I

109TH CONGRESS
2D SESSION

H. R. 4654

To provide a national innovation initiative.

IN THE HOUSE OF REPRESENTATIVES

JANUARY 3, 2006

Mr. SCHIFF introduced the following bill; which was referred to the Committee on Science, and in addition to the Committees on Energy and Commerce, Ways and Means, Armed Services, Judiciary, Transportation and Infrastructure, and Financial Services, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

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A BILL

To provide a national innovation initiative.

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 ''National Innovation Act of 2006''.

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

SEC. 2. FINDINGS AND PURPOSES.

(a) FINDINGS.—Congress makes the following findings:

(1) The United States is the most innovative Nation in the world. Since our Nation's founding, exploration, opportunity, and discovery have remained essential to fulfilling our Nation's strategic economic and political objectives.

(2) In the 21st century, a well-educated and trained workforce, investment in research and development, and a regulatory and physical infrastructure that supports innovators are essential to ensuring that the United States continues to lead the global economy on innovation.

(3) America's future economic and national security will largely depend on the creativity and commitment of our Nation to unleash its innovation capacity.

(4) The world has become dramatically more interconnected and competitive. Cutting edge research, world-class education, and highly skilled labor pools are no longer within the sole purview of the United States.

(5) The United States investment in basic research is currently insufficient to meet the challenges we face.

(6) Federal support for basic research in the physical sciences has consistently lagged behind that given to the life sciences in recent years.

(7) Traditional measurements of innovation capacity focused solely on inputs, such as research and development spending, number of patents and value of physical infrastructure. The traditional measurements are necessary but are not sufficient metrics for innovation in the 21st century's knowledge economy.

(8) Current Federal budget constraints require prioritization of spending and new programs must be funded through existing funds or through identifiable funding offsets whenever possible.

(9) A national, private sector-led, and government supported plan is required if the United States is to adequately respond to the challenges of increased global competition and take advantage of the opportunities this changing global dynamic presents.

(b) PURPOSES.—The purposes of this Act are to—

(1) make innovation a fundamental economic priority for the United States;

(2) create the most fertile policy environment for innovation to occur;

(3) develop greater numbers of American scientists, mathematicians, and engineers;

(4) enhance the quality of math and science education at all levels;

(5) increase the Federal Government's investment in basic research, especially in the physical sciences;

(6) direct greater funding toward multidisciplinary and frontier research where tomorrow's innovations are most likely to occur;

(7) secure a strong advanced manufacturing base in the United States to ensure that as innovations occur, America is poised to reap the benefits via the creation of new jobs and investment; and

(8) examine both the incentives for, and barriers to, innovation to better understand what additional policy changes are warranted.

SEC. 3. DEFINITIONS.

In this Act:

(1) CONGRESSIONAL DEFENSE COMMITTEES.—The term ''congressional defense committees'' has the meaning given that term in section 101(a)(16) of title 10, United States Code.

(2) DEFENSE MANUFACTURING BASE.—The term ''defense manufacturing base'' includes any supplier of the Department of Defense, including a supplier of raw materials.

(3) EXECUTIVE AGENCY.—The term ''Executive agency'' has the meaning given that term in section 105 of title 5, United States Code.

(4) EXTENDED PRODUCTION ENTERPRISE.—The term ''extended production enterprise'' means a system in which key entities in the manufacturing chain, including entities engaged in product design and development, manufacturing, sourcing, distribution, and user entities, are linked together through information technology and other means to promote efficiency and productivity.

(5) INNOVATION.—The term ''innovation'' means the intersection of invention and insight leading to the creation of social and economic value, including through efforts meeting fundamental technology challenges and involving multidisciplinary work and a high degree of novelty.

(6) MANUFACTURING EXTENSION PARTNERSHIP PROGRAM.—The term ''Manufacturing Extension Partnership Program'' means the Manufacturing

Extension Partnership Program of the Department of Commerce.

(7) MANUFACTURING TECHNOLOGY PROGRAM.—The term ''Manufacturing Technology Program'' means the Manufacturing Technology Program under section 2521 of title 10, United States Code.

(8) PROFESSIONAL SCIENCE MASTERS PROGRAM.—The term ''professional science masters program'' means a graduate degree program in science and mathematics that extends science training to strategic planning and business management and focuses on multidisciplinary specialties such as business and information technology (IT), biology and IT (bioinformatics), and computational chemistry.

(9) REGIONAL INNOVATION HOT SPOTS DEFINED.—The term ''regional innovation hot spots'' means regions that are defined by a high degree of innovation and the availability of talent, investment, and infrastructure necessary to create and sustain such innovation.

(10) SERVICE SCIENCE.—The term ''service science'' means curriculums, research programs, and training regimens, including service sciences, management, and engineering (SSME) programs, that

exist or that are being developed to teach individuals to apply technology, organizational process management, and industry-specific knowledge to solve complex problems.

(11) SMALL BUSINESS INNOVATION RESEARCH PROGRAM.—The term ''Small Business Innovation Research Program'' has the meaning given that term in section 2500(11) of title 10, United States Code.

(12) SMALL BUSINESS TECHNOLOGY TRANSFER PROGRAM.—The term ''Small Business Technology Transfer Program'' has the meaning given that term in section 2500(12) of title 10, United States Code.

(13) SSME.—The term ''SSME'' means the discipline known as service sciences, management, and engineering that—

(A) applies scientific, engineering and management disciplines to tasks that one organization performs beneficially for others, generally as part of the services sector of the economy; and

(B) integrates computer science, operations research, industrial engineering, business strategy, management sciences, and social and legal sciences, in order to encourage innovation in

how organizations create value for customers and shareholders that could not be achieved through such disciplines working in isolation.

TITLE I—INNOVATION PROMOTION

SEC. 101. PRESIDENT'S COUNCIL ON INNOVATION.

(a) IN GENERAL.—The President shall establish a President's Council on Innovation (in this section referred to as the ''Council'').

