be the Centers, or a consortium of such Centers.

''(3) PURPOSE.—The purpose of the program under this subsection is to add capabilities to the Hollings Manufacturing Extension Partnership, in-

cluding the development of projects to solve new or emerging manufacturing problems as determined by the Director, in consultation with the Director of the Hollings Manufacturing Extension Partnership program, the MEP Advisory Board, and small and medium-sized manufacturers. One or more themes for the competition may be identified, which may vary from year to year, depending on the needs of manufacturers and the success of previous competitions. Centers may be reimbursed for costs incurred under the program.

''(4) APPLICATIONS.—Applications for awards under this subsection shall be submitted in such manner, at such time, and containing such information as the Director shall require, in consultation with the MEP Advisory Board.

''(5) SELECTION.—Awards under this subsection shall be peer reviewed and competitively awarded. The Director shall endeavor to have broad geographic diversity among selected proposals. The Director shall select proposals to receive awards that will—

''(A) improve the competitiveness of industries in the region in which the Center or Centers are located;

''(B) create jobs or train newly hired employees; and

''(C) promote the transfer and commercialization of research and technology from institutions of higher education, national laboratories, and nonprofit research institutes.

''(6) PROGRAM CONTRIBUTION.—Recipients of awards under this subsection shall not be required to provide a matching contribution.

''(7) GLOBAL MARKETPLACE PROJECTS.—In making awards under this subsection, the Director, in consultation with the MEP Advisory Board and the Secretary, may take into consideration whether an application has significant potential for enhancing the competitiveness of small and medium-sized United States manufacturers in the global marketplace.

''(8) DURATION.—Awards under this subsection shall last no longer than 3 years.

''(g) EVALUATION OF OBSTACLES UNIQUE TO SMALL MANUFACTURERS.—The Director shall—

''(1) evaluate obstacles that are unique to small manufacturers that prevent such manufacturers from effectively competing in the global market;

''(2) implement a comprehensive plan to train the Centers to address such obstacles; and

''(3) facilitate improved communication between the Centers to assist such manufacturers in implementing appropriate, targeted solutions to such obstacles.

''(h) COMMUNITY COLLEGE DEFINED.—In this section, the term 'community college' means an institution of higher education (as defined under section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a))) at which the highest degree that is predominately awarded to students is an associate's degree.''.

SEC. 409. ELIMINATION OF OBSOLETE REPORTS.

(a) ENTERPRISE INTEGRATION STANDARDIZATION AND IMPLEMENTATION ACTIVITIES REPORT.—Section 3 of the Enterprise Integration Act of 2002 (15 U.S.C. 278g-5) is amended—

(1) by striking subsection (c); and

(2) by redesignating subsections (d) and (e) as subsections (c) and (d), respectively.

(b) TIP REPORTS.—Section 28 of the National Institute of Standards and Technology Act (15 U.S.C. 278n) is amended—

(1) by striking subsection (g); and

(2) in subsection (k), by striking paragraph (5).

SEC. 410. MODIFICATIONS TO GRANTS AND COOPERATIVE AGREEMENTS.

Section 8(a) of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3706(a)) is amended by striking ''The total amount of any such grant or cooperative agreement may not exceed 75 percent of the total cost of the program.''.

Subtitle B—Innovative Approaches to Technology Transfer

SEC. 421. INNOVATIVE APPROACHES TO TECHNOLOGY TRANSFER.

Section 9(jj) of the Small Business Act (15 U.S.C. 638(jj)) is amended to read as follows:

''(jj) INNOVATIVE APPROACHES TO TECHNOLOGY TRANSFER.—

''(1) GRANT PROGRAM.—

''(A) IN GENERAL.—Each Federal agency required by subsection (n) to establish an STTR program shall carry out a grant program to support innovative approaches to technology transfer at institutions of higher education (as defined in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)), nonprofit research institutions and Federal laboratories in order to accelerate the commercialization of federally funded research and technology

by small business concerns, including new businesses.