(b) DUTIES.—The Council's duties shall include—

(1) monitoring implementation of legislative proposals and initiatives for promoting innovation, including policies related to research funding, taxation, immigration, trade, and education that are proposed in this and other Acts;

(2) in consultation with the Director of the Office of Management and Budget, developing a process for using metrics to assess the impact of existing and proposed policies and rules that affect innovation capabilities in the United States;

(3) identifying opportunities and making recommendations for the heads of executive agencies to improve innovation, monitoring, and reporting on the implementation of such recommendations;

(4) developing metrics for measuring the progress of the Federal Government with respect to improving conditions for innovation, including through talent development, investment, and infrastructure improvements; and

(5) submitting an annual report to the President and Congress on such progress.

(c) MEMBERSHIP AND COORDINATION.—

(1) MEMBERSHIP.—The Council shall be composed of the Secretary or head of each of the following:

(A) The Department of Commerce.

(B) The Department of Defense.

(C) The Department of Education.

(D) The Department of Energy.

(E) The Department of Health and Human Services.

(F) The Department of Homeland Security.

(G) The Department of Labor.

(H) The Department of the Treasury.

(I) The National Aeronautics and Space Administration.

(J) The Securities and Exchange Commission.

(K) The National Science Foundation.

(L) The Office of the United States Trade Representative.

(M) The Office of Management and Budget.

(N) The Office of Science and Technology Policy.

(2) CHAIRPERSON.—The Secretary of Commerce shall serve as chairperson of the Council.

(3) COORDINATION.—The chairperson of the Council shall ensure appropriate coordination between the Council and the National Economic Council and the National Security Council.

(d) DEVELOPMENT OF INNOVATION AGENDA.—

(1) IN GENERAL.—The Council shall develop a comprehensive agenda for strengthening the innovation capabilities of the Federal Government and State governments, academia, and the private sector in the United States.

(2) CONSULTATION.—The comprehensive agenda required by paragraph (1) shall be developed in consultation with appropriate representatives of the private sector, scientific organizations, and academic organizations.

SEC. 102. INNOVATION ACCELERATION GRANTS.

(a) GRANT PROGRAM.—The President shall establish a grant program, to be known as the ''Innovation Acceleration Grants Program'', to support and promote innovation in the United States. Priority in the awarding of grants shall be given to projects that meet fundamental technology challenges and that involve multidisciplinary work and a high degree of novelty.

(b) AWARDING OF GRANTS THROUGH DEPARTMENTS AND AGENCIES.—

(1) FUNDING GOALS.—The President shall ensure that it is the goal of each Executive agency that finances research in science, mathematics, engineering, and technology to allocate at least 3 percent of the agency's total annual research and development budget to funding grants under the Innovation Acceleration Grants Program.

(2) ADMINISTRATION.—

(A) IN GENERAL.—Each head of an Executive agency awarding grants under paragraph (1) shall submit a plan for implementing the grant program within such Executive agency to the Director of the Office of Science and Technology Policy and the Director of the Office of Management and Budget. The implementation plan shall be submitted not later than 90 days

after the date of enactment of this Act. The implementation plan may incorporate existing initiatives of the Executive agencies that promote research in innovation as described in subsection (a).

(B) REQUIRED METRICS.—The head of each Executive agency submitting an implementation plan pursuant to this section shall include metrics upon which grant funding decisions will be made and metrics for assessing the success of the grants awarded.

(C) GRANT DURATION AND RENEWALS.—

(i) IN GENERAL.—Any grants issued by an Executive agency under this section shall be for a period not to exceed 3 years.

(ii) EVALUATION.—Not later than 90 days prior to the expiration of a grant issued under this section, the Executive agency that approved the grant shall complete an evaluation of the effectiveness of the grant based on the metrics established pursuant to subparagraph (B). In its evaluation, the Executive agency shall consider the extent to which the program funded by

the grant met the goals of quality improvement and job creation.

(iii) PUBLICATION OF REVIEW.—The Executive agency shall publish and make available to the public the review of each grant approved pursuant to this section.

(iv) FAILURE TO MEET METRICS.—Any grant that the Executive agency awarding the grant determines has failed to satisfy any of the metrics developed pursuant to subparagraph (B), shall not be eligible for a renewal.

(v) RENEWAL.—A grant issued under this section that satisfies all of the metrics developed pursuant to subparagraph (B), may be renewed once for a period not to exceed 3 years. Additional renewals may be considered only if the head of the Executive agency makes a specific finding that the program being funded involves a significant technology advance that requires a longer timeframe to complete critical research, and the research satisfies all the metrics developed pursuant to subparagraph (B).

SEC. 103. A NATIONAL COMMITMENT TO BASIC RESEARCH.

(a) PLAN FOR INCREASED RESEARCH.—Not later than 180 days after the date of the enactment of this Act, the Director of the National Science Foundation shall submit to Congress a comprehensive, multiyear plan that describes how the funds authorized in subsection (b) shall be used. Such plan shall be developed with a focus on utilizing basic research in physical science and engineering to optimize the United States economy as a global competitor and leader in productive innovation.

(b) INCREASED FUNDING FOR NATIONAL SCIENCE FOUNDATION.—There are authorized to be appropriated to the National Science Foundation for the purpose of doubling research funding the following amounts:

(1) $6,440,000,000 for fiscal year 2007.

(2) $7,280,000,000 for fiscal year 2008.

(3) $8,120,000,000 for fiscal year 2009.

(4) $8,960,000,000 for fiscal year 2010.

(5) $9,800,000,000 for fiscal year 2011.

(c) RECOMMENDATIONS FOR RESEARCH AND DEVELOPMENT FUNDING.—Not later than 1 year after the date of the enactment of this Act, the Director of the Office of Science and Technology Policy shall evaluate and, as appropriate, submit to Congress recommendations for an increase in funding for research and development in physical sciences and engineering in consultation with agencies

and departments of the United States with significant research and development budgets.

SEC. 104. REGIONAL ECONOMIC DEVELOPMENT.

(a) DEVELOPMENT OF FUNDING STRATEGY.—

(1) IN GENERAL.—The Assistant Secretary for Economic Development of the Department of Commerce shall review Federal programs that support local economic development and prepare and implement a strategy to focus funding on initiatives that improve the ability of communities to participate successfully in the modern economy through innovation. In preparing the strategy, priority should be given to projects that—

(A) emphasize private sector cooperation with State and local governments and nonprofit organizations focused on regional economic development as the means of achieving specific objectives related to the support and promotion of innovation; and

(B) are the most successful in meeting the metrics established under subsection (b).