''(B) AWARDING OF GRANTS AND AWARDS.—

''(i) IN GENERAL.—Each Federal agency required by subparagraph (A) to participate in this program, shall award, through a competitive, merit-based process, grants, in the amounts listed in subparagraph (C) to institutions of higher education, technology transfer organizations that facilitate the commercialization of technologies developed by one or more such institutions of higher education, Federal laboratories, other public and private nonprofit entities, and consortia thereof, for initiatives that help identify high-quality, commercially viable federally funded research and technologies and to facilitate and accelerate their transfer into the marketplace.

''(ii) USE OF FUNDS.—Activities supported by grants under this subsection may include—

''(I) providing early-stage proof of concept funding for translational research;

''(II) identifying research and technologies at recipient institutions that have the potential for accelerated commercialization;

''(III) technology maturation funding to support activities such as prototype construction, experiment analysis, product comparison, and collecting performance data;

''(IV) technical validations, market research, clarifying intellectual property rights position and strategy, and investigating commercial and business opportunities; and

''(V) programs to provide advice, mentoring, entrepreneurial education, project management, and technology and business development expertise to innovators and recipients of technology transfer licenses to maximize commercialization potential.

''(iii) SELECTION PROCESS AND APPLICATIONS.—Qualifying institutions seeking a grant under this subsection shall submit an application to a Federal agency required by subparagraph (A) to participate in this program at such time, in such manner, and containing such information as the agency may require. The application shall include, at a minimum—

''(I) a description of innovative approaches to technology transfer, technology development, and commercial readiness that have the potential to increase or accelerate technology transfer outcomes and can be adopted by other qualifying institutions, or a demonstration of proven technology transfer and commercialization strategies, or a plan to implement proven technology transfer and commercialization strategies, that can achieve greater commercialization of federally funded research and technologies with program funding;

''(II) a description of how the qualifying institution will contribute to local and regional economic development efforts; and

''(III) a plan for sustainability beyond the duration of the funding award.

''(iv) PROGRAM OVERSIGHT BOARDS.—

''(I) IN GENERAL.—Successful proposals shall include a plan to assemble a Program Oversight Board, the members of which shall have technical, scientific, or business expertise and shall be drawn from industry, start-up companies, venture capital, technical enterprises, financial institutions, and business development organizations.

''(II) PROGRAM OVERSIGHT BOARDS RESPONSIBILITIES.—Program Oversight Boards shall—

''(aa) establish award programs for individual projects;

''(bb) provide rigorous evaluation of project applications;

''(cc) determine which projects should receive awards, in accordance with guidelines established under subparagraph (C)(ii);

''(dd) establish milestones and associated award amounts for projects that reach milestones;

''(ee) determine whether awarded projects are reaching milestones; and

''(ff) develop a process to reallocate outstanding award amounts from projects that are not reaching milestones to other projects with more potential.

''(C) GRANT AND AWARD AMOUNTS.—

''(i) GRANT AMOUNTS.—Each Federal agency required by subparagraph (A) to carry out a grant program may make grants to a qualifying institution for up to $1,000,000 per year for up to 3 years.

''(ii) AWARD AMOUNTS.—Each qualifying institution that receives a grant under subparagraph (B) shall provide awards for individual projects of not more than $150,000, to be provided in phased amounts, based on reaching the milestones established by the qualifying institution's Program Oversight Board.

''(D) AUTHORIZED EXPENDITURES FOR INNOVATIVE APPROACHES TO TECHNOLOGY TRANSFER GRANT PROGRAM.—

''(i) PERCENTAGE.—The percentage of the extramural budget each Federal agency required by subsection (n) to establish an STTR program shall expend on the Innovative Approaches to Technology Transfer Grant Program shall be—

''(I) 0.05 percent for each of fiscal years 2014 and 2015; and

''(II) 0.1 percent for each of fiscal years 2016 and 2017.

''(ii) TREATMENT OF EXPENDITURES.—Any portion of the extramural budget expended by a Federal agency on the Innovative Approaches to Technology

Transfer Grant Program shall apply towards the agency's expenditure requirements under subsection (n).