(2) COORDINATION.—The Assistant Secretary shall coordinate the development and implementation of the strategy with the activities carried out by the

Under Secretary for Technology under subsection (d).

(b) EVALUATION OF PROGRAMS.—The Assistant Secretary for Economic Development of the Department of Commerce shall develop metrics to measure the success of Federal programs in supporting and promoting innovation at the local community level while minimizing bureaucracy and overhead expenses.

(c) PROMOTION OF ECONOMIC DEVELOPMENT OPPORTUNITIES.—The Assistant Secretary for Economic Development of the Department of Commerce should work with organizations focused on economic development to highlight opportunities for such organizations to serve local communities through grants focused on economic development and investment in companies pursuing innovation.

(d) REGIONAL INNOVATION HOT SPOTS.—

(1) PROMOTION OF REGIONAL INNOVATION HOT SPOTS.—The Under Secretary for Technology of the Department of Commerce shall coordinate activities focused on promoting innovation through the development of regional innovation hot spots.

(2) GUIDE TO DEVELOPING SUCCESSFUL REGIONAL INNOVATION HOT SPOTS.—

(A) IN GENERAL.—Not later than 1 year after the date of enactment of this Act, the Secretary of Commerce, in consultation with representatives of regional innovation hot spots, shall publish a report, to be titled the ''Guide to Developing Successful Regional Innovation Hot Spots'', that examines successful regional innovation hot spots and includes recommendations for establishing and fostering regional innovation hot spots.

(B) CONTENT.—The report required under subparagraph (A) shall—

(i) include information on the evaluation of human capital;

(ii) include information on the role of sponsoring institutions, such as universities, nonprofit organizations, and laboratories, in establishing and fostering regional innovation hot spots;

(iii) include information on the role of State and local government leaders, leaders in the research and business communities, and community organizations in establishing and fostering regional innovation hot spots;

(iv) discuss the importance of collaboration by public and private sector leaders;

(v) identify sources of funding for these activities within Federal, State, and local governments and the private sector; and

(vi) include recommendations for developing strategic plans to stimulate innovation, including recommendations relating to knowledge transfer and commercialization, the support of regional entrepreneurship and increased innovation within existing regional firms, and the linking of primary institutions engaged in the innovation process.

(3) REGIONAL INNOVATION HOT SPOT METRICS.—

(A) DEVELOPMENT OF METRICS.—In conjunction with publishing the report required under paragraph (2), the Secretary of Commerce shall develop the following sets of metrics:

(i) Metrics to be considered for identifying potential regional innovation hot

spots (in this subsection referred to as ''identifying metrics'').

(ii) Metrics to be considered for evaluating the impact and effectiveness of established regional innovation hot spots (in this subsection referred to as ''evaluation metrics'').

(B) USE OF METRICS.—The Under Secretary of Commerce for Technology shall use the identifying metrics to conduct biannual assessments of potential regional clusters and shall use the evaluation metrics to assess the impact and effectiveness of established regional innovation hot spots in improving the regional economy and regional job market. The Under Secretary shall also assess the cost effectiveness of operating within each regional hot spot. The Under Secretary shall report the biannual assessments to Congress.

SEC. 105. DEVELOPMENT OF ADVANCED MANUFACTURING SYSTEMS.

(a) RESEARCH AND DEVELOPMENT.—The Director of the National Institute of Standards and Technology shall support research and development in collaboration with entities and organizations from the industrial sector

to supplement and support work in the private sector on advanced manufacturing systems designed to increase productivity and efficiency and to create competitive advantages for United States businesses. These research and development activities should focus on the following activities:

(1) Supporting industry efforts to develop innovative, state-of-the-art manufacturing processes, advanced technologies through interoperable standards, and related concepts, including—

(A) advanced distributed and desktop manufacturing linked to and made compatible with the extended production enterprise system described in paragraph (2);

(B) non-contact quality inspection processes linked to and made compatible with the extended production enterprise system;

(C) small lot manufacturing processes that are—

(i) as cost-effective as mass production processes; and

(ii) linked to and compatible with the extended production enterprise system; and

(D) the use of state-of-the-art materials and processes at the nanotechnological level.

(2) Supporting industry efforts to develop an extended production enterprise system that integrates key entities, including entities engaged in product design and development, manufacturing, sourcing, distribution, and user entities, including through the development of—

(A) interoperable software and standards designed to maximize the compatibility of the design, modeling, and manufacturing stages of the manufacturing process; and

(B) supply chain software.

(b) COORDINATION OF ACTIVITIES.—The Director of the National Institute of Standards and Technology shall coordinate activities under subsection (a) with activities under—

(1) the Small Business Innovation Research Program;

(2) the Small Business Technology Transfer Program; and

(3) the Manufacturing Technology Program of the Department of Defense.

(c) TESTING.—The Director of the National Institute of Standards and Technology shall support the work of entities and organizations from the industrial sector in developing prototypes and testing areas for testing and refin-

ing, in actual production conditions, the processes, technologies, and extended production enterprise system described in subsection (a)(2) in order to maximize productivity gains and cost efficiencies.

(d) DEVELOPMENT OF STANDARDS.—The Director of the National Institute of Standards and Technology, in coordination with entities and organizations from the industrial sector and the Manufacturing Technology Program, shall support standards to be used as manufacturing performance criteria to accelerate the adoption of improvements and innovative processes and protocols developed under subsection (a).

(e) PILOT TEST BEDS OF EXCELLENCE.—

(1) ESTABLISHMENT.—The Director of the National Institute of Standards and Technology shall, in collaboration with entities and organizations from the industrial sector, support not more than 3 pilot test beds of excellence in manufacturing fields important to advanced technologies developed under subsection (a), such as nanotechnology, to be used by the public and private sector. The test beds of excellence shall focus on production development, particularly the invention, prototyping, and engineering development stages of the manufacturing process.

(2) COMPETITION.—The Secretary of Commerce shall conduct a competition to select the pilot test beds of excellence based on criteria and metrics established by the Secretary prior to the competition.

(3) FUNDING.—The Secretary of Commerce may provide the pilot test beds of excellence selected pursuant to the competition set forth in paragraph (2) with an appropriate level of funding if and only if the following conditions are satisfied:

(A) No more than ⅓ of the funding of each test bed of excellence is provided by the Federal Government.