''(2) PROGRAM EVALUATION AND DATA COLLECTION AND DISSEMINATION.—

''(A) EVALUATION PLAN AND DATA COLLECTION.—Each Federal agency required by paragraph (1)(A) to establish an Innovative Approaches to Technology Transfer Grant Program shall develop a program evaluation plan and collect annually such information from grantees as is necessary to assess the Program. Program evaluation plans shall require the collection of data aimed at identifying outcomes resulting from the transfer of technology with assistance from the Innovative Approaches to Technology Transfer Grant Program, such as—

''(i) specific follow-on funding identified or obtained, including follow-on funding sources, such as Federal sources or private sources;

''(ii) number of projects which result in a license to a start-up company or an established company with sufficient resources for effective commercialization

within 5 years of receiving an award under paragraph (1);

''(iii) invention disclosures and patents;

''(iv) number of projects supported by qualifying institutions receiving a grant under paragraph (1) that secure Phase I or Phase II SBIR or STTR awards;

''(v) available information on revenue, sales or other measures of products that have been commercialized as a result of projects awarded under paragraph (1);

''(vi) number and location of jobs created resulting from projects awarded under paragraph (1); and

''(vii) other data as deemed appropriate by a Federal agency required by this subparagraph to develop a program evaluation plan.

''(B) EVALUATIVE REPORT TO CONGRESS.—The head of each Federal agency that participates in the Innovative Approaches to Technology Transfer Grant Program shall submit to the Committee on Science, Space, and Technology and the Committee on Small Busi-

ness of the House of Representatives and the Committee on Small Business and Entrepreneurship of the Senate an evaluative report regarding the activities of the program. The report shall include—

''(i) a detailed description of the implementation of the program;

''(ii) a detailed description of the grantee selection process;

''(iii) an accounting of the funds used in the program; and

''(iv) a summary of the data collected under subparagraph (A).

''(C) DATA DISSEMINATION.—For the purposes of program transparency and dissemination of best practices, the Administrator shall include on the public database under subsection (k)(1) information on the Innovative Approaches to Technology Transfer Grant Program, including—

''(i) the program evaluation plan required under subparagraph (A);

''(ii) a list of recipients of awards under paragraph (1); and

''(iii) information on the use of grants under paragraph (1) by recipient institutions.''.

TITLE V—NETWORKING AND INFORMATION TECHNOLOGY RESEARCH AND DEVELOPMENT

SEC. 501. SHORT TITLE.

This title may be cited as the ''Advancing America's Networking and Information Technology Research and Development Act of 2013''.

SEC. 502. PROGRAM PLANNING AND COORDINATION.

(a) PERIODIC REVIEWS.—Section 101 of the High-Performance Computing Act of 1991 (15 U.S.C. 5511) is amended by adding at the end the following new subsection:

''(d) PERIODIC REVIEWS.—The agencies identified in subsection (a)(3)(B) shall—

''(1) periodically assess the contents and funding levels of the Program Component Areas and restructure the Program when warranted, taking into consideration any relevant recommendations of the advisory committee established under subsection (b); and

''(2) ensure that the Program includes large-scale, long-term, interdisciplinary research and development activities, including activities described in section 104.''.

(b) DEVELOPMENT OF STRATEGIC PLAN.—Section 101 of such Act (15 U.S.C. 5511) is amended further by adding after subsection (d), as added by subsection (a) of this Act, the following new subsection:

''(e) STRATEGIC PLAN.—

''(1) IN GENERAL.—The agencies identified in subsection (a)(3)(B), working through the National Science and Technology Council and with the assistance of the National Coordination Office described under section 102, shall develop, within 12 months after the date of enactment of the Advancing America's Networking and Information Technology Research and Development Act of 2013, and update every 3 years thereafter, a 5-year strategic plan to guide the activities described under subsection (a)(1).

''(2) CONTENTS.—The strategic plan shall specify near-term and long-term objectives for the Program, the anticipated time frame for achieving the near-term objectives, the metrics to be used for

assessing progress toward the objectives, and how the Program will—

''(A) foster the transfer of research and development results into new technologies and applications for the benefit of society, including through cooperation and collaborations with networking and information technology research, development, and technology transition initiatives supported by the States;

''(B) encourage and support mechanisms for interdisciplinary research and development in networking and information technology, including through collaborations across agencies, across Program Component Areas, with industry, with Federal laboratories (as defined in section 4 of the Stevenson-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3703)), and with international organizations;

''(C) address long-term challenges of national importance for which solutions require large-scale, long-term, interdisciplinary research and development;

''(D) place emphasis on innovative and high-risk projects having the potential for sub-

stantial societal returns on the research investment;

''(E) strengthen all levels of networking and information technology education and training programs to ensure an adequate, well-trained workforce; and

''(F) attract more women and underrepresented minorities to pursue postsecondary degrees in networking and information technology.

''(3) NATIONAL RESEARCH INFRASTRUCTURE.—The strategic plan developed in accordance with paragraph (1) shall be accompanied by milestones and roadmaps for establishing and maintaining the national research infrastructure required to support the Program, including the roadmap required by subsection (a)(2)(E).

''(4) RECOMMENDATIONS.—The entities involved in developing the strategic plan under paragraph (1) shall take into consideration the recommendations—

''(A) of the advisory committee established under subsection (b); and

''(B) of the stakeholders whose input was solicited by the National Coordination Office, as required under section 102(b)(3).

''(5) REPORT TO CONGRESS.—The Director of the National Coordination Office shall transmit the strategic plan required under paragraph (1) to the advisory committee, the Committee on Commerce, Science, and Transportation of the Senate, and the Committee on Science, Space, and Technology of the House of Representatives.''.

(c) ADDITIONAL RESPONSIBILITIES OF DIRECTOR.—Section 101(a)(2) of such Act (15 U.S.C. 5511(a)(2)) is amended—

(1) in subparagraph (A) by inserting ''education,'' before ''and other activities'';

(2) by redesignating subparagraphs (E) and (F) as subparagraphs (F) and (G), respectively; and

(3) by inserting after subparagraph (D) the following new subparagraph:

''(E) encourage and monitor the efforts of the agencies participating in the Program to allocate the level of resources and management attention necessary to ensure that the strategic plan under subsection (e) is developed and executed effectively and that the objectives of the Program are met;''.

(d) ADVISORY COMMITTEE.—Section 101(b)(1) of such Act (15 U.S.C. 5511(b)(1)) is amended—

(1) after the first sentence, by inserting the following: ''The co-chairs of the advisory committee shall meet the qualifications of committee membership and may be members of the President's Council of Advisors on Science and Technology.''; and

(2) in subparagraph (D), by striking ''high-performance'' and inserting ''high-end''.

(e) REPORT.—Section 101(a)(3) of such Act (15 U.S.C. 5511(a)(3)) is amended—

(1) in subparagraph (B)—

(A) by redesignating clauses (vii) through (xi) as clauses (viii) through (xii), respectively; and

(B) by inserting after clause (vi) the following:

''(vii) the Department of Homeland Security;'';

(2) in subparagraph (C)—

(A) by striking ''is submitted,'' and inserting ''is submitted, the levels for the previous fiscal year,''; and

(B) by striking ''each Program Component Area;'' and inserting ''each Program Compo-

nent Area and research area supported in accordance with section 104;'';

(3) in subparagraph (D)—

(A) by striking ''each Program Component Area,'' and inserting ''each Program Component Area and research area supported in accordance with section 104,'';

(B) by striking ''is submitted,'' and inserting ''is submitted, the levels for the previous fiscal year,''; and

(C) by striking ''and'' after the semicolon;

(4) by redesignating subparagraph (E) as subparagraph (G); and

(5) by inserting after subparagraph (D) the following new subparagraphs:

''(E) include a description of how the objectives for each Program Component Area, and the objectives for activities that involve multiple Program Component Areas, relate to the objectives of the Program identified in the strategic plan required under subsection (e);

''(F) include—

''(i) a description of the funding required by the National Coordination Office to perform

the functions specified under section 102(b) for the next fiscal year by category of activity;

''(ii) a description of the funding required by such Office to perform the functions specified under section 102(b) for the current fiscal year by category of activity; and

''(iii) the amount of funding provided for such Office for the current fiscal year by each agency participating in the Program; and''.