(B) At least ⅓ of the cost of each test bed of excellence is provided by participants from the private sector.

(C) At least ⅓ of the cost of each test bed of excellence is provided by State or local governments.

(4) REVIEW OF FUNDED TEST BEDS.—Within 3 years of the start of Federal funding for any test bed of excellence pursuant to this section, the Secretary of Commerce shall use the metrics established pursuant to paragraph (2) and any additional review metrics that the Secretary determines appropriate to

assess the performance of the federally funded test beds of excellence. Any test bed of excellence that fails to satisfy any of the performance metrics will be ineligible for additional Federal funding.

(5) SUNSET PROVISION.—Federal funding of any test bed of excellence shall cease 5 years after the date of enactment of this Act.

(f) MANUFACTURING EXTENSION PARTNERSHIP FOCUS ON INNOVATION.—The Director of the National Institute of Standards and Technology shall ensure that the Manufacturing Extension Partnership program develops a focus on innovation, including through technology diffusion, supply and distribution chain integration, and the dissemination of the processes, technologies, and extended production enterprise systems developed under this section.

(g) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Department of Commerce for the purpose of carrying out activities under this section the following amounts:

(1) $20,000,000 for fiscal year 2007.

(2) $40,000,000 for fiscal year 2008.

(3) $60,000,000 for fiscal year 2009.

(4) $80,000,000 for fiscal year 2010.

(5) $100,000,000 for fiscal year 2011.

SEC. 106. STUDY ON SERVICE SCIENCE.

(a) SENSE OF CONGRESS.—It is the sense of Congress that, in order to strengthen the competitiveness of United States enterprises and institutions and to prepare the people of the United States for high-wage, high-skill employment, the Federal Government should better understand and respond strategically to the emerging vocation and learning discipline known as service science.

(b) STUDY.—Not later than 270 days after the date of the enactment of this Act, the Director of the National Science Foundation shall conduct a study and report to Congress regarding how the Federal Government should support, through research, education, and training, the new discipline of service science.

(c) OUTSIDE RESOURCES.—In conducting the study under subsection (b), the Director of the National Science Foundation shall consult with leaders from 2- and 4-year institutions of higher education, as defined in section 101 of the Higher Education Act of 1965 (20 U.S.C. 1001), leaders from corporations, and other relevant parties.

TITLE II—MODERNIZATION OF SCIENCE, EDUCATION, AND HEALTHCARE PROGRAMS

Subtitle A—Science and Education

SEC. 201. GRADUATE FELLOWSHIPS AND GRADUATE TRAINEESHIPS.

(a) GRADUATE RESEARCH FELLOWSHIP PROGRAM.—

(1) IN GENERAL.—During the 5-year period beginning on the date of the enactment of this Act, the Director of the National Science Foundation shall expand the Graduate Research Fellowship Program of the Foundation so that an additional 1250 fellowships are awarded to United States citizens under such Program during such period.

(2) EXTENSION OF FELLOWSHIP PERIOD.—The Director of the National Science Foundation is authorized to award fellowships under the Graduate Research Fellowship Program for a period of 5 years, subject to funds being made available for such purpose.

(3) AUTHORIZATION OF APPROPRIATIONS.—In addition to any other amounts authorized to be appropriated, there are authorized to be appropriated $34,000,000 for each of the fiscal years 2007

through 2011 to provide an additional 250 fellowships under the Graduate Research Fellowship Program during each such fiscal year.

(b) INTEGRATIVE GRADUATE EDUCATION AND RESEARCH TRAINEESHIP PROGRAM.—

(1) IN GENERAL.—During the 5-year period beginning on the date of the enactment of this Act, the Director of the National Science Foundation shall expand the Integrative Graduate Education and Research Traineeship program of the Foundation so that an additional 1,250 United States citizens are awarded grants under such program during such period.

(2) AUTHORIZATION OF APPROPRIATIONS.—In addition to any other amounts authorized to be appropriated, there are authorized to be appropriated $57,000,000 for each of the fiscal years 2007 through 2011 to provide grants to an additional 250 individuals under the Integrative Graduate Education and Research Traineeship program during each such fiscal year

SEC. 202. PROFESSIONAL SCIENCE MASTER'S DEGREE PROGRAMS.

(a) DEFINITION OF INSTITUTION OF HIGHER EDUCATION.—In this section, the term ''institution of higher

education'' has the meaning given the term in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a)).

(b) CLEARINGHOUSE.—

(1) DEVELOPMENT.—From amounts appropriated under subsection (d), the Director of the National Science Foundation shall establish a clearinghouse, in collaboration with 4-year institutions of higher learning, industries, and Federal agencies that employ science-trained personnel, to share program elements used in successful professional science master's degree programs.

(2) AVAILABILITY.—The Director of the National Science Foundation shall make the clearinghouse of program elements developed under paragraph (1) available to institutions of higher education that are developing professional science master's degree programs.

(c) PILOT PROGRAMS.—

(1) PROGRAM AUTHORIZED.—From amounts appropriated under subsection (d), the Director of the National Science Foundation shall award grants for pilot programs to 4-year institutions of higher education to facilitate the institutions' creation or

improvement of professional science master's degree programs.

(2) APPLICATION.—A 4-year institution of higher education desiring a grant under this section shall submit an application at such time, in such manner, and accompanied by such information as the Director of the National Science Foundation may require. The application shall include—

(A) a description of the professional science master's degree program that the institution of higher education will implement;

(B) the amount of funding from non-Federal sources, including from private industries, that the institution of higher education shall use to support the professional master's degree program; and

(C) an assurance that the institution of higher education shall encourage students in the professional science master's degree program to apply for all forms of Federal assistance available to such students, including applicable graduate fellowships and student financial assistance under title IV of the Higher Education Act of 1965 (20 U.S.C. 1070 et seq.).

(3) PREFERENCE FOR ALTERNATIVE FUNDING SOURCES.—The Director of the National Science Foundation shall give preference in making awards to 4-year institutions of higher education seeking Federal funding to support pilot professional science master's degree programs, to those applicants that secure more than ⅔ of the funding for such professional science master's degree programs from sources other than the Federal Government.