(f) DEFINITION.—Section 4 of such Act (15 U.S.C. 5503) is amended—

(1) by redesignating paragraphs (1) through (7) as paragraphs (2) through (8), respectively;

(2) by inserting before paragraph (2), as so redesignated, the following new paragraph:

''(1) 'cyber-physical systems' means physical or engineered systems whose networking and information technology functions and physical elements are deeply integrated and are actively connected to the physical world through sensors, actuators, or other means to perform monitoring and control functions;'';

(3) in paragraph (3), as so redesignated, by striking ''high-performance computing'' and inserting ''networking and information technology'';

(4) in paragraph (4), as so redesignated—

(A) by striking ''high-performance computing'' and inserting ''networking and information technology''; and

(B) by striking ''supercomputer'' and inserting ''high-end computing'';

(5) in paragraph (6), as so redesignated, by striking ''network referred to as'' and all that follows through the semicolon and inserting ''network, including advanced computer networks of Federal agencies and departments;''; and

(6) in paragraph (7), as so redesignated, by striking ''National High-Performance Computing Program'' and inserting ''networking and information technology research and development program''.

SEC. 503. LARGE-SCALE RESEARCH IN AREAS OF NATIONAL IMPORTANCE.

Title I of such Act (15 U.S.C. 5511) is amended by adding at the end the following new section:

''SEC. 104. LARGE-SCALE RESEARCH IN AREAS OF NATIONAL IMPORTANCE.

''(a) IN GENERAL.—The Program shall encourage agencies identified in section 101(a)(3)(B) to support large-scale, long-term, interdisciplinary research and development activities in networking and information tech-

nology directed toward application areas that have the potential for significant contributions to national economic competitiveness and for other significant societal benefits. Such activities, ranging from basic research to the demonstration of technical solutions, shall be designed to advance the development of research discoveries. The advisory committee established under section 101(b) shall make recommendations to the Program for candidate research and development areas for support under this section.

''(b) CHARACTERISTICS.—

''(1) IN GENERAL.—Research and development activities under this section shall—

''(A) include projects selected on the basis of applications for support through a competitive, merit-based process;

''(B) involve collaborations among researchers in institutions of higher education and industry, and may involve nonprofit research institutions and Federal laboratories, as appropriate;

''(C) when possible, leverage Federal investments through collaboration with related State initiatives; and

''(D) include a plan for fostering the transfer of research discoveries and the results of technology demonstration activities, including from institutions of higher education and Federal laboratories, to industry for commercial development.

''(2) COST-SHARING.—In selecting applications for support, the agencies shall give special consideration to projects that include cost sharing from non-Federal sources.

''(3) AGENCY COLLABORATION.—If 2 or more agencies identified in section 101(a)(3)(B), or other appropriate agencies, are working on large-scale research and development activities in the same area of national importance, then such agencies shall strive to collaborate through joint solicitation and selection of applications for support and subsequent funding of projects.

''(4) INTERDISCIPLINARY RESEARCH CENTERS.—Research and development activities under this section may be supported through interdisciplinary research centers that are organized to investigate basic research questions and carry out technology demonstration activities in areas described in subsection (a). Research may be carried out through

existing interdisciplinary centers, including those authorized under section 7024(b)(2) of the America COMPETES Act (Public Law 110–69; 42 U.S.C. 1862o–10).''.

SEC. 504. CYBER-PHYSICAL SYSTEMS.