(4) NUMBER OF GRANTS; TIME PERIOD OF GRANTS.—

(A) NUMBER OF GRANTS.—Subject to the availability of appropriated funds, the Director of the National Science Foundation shall award grants under paragraph (1) to a maximum of 200 4-year institutions of higher education.

(B) TIME PERIOD OF GRANTS.—Grants awarded under this section shall be for one 3-year term. Grants may be renewed only once for a maximum of 2 additional years.

(5) EVALUATION AND REPORTS.—

(A) DEVELOPMENT OF PERFORMANCE BENCHMARKS.—Prior to the start of the grant program, the National Science Foundation, in collaboration with 4-year institutions of higher

education, shall develop performance benchmarks to evaluate the pilot programs assisted by grants under this section.

(B) EVALUATION.—For each year of the grant period, the Director of the National Science Foundation, in consultation with 4-year institutions of higher education, industry, and Federal agencies that employ science-trained personnel, shall complete an evaluation of each pilot program assisted by grants under this section. Any pilot program that fails to satisfy the performance benchmarks developed under subparagraph (A) shall not be eligible for further funding.

(C) REPORT.—Not later than 180 days after the completion of an evaluation described in subparagraph (A), the Director of the National Science Foundation, in consultation with industries and Federal agencies that employ science-trained personnel, shall submit a report to Congress that includes—

(i) the results of the evaluation described in subparagraph (A); and

(ii) recommendations for administrative and legislative action that could opti-

mize the effectiveness of the pilot programs, as the Director determines to be appropriate.

(d) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $20,000,000 for fiscal year 2007 and such sums as may be necessary for each succeeding fiscal year.

SEC. 203. INCREASED SUPPORT FOR SCIENCE EDUCATION THROUGH THE NATIONAL SCIENCE FOUNDATION.

There are authorized to be appropriated to carry out the science, mathematics, engineering, and technology talent expansion program under section 8(7) of the National Science Foundation Authorization Act of 2002 (Public Law 107–368, 116 Stat. 3042) the following amounts:

(1) For fiscal year 2007, $35,000,000.

(2) For fiscal year 2008, $50,000,000.

(3) For fiscal year 2009, $100,000,000.

(4) For fiscal year 2010, $150,000,000.

SEC. 204. INNOVATION-BASED EXPERIENTIAL LEARNING.

(a) PILOT PROGRAM.—

(1) PROGRAM AUTHORIZED.—The Director of the National Science Foundation shall award grants to local educational agencies to enable the local educational agencies to implement innovation-based ex-

periential learning in a total of 500 secondary schools and 500 elementary or middle schools in the United States.

(2) APPLICATION.—A local educational agency desiring a grant under this section shall submit an application at such time, in such manner, and accompanied by such information as the Director of the National Science Foundation may require.

(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to carry out this section $10,000,000 for fiscal year 2007 and $20,000,000 for each of the fiscal years 2008 and 2009.

Subtitle B—21st Century Healthcare System

SEC. 211. SENSE OF CONGRESS REGARDING 21ST CENTURY HEALTHCARE SYSTEM.

(a) SENSE OF CONGRESS.—It is the sense of Congress that, in order to improve the United States healthcare system for the 21st century, the Federal Government should encourage the widespread adoption of interoperable health information technology by—

(1) facilitating the creation of standards for interoperable electronic reporting of healthcare data; and

(2) after such standards have been created, each Federal agency or department that collects data for the purposes described in subsection (b) should collect such data in a manner that is consistent with such standards.

(b) PURPOSES DESCRIBED.—The purposes described in this subsection include quality reporting, surveillance, epidemiology, adverse event reporting, research, or for other purposes determined appropriate by the Secretary of Health and Human Services.

TITLE III—INCENTIVES FOR ENCOURAGING INNOVATION

Subtitle A—Research Credits

SEC. 301. PERMANENT EXTENSION OF RESEARCH CREDIT.

(a) IN GENERAL.—Section 41 of the Internal Revenue Code of 1986 (relating to credit for increasing research activities) is amended by striking subsection (h).

(b) CONFORMING AMENDMENT.—Section 45C(b)(1) of the Internal Revenue Code of 1986 is amended by striking subparagraph (D).

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to amounts paid or incurred after the date of the enactment of this Act.

SEC. 302. INCREASE IN RATES OF ALTERNATIVE INCREMENTAL CREDIT.

(a) IN GENERAL.—Subparagraph (A) of section 41(c)(4) of the Internal Revenue Code of 1986 (relating to election of alternative incremental credit) is amended—

(1) by striking ''2.65 percent'' and inserting ''3 percent'';

(2) by striking ''3.2 percent'' and inserting ''4 percent''; and

(3) by striking ''3.75 percent'' and inserting ''5 percent''.

(b) EFFECTIVE DATE.—The amendments made by this section shall apply to taxable years ending after the date of the enactment of this Act.

SEC. 303. ALTERNATIVE SIMPLIFIED CREDIT FOR QUALIFIED RESEARCH EXPENSES.

(a) IN GENERAL.—Subsection (c) of section 41 of the Internal Revenue Code of 1986 (relating to base amount) is amended by redesignating paragraphs (5) and (6) as paragraphs (6) and (7), respectively, and by inserting after paragraph (4) the following new paragraph:

''(5) ELECTION OF ALTERNATIVE SIMPLIFIED CREDIT.—

''(A) IN GENERAL.—At the election of the taxpayer, the credit determined under subsection (a)(1) shall be equal to 12 percent of so

much of the qualified research expenses for the taxable year as exceeds 50 percent of the average qualified research expenses for the 3 taxable years preceding the taxable year for which the credit is being determined.

''(B) SPECIAL RULE IN CASE OF NO QUALIFIED RESEARCH EXPENSES IN ANY OF 3 PRECEDING TAXABLE YEARS.—

''(i) TAXPAYERS TO WHICH SUBPARAGRAPH APPLIES.—The credit under this paragraph shall be determined under this subparagraph if the taxpayer has no qualified research expenses in any 1 of the 3 taxable years preceding the taxable year for which the credit is being determined.

''(ii) CREDIT RATE.—The credit determined under this subparagraph shall be equal to 6 percent of the qualified research expenses for the taxable year.