(a) ADDITIONAL PROGRAM CHARACTERISTICS.—Section 101(a)(1) of such Act (15 U.S.C. 5511(a)(1)) is amended—

(1) in subparagraph (H), by striking ''and'' after the semicolon;

(2) in subparagraph (I)—

(A) by striking ''improving the security'' and inserting ''improving the security, reliability, and resilience''; and

(B) by striking the period at the end and inserting a semicolon; and

(3) by adding at the end the following new subparagraphs:

''(J) provide for increased understanding of the scientific principles of cyber-physical systems and improve the methods available for the design, development, and operation of cyber-physical systems that are characterized by high reliability, safety, and security; and

''(K) provide for research and development on human-computer interactions, visualization, and big data.''.

(b) WORKSHOP.—Title I of such Act (15 U.S.C. 5511) is amended further by adding after section 104, as added by section 503 of this Act, the following new section:

''SEC. 105. UNIVERSITY/INDUSTRY WORKSHOP.

''(a) ESTABLISHMENT.—Not later than 1 year after the date of enactment of the Advancing America's Networking and Information Technology Research and Development Act of 2013, the Director of the National Coordination Office shall convene a workshop, with participants from institutions of higher education, Federal laboratories, and industry, to explore mechanisms for carrying out collaborative research and development activities for cyber-physical systems, including the related technologies required to enable these systems, and to develop grand challenges in cyber-physical systems research and development.

''(b) FUNCTIONS.—The workshop participants shall—

''(1) develop options for models for research and development partnerships among institutions of higher education, Federal laboratories, and industry,

including mechanisms for the support of research and development carried out under these partnerships;

''(2) develop options for grand challenges in cyber-physical systems research and development that would be addressed through such partnerships;

''(3) propose guidelines for assigning intellectual property rights and for the transfer of research results to the private sector; and

''(4) make recommendations for how Federal agencies participating in the Program can help support research and development partnerships in cyber-physical systems, including through existing or new grant programs.

''(c) PARTICIPANTS.—The Director of the National Coordination Office shall ensure that participants in the workshop are individuals with knowledge and expertise in cyber-physical systems and that participants represent a broad mix of relevant stakeholders, including academic and industry researchers, cyber-physical systems and technologies manufacturers, cyber-physical systems and technologies users, and, as appropriate, Federal Government regulators.

''(d) REPORT.—Not later than 18 months after the date of enactment of the Advancing America's Networking

and Information Technology Research and Development Act of 2013, the Director of the National Coordination Office shall transmit 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 describing the findings and recommendations resulting from the workshop required under this section.''.

SEC. 505. CLOUD COMPUTING SERVICES FOR RESEARCH.

Title I of such Act (15 U.S.C. 5511) is amended further by adding after section 105, as added by section 504(b) of this Act, the following new section:

''SEC. 106. CLOUD COMPUTING SERVICES FOR RESEARCH.

''(a) INTERAGENCY WORKING GROUP.—Not later than 180 days after the date of enactment of the Advancing America's Networking and Information Technology Research and Development Act of 2013, the Director of the National Coordination Office, working through the National Science and Technology Council, shall convene an interagency working group to examine—

''(1) the research and development needed—

''(A) to enhance the effectiveness and efficiency of cloud computing environments;

''(B) to increase the trustworthiness of cloud applications and infrastructure; and

''(C) to enhance the foundations of cloud architectures, programming models, and interoperability; and

''(2) how Federal science agencies can facilitate the use of cloud computing for federally funded science and engineering research, including—

''(A) making recommendations on changes in funding mechanisms, budget models, and policies needed to remove barriers to the adoption of cloud computing services for research and for data preservation and sharing; and

''(B) providing guidance to organizations and researchers on opportunities and guidelines for using cloud computing services for federally supported research and related activities.

''(b) CONSULTATION.—In carrying out the tasks in paragraphs (1) and (2) of subsection (a), the working group shall consult with academia, industry, Federal laboratories, and other relevant organizations and institutions, as appropriate.

''(c) REPORT.—Not later than 1 year after the date of enactment of the Advancing America's Networking and Information Technology Research and Development Act of 2013, the Director of the National Coordination Office shall transmit to the Committee on Science, Space, and

Technology of the House of Representatives and the Committee on Commerce, Science, and Transportation of the Senate a report describing the findings and any recommendations of the working group.