''(C) ELECTION.—An election under this paragraph shall apply to the taxable year for which made and all succeeding taxable years unless revoked with the consent of the Secretary. An election under this paragraph may

not be made for any taxable year to which an election under paragraph (4) applies.''.

(b) COORDINATION WITH ELECTION OF ALTERNATIVE INCREMENTAL CREDIT.—

(1) IN GENERAL.—Section 41(c)(4)(B) of the Internal Revenue Code of 1986 (relating to election) is amended by adding at the end the following: ''An election under this paragraph may not be made for any taxable year to which an election under paragraph (5) applies.''.

(2) TRANSITION RULE.—In the case of an election under section 41(c)(4) of the Internal Revenue Code of 1986 which applies to the taxable year which includes the date of the enactment of this Act, such election shall be treated as revoked with the consent of the Secretary of the Treasury if the taxpayer makes an election under section 41(c)(5) of such Code (as added by subsection (a)) for such year.

(c) EFFECTIVE DATE.—The amendments made by this section shall apply to taxable years ending after the date of the enactment of this Act.

Subtitle B—Health and Education

SEC. 311. STUDY AND REPORT ON CATASTROPHIC HEALTHCARE.

(a) STUDY.—The Secretary of Health and Human Services and the Secretary of Labor (in this subsection referred to as the ''Secretaries'') jointly shall conduct a study to explore methods for managing costs associated with catastrophic healthcare events and costs associated with chronic disease. The Secretaries shall work with healthcare providers, pharmaceutical manufacturers, large and small employers, health plans, and other interested private and public sector entities to develop a consensus regarding potential innovative approaches for reducing the financial risks presented by such health problems and improving such outcomes. The study shall consider, among other factors, the role that best practices, health information technology, evidence-based medicine, quality incentives, and comparative clinical effectiveness research can play in improving quality, value, and efficiency throughout the United States healthcare system.

(b) REPORT.—Not later than 1 year after the date of enactment of this Act, the Secretaries shall submit a report to Congress on the results of the study conducted under subsection (a), together with such recommendations

for administrative and legislative action as the Secretaries determine to be appropriate.

SEC. 312. LIFELONG LEARNING ACCOUNTS.

(a) STUDY.—The Secretary of the Treasury, in collaboration with the Secretary of Labor and the Secretary of Education, shall conduct a study with recommendations for establishing lifelong learning accounts which would be exempt from taxation under the Internal Revenue Code of 1986 and from which funds could only be used for educational or training purposes. Such study shall consider whether individuals should be allowed to transfer to such an account, without incurring tax liability or penalties, funds which are—

(1) held in accounts established under a plan described in section 401(k), 403(b), or 457 of the Internal Revenue Code of 1986; and

(2) held in a qualified tuition program under section 529 of such Code.

(b) REPORT.—Not later than 1 year after the date of the enactment of this Act, the Secretary of the Treasury shall submit to Congress a report on the study conducted under subsection (a).

Subtitle C—Savings and Investments

SEC. 321. REGULATIONS RELATING TO PRIVATE FOUNDATION SUPPORT OF INNOVATIONS IN ECONOMIC DEVELOPMENT.

The Secretary of the Treasury or the Secretary's delegate shall as soon as practicable issue regulations under subchapter A of chapter 42 of the Internal Revenue Code of 1986 (relating to excise taxes on private foundations) which—

(1) clearly identify when distributions by private foundations for purposes of stimulating economic development will be treated as made for an exempt purpose described in section 170(c)(2)(B) of such Code; and

(2) clarify the circumstances under which private foundations may make program-related investments described in section 4944(c) of such Code in start-up ventures.

SEC. 322. ADVISORY GROUP REGARDING VALUATION OF INTANGIBLES.

(a) ESTABLISHMENT.—The Secretary of the Treasury shall establish an advisory group consisting of representatives of the public and private investment sector. The advisory group shall include representatives from the

Department of Commerce, the Securities and Exchange Commission, the Commodity Futures Trading Commission, the Board of Governors of the Federal Reserve System, the New York Stock Exchange, the National Association of Securities Dealers Automatic Quotation System, and significant industry sectors.

(b) DUTIES.—The advisory group established under subsection (a) shall—

(1) examine and make recommendations of best practices for valuation of intangibles in order to—

(A) provide investors with an improved method for assessing the impact intangibles have on the accuracy of a company's financial picture; and

(B) support industry trade associations in efforts to adopt guidelines for intangibles appropriate to particular industry sections; and

(2) submit to the Secretary of the Treasury a recommendation regarding whether a litigation safe harbor should be established for those companies that make good faith estimates regarding the value of intangibles under the best practice standards developed under paragraph (1).

(c) RESEARCH NETWORK.—The Secretary of Commerce shall establish a research network of industry and

academic expertise to study metrics and solutions for intangible disclosure, and provide such research results to the advisory group.

(d) ACCOUNTING STANDARDS.—The Secretary of the Treasury and the advisory group shall encourage the Financial Accounting Standards Board to reinstate its project on disclosure of information about intangible assets not recognized in financial statements and to move expeditiously toward issuance of a statement of financial accounting standards concerning valuation and disclosure of key intangible assets.

(e) REPORT.—Not later than 2 years after the date of the enactment of this Act, the advisory group shall submit to the Secretary of the Treasury the results of the examination under subsection (b)(1) and the recommendation under subsection (b)(2).

TITLE IV—DEPARTMENT OF DEFENSE MATTERS

Subtitle A—Defense Research and Education

SEC. 401. REVITALIZATION OF FRONTIER AND MULTIDISCIPLINARY RESEARCH.

It shall be the goal of the Department of Defense to allocate at least 3 percent of the total Department of Defense budget to science and technology. Of this amount,

it shall be the goal of the Department of Defense to allocate at least 20 percent to basic research.

SEC. 402. ENHANCEMENT OF EDUCATION.

(a) SCIENCE, MATHEMATICS, AND RESEARCH FOR TRANSFORMATION (SMART) SCHOLARSHIPS.—

(1) EXTENSION OF PROGRAM.—Section 1105(a)(2) of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 (Public Law 108–375; 118 Stat. 2074; 10 U.S.C. 2192 note) is amended by striking ''for three years beginning on the date of the enactment of this Act'' and inserting ''through September 30, 2011''.