''(d) TERMINATION.—The interagency working group shall terminate upon transmittal of the report required under subsection (c).''.

SEC. 506. NATIONAL COORDINATION OFFICE.

Section 102 of such Act (15 U.S.C. 5512) is amended to read as follows:

''SEC. 102. NATIONAL COORDINATION OFFICE.

''(a) OFFICE.—The Director shall continue a National Coordination Office with a Director and full-time staff.

''(b) FUNCTIONS.—The National Coordination Office shall—

''(1) provide technical and administrative support to—

''(A) the agencies participating in planning and implementing the Program, including such support as needed in the development of the strategic plan under section 101(e); and

''(B) the advisory committee established under section 101(b);

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

''(3) solicit input and recommendations from a wide range of stakeholders during the development of each strategic plan required under section 101(e) through the convening of at least 1 workshop with invitees from academia, industry, Federal laboratories, and other relevant organizations and institutions;

''(4) conduct public outreach, including the dissemination of findings and recommendations of the advisory committee, as appropriate; and

''(5) 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.

''(c) SOURCE OF FUNDING.—

''(1) IN GENERAL.—The operation of the National Coordination Office shall be supported by

funds from each agency participating in the Program.

''(2) SPECIFICATIONS.—The portion of the total budget of such Office that is provided by each agency for each fiscal year shall be in the same proportion as each such agency's share of the total budget for the Program for the previous fiscal year, as specified in the report required under section 101(a)(3).''.

SEC. 507. IMPROVING NETWORKING AND INFORMATION TECHNOLOGY EDUCATION.

Section 201(a) of such Act (15 U.S.C. 5521(a)) is amended—

(1) by redesignating paragraphs (2) through (4) as paragraphs (3) through (5), respectively; and

(2) by inserting after paragraph (1) the following new paragraph:

''(2) the National Science Foundation shall use its existing programs, in collaboration with other agencies, as appropriate, to improve the teaching and learning of networking and information technology at all levels of education and to increase participation in networking and information technology fields, including by women and underrepresented minorities;''.

SEC. 508. CONFORMING AND TECHNICAL AMENDMENTS.

(a) SECTION 3.—Section 3 of such Act (15 U.S.C. 5502) is amended—

(1) in the matter preceding paragraph (1), by striking ''high-performance computing'' and inserting ''networking and information technology'';

(2) in paragraph (1)—

(A) in the matter preceding subparagraph (A), by striking ''high-performance computing'' and inserting ''networking and information technology'';

(B) in subparagraphs (A), (F), and (G), by striking ''high-performance computing'' each place it appears and inserting ''networking and information technology''; and

(C) in subparagraph (H), by striking ''high-performance'' and inserting ''high-end''; and

(3) in paragraph (2)—

(A) by striking ''high-performance computing and'' and inserting ''networking and information technology and''; and

(B) by striking ''high-performance computing network'' and inserting ''networking and information technology''.

(b) TITLE I.—The heading of title I of such Act (15 U.S.C. 5511) is amended by striking ''**HIGH-PERFORMANCE COMPUTING**'' and inserting ''**NETWORKING AND INFORMATION TECHNOLOGY**''.

(c) SECTION 101.—Section 101 of such Act (15 U.S.C. 5511) is amended—

(1) in the section heading, by striking ''**HIGH-PERFORMANCE COMPUTING**'' and inserting ''**NETWORKING AND INFORMATION TECHNOLOGY RESEARCH AND DEVELOPMENT**'';

(2) in subsection (a)—

(A) in the subsection heading, by striking ''NATIONAL HIGH-PERFORMANCE COMPUTING'' and inserting ''NETWORKING AND INFORMATION TECHNOLOGY RESEARCH AND DEVELOPMENT'';

(B) in paragraph (1) of such subsection—

(i) in the matter preceding subparagraph (A), by striking ''National High-Performance Computing Program'' and inserting ''networking and information technology research and development program'';