(2) EXPANSION OF PROGRAM.—The Secretary of Defense shall, utilizing amounts authorized to be appropriated by paragraph (3), increase the number of participants in the Science, Mathematics, and Research for Transformation (SMART) Defense Scholarship Pilot Program under section 1105 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 in each of fiscal years 2007 through 2011—

(A) by an additional 160 participants pursuing doctoral degrees in each such fiscal year; and

(B) by an additional 60 participants pursuing masters degrees in each such fiscal year.

(3) AUTHORIZATION OF APPROPRIATIONS.—There is hereby authorized to be appropriated to the Department of Defense for each of fiscal years 2007 through 2011 the amount of $41,300,000 for purposes of carrying out this subsection, of which—

(A) $36,000,000 shall be available in each such fiscal year for additional participants in the Science, Mathematics, and Research for Transformation (SMART) Defense Scholarship Pilot Program who are pursuing doctoral degrees under paragraph (2)(A); and

(B) $5,300,000 shall be available in each such fiscal year for additional participants in the Science, Mathematics, and Research for Transformation (SMART) Defense Scholarship Pilot Program who are pursuing masters degrees under paragraph (2)(B).

(b) NATIONAL DEFENSE SCIENCE AND ENGINEERING GRADUATE FELLOWSHIPS.—

(1) EXPANSION OF PROGRAM.—The Secretary of Defense shall, utilizing amounts authorized to be appropriated by paragraph (2), increase the number of participants in the National Defense Science and

Engineering Graduate (NDSEG) fellowship program in each of fiscal years 2007 through 2011 by an additional 200 participants in each such fiscal year.

(2) AUTHORIZATION OF APPROPRIATIONS.—There is hereby authorized to be appropriated to the Department of Defense for each of fiscal years 2007 through 2011 the amount of $45,000,000 for purposes of carrying out this subsection.

(c) INSTITUTION-BASED TRAINEESHIPS.—

(1) PROGRAM REQUIRED.—The Secretary of Defense shall, utilizing amounts authorized to be appropriated by paragraph (4), carry out a program to award, on a competitive basis, traineeships to undergraduate and graduate students at institutions of higher education in order to permit such students to pursue studies in areas of importance to the Department of Defense in mathematics, science, or engineering in settings or programs that provide such students exposure to multidisciplinary studies, innovation-oriented studies, and academic, private-sector, or government laboratories and research. It shall be the goal of the traineeship program for a trainee to work for the Department of Defense for 10 years after completing his or her degree.

(2) PARTICIPANTS.—In each of fiscal years 2007 through 2011, the number of participants in the program required by paragraph (1) shall be as follows:

(A) Not more than 30 participants pursuing doctoral degrees.

(B) Not more than 30 participants pursuing masters degrees.

(C) Not more than 20 participants pursuing undergraduate degrees.

(3) ANNUAL REPORTS.—Not later than November 30 each year, the Secretary of Defense shall submit to the Committees on Armed Services of the Senate and the House of Representatives a report on the carrying out of the program required by paragraph (1) during the preceding fiscal year. The report shall describe the participants, and the studies pursued by such participants, in the program during the fiscal year covered by the report, and shall include an assessment of the benefits of the program to the Department of Defense.

(4) AUTHORIZATION OF APPROPRIATIONS.—There is hereby authorized to be appropriated to the Department of Defense for each of fiscal years 2007 through 2011 the amount of $11,100,000 for pur-

poses of carrying out the program required by this subsection, of which—

(A) $7,000,000 shall be available in each such fiscal year for participants in the program who are pursuing doctoral degrees under paragraph (2)(A);

(B) $2,600,000 shall be available in each such fiscal year for participants in the program who are pursuing masters degrees under paragraph (2)(B); and

(C) $1,500,000 shall be available in each such fiscal year for participants in the program who are pursuing undergraduate degrees under paragraph (2)(C).

Subtitle B—Defense Advanced Manufacturing

SEC. 411. MANUFACTURING RESEARCH AND DEVELOPMENT.

(a) IDENTIFICATION OF ENHANCED PROCESSES AND TECHNOLOGIES.—The Under Secretary of Defense for Acquisition, Technology, and Logistics, acting through the Director of Defense Research and Engineering, shall identify advanced manufacturing processes and technologies whose utilization will achieve significant productivity and efficiency gains in the defense manufacturing base.

(b) RESEARCH AND DEVELOPMENT.—The Under Secretary shall undertake research and development on processes and technologies identified under subsection (a) that addresses, in particular—

(1) innovative manufacturing processes and advanced technologies; and

(2) the creation of extended production enterprises using information technology and new business models.

(c) DEFENSE PRIORITIES.—In undertaking research and development under subsection (b), the Under Secretary shall consider defense priorities established in the most current Joint Warfighting Science and Technology Plan.

SEC. 412. TRANSITION OF TRANSFORMATIONAL MANUFACTURING PROCESSES AND TECHNOLOGIES TO THE DEFENSE MANUFACTURING BASE.

(a) ACCELERATION OF TRANSITION FROM SCIENCE AND TECHNOLOGY.—

(1) IN GENERAL.—The Under Secretary of Defense for Acquisition, Technology, and Logistics shall undertake appropriate actions to accelerate the transition of transformational manufacturing technologies and processes (including processes and technologies identified under section 411) from the re-

search stage to utilization by manufacturers in the defense manufacturing base.

(2) EXECUTION.—The actions undertaken under paragraph (1) shall include a memorandum of understanding among the Director of Defense Research and Engineering, other appropriate elements of the Department of Defense, and the Joint Defense Manufacturing Technology Panel to accelerate the transition of technologies and processes as described in that paragraph.

(b) PROTOTYPES AND TEST BEDS.—

(1) IN GENERAL.—The Under Secretary shall, utilizing the Manufacturing Technology Program, undertake the development of prototypes and test beds to promote the purposes of this section.

(2) COORDINATION OF ACTIVITIES.—The Under Secretary shall coordinate activities under this subsection with activities under the Small Business Innovation Research Program and the Small Business Technology Transfer Program.

(c) DEVELOPMENT OF IMPROVEMENT PROCESS.—The Under Secretary shall, in consultation with persons and organizations in the defense manufacturing base, develop and implement a program to continuously identify and utilize improvements and innovative processes in ap-

propriate defense acquisition programs and by manufacturers in the defense manufacturing base.