(ii) in subparagraph (A), by striking ''high-performance computing, including networking'' and inserting ''networking and information technology'';

(iii) in subparagraphs (B) and (G), by striking ''high-performance'' each place it appears and inserting ''high-end''; and

(iv) in subparagraph (C), by striking ''high-performance computing and networking'' and inserting ''high-end computing, distributed, and networking''; and

(C) in paragraph (2) of such subsection—

(i) in subparagraphs (A) and (C)—

(I) by striking ''high-performance computing'' each place it appears and inserting ''networking and information technology''; and

(II) by striking ''development, networking,'' each place it appears and inserting ''development,''; and

(ii) in subparagraphs (F) and (G), as redesignated by section 2(c)(1) of this Act, by striking ''high-performance'' each place it appears and inserting ''high-end'';

(3) in subsection (b)—

(A) in paragraph (1), in the matter preceding subparagraph (A), by striking ''high-performance computing'' both places it appears and inserting ''networking and information technology''; and

(B) in paragraph (2), in the second sentence, by striking ''2'' and inserting ''3''; and

(4) in subsection (c)(1)(A), by striking ''high-performance computing'' and inserting ''networking and information technology''.

(d) SECTION 201.—Section 201(a)(1) of such Act (15 U.S.C. 5521(a)(1)) is amended by striking ''high-performance computing'' and all that follows through ''networking;'' and inserting ''networking and information research and development;''.

(e) SECTION 202.—Section 202(a) of such Act (15 U.S.C. 5522(a)) is amended by striking ''high-performance computing'' and inserting ''networking and information technology''.

(f) SECTION 203.—Section 203(a) of such Act (15 U.S.C. 5523(a)(1)) is amended—

(1) in paragraph (1), by striking ''high-performance computing and networking'' and inserting ''networking and information technology''; and

(2) in paragraph (2)(A), by striking ''high-performance'' and inserting ''high-end''.

(g) SECTION 204.—Section 204 of such Act (15 U.S.C. 5524) is amended—

(1) in subsection (a)(1)—

(A) in subparagraph (A), by striking ''high-performance computing systems and networks'' and inserting ''networking and information technology systems and capabilities'';

(B) in subparagraph (B), by striking ''interoperability of high-performance computing systems in networks and for common user interfaces to systems'' and inserting ''interoperability and usability of networking and information technology systems''; and

(C) in subparagraph (C), by striking ''high-performance computing'' and inserting ''networking and information technology''; and

(2) in subsection (b)—

(A) in the heading, by striking ''HIGH-PERFORMANCE COMPUTING AND NETWORK'' and inserting ''NETWORKING AND INFORMATION TECHNOLOGY''; and

(B) by striking ''sensitive''.

(h) SECTION 205.—Section 205(a) of such Act (15 U.S.C. 5525(a)) is amended by striking ''computational'' and inserting ''networking and information technology''.

(i) SECTION 206.—Section 206(a) of such Act (15 U.S.C. 5526(a)) is amended by striking ''computational research'' and inserting ''networking and information technology research''.

(j) SECTION 207.—Section 207(b) of such Act (15 U.S.C. 5527(b)) is amended by striking ''high-performance computing'' and inserting ''networking and information technology''.

(k) SECTION 208.—Section 208 of such Act (15 U.S.C. 5528) is amended—

(1) in the section heading, by striking ''**HIGH-PERFORMANCE COMPUTING**'' and inserting ''**NETWORKING AND INFORMATION TECHNOLOGY**''; and

(2) in subsection (a)—

(A) in paragraph (1), by striking ''High-performance computing and associated'' and inserting ''Networking and information'';

(B) in paragraph (2), by striking ''high-performance computing'' and inserting ''networking and information technologies'';

(C) in paragraph (3), by striking ''high-performance'' and inserting ''high-end'';

(D) in paragraph (4), by striking ''high-performance computers and associated'' and inserting ''networking and information''; and

(E) in paragraph (5), by striking ''high-performance computing and associated'' and inserting ''networking and information''.