(d) DIFFUSION OF ENHANCEMENTS INTO DEFENSE MANUFACTURING BASE.—The Under Secretary shall ensure the utilization in industry of enhancements in productivity and efficiency identified by reason of activities under this subtitle through the following:

(1) Research and development activities under the Manufacturing Technology Program, including the establishment of public-private partnerships.

(2) Outreach through the Manufacturing Extension Partnership Program under memoranda of agreement, cooperative programs, and other appropriate arrangements.

(3) Coordination with activities under such other current programs for the dissemination of manufacturing technology as the Under Secretary considers appropriate.

(4) Identification of incentives for contractors in the defense manufacturing base to incorporate and utilize manufacturing enhancements in manufacturing activities.

SEC. 413. MANUFACTURING TECHNOLOGY STRATEGIES.

(a) IN GENERAL.—The Under Secretary of Defense for Acquisition, Technology, and Logistics may—

(1) identify an area of technology where the development of industry-prepared roadmaps for new manufacturing and technology processes applicable to defense manufacturing requirements would be beneficial to the Department of Defense; and

(2) establish a task force, and act in cooperation with the private sector, to map the strategy for the development of manufacturing processes and technologies needed to support technology development in the area identified under paragraph (1).

(b) COMMENCEMENT OF ROADMAPPING.—The Under Secretary shall commence any roadmapping identified pursuant to subsection (a)(1) not later than January 2007.

SEC. 414. PLANNING FOR ADOPTION OF STRATEGIC INNOVATION.

(a) IN GENERAL.—The Secretary of Defense, acting through the Under Secretary of Defense for Acquisition, Technology, and Logistics, shall ensure that each contract of a value of $50,000,000 or more under a technology or logistics program of the Department of Defense includes requirements for planning by the contractor under such contract for the adoption of innovative technologies under such contract.

(b) PARTICULAR REQUIREMENTS.—The requirements included in a contract under subsection (a) shall include—

(1) requirements for plans for the identification, monitoring, and transition to the utilization under such contract of applicable emerging technologies from the private sector;

(2) requirements for plans for the identification, monitoring, and development under such contract of emerging research initiatives in academia; and

(3) a requirement to submit to the Under Secretary on an annual basis a report on the implementation of the planning carried out pursuant to the requirements included in such contract.

SEC. 415. REPORT.

(a) IN GENERAL.—Not later than December 31, 2008, the Under Secretary of Defense for Acquisition, Technology, and Logistics shall submit to the congressional defense committees a report on the actions undertaken by the Under Secretary under this subtitle during fiscal year 2007.

(b) ELEMENTS.—The report under subsection (a) shall include—

(1) a comprehensive description of the actions undertaken under this subtitle during fiscal year 2007;

(2) an assessment of effectiveness of such actions in enhancing research and development on manufacturing technologies and processes, and the implementation of such technologies and processes within the defense manufacturing base; and

(3) such recommendations as the Under Secretary considers appropriate for additional actions to be undertaken in order to increase the effectiveness of the actions undertaken under this subtitle in enhancing manufacturing activities within the defense manufacturing base.

SEC. 416. AUTHORIZATION OF APPROPRIATIONS.

Funds are hereby authorized to be appropriated for the Department of Defense for purposes of carrying out this subtitle for fiscal years as follows:

(1) For fiscal year 2007, $20,000,000.

(2) For fiscal year 2008, $40,000,000.

(3) For fiscal year 2009, $60,000,000.

(4) For fiscal year 2010, $80,000,000.

(5) For fiscal year 2011, $100,000,000.

TITLE V—JUDICIARY AND OTHER MATTERS

SEC. 501. SENSE OF CONGRESS ON RETAINING HIGH TECH TALENT IN THE UNITED STATES.

It is the sense of Congress that comprehensive immigration reform should ensure that the United States retains foreign-born high-tech talent educated in the United States and remains the leader in innovation and technological development in an emerging global marketplace. Such comprehensive reform should ensure—

(1) that the United States continues to retain foreign nationals who have received master's or higher degrees in the sciences, technology, engineering or mathematics from United States institutions of higher education under either—

(A) the H–1B visa program; or

(B) as employment-based immigrants;

(2) that the United States must take a forward looking approach with respect to any limitations on the H–1B visa program; and

(3) that immigration reform should also include systematic improvements to the Government's technology infrastructure in order to eliminate delays in processing immigration proceedings, including employment-based visa applications.

SEC. 502. STUDY ON BARRIERS TO INNOVATION.

(a) IN GENERAL.—The National Academy of Sciences shall conduct and complete a study to identify, and to review methods to mitigate, new forms of risk for businesses beyond conventional operational and financial risk that affect the ability to innovate, including studying and reviewing—

(1) incentive and compensation structures that could effectively encourage long-term value creation and innovation;

(2) methods of voluntary and supplemental disclosure by industry of intellectual capital, innovation performance, and indicators of future valuation;

(3) means by which government could work with industry to enhance the legal and regulatory framework to encourage the disclosures described in paragraph (2);

(4) practices that may be significant deterrents to United States businesses engaging in innovation risk-taking compared to foreign competitors, including tort litigation, the nature and extent of any resulting defensive management practices, and recommendations on practices to restore innovation risk-taking and to overcome defensive practices;

(5) means by which industry, trade associations, and universities could collaborate to support

research on management practices and methodologies for assessing the value and risks of longer term innovation strategies; and

(6) means to encourage new, open, and collaborative dialogue between industry associations, regulatory authorities, management, shareholders, and other concerned interests to encourage appropriate approaches to innovation risk-taking.

(b) REPORT REQUIRED.—The National Academy of Sciences shall, not later than 1 year after the date of enactment of this Act, submit to Congress a report on the study conducted under subsection (a).

(c) AUTHORIZATIONS OF APPROPRIATIONS.—There are authorized to be appropriated to the National Academy of Sciences $1,000,000 for fiscal year 2007 for the purpose of carrying out the study required under this section.

SEC. 503. SENSE OF CONGRESS ON PATENT REFORM.

It is the sense of Congress that—

(1) to bolster the United States economy and strengthen innovators in the United States, the patent system should be reformed to enhance the quality of patents, to leverage patent databases as innovation tools, and to create best practices for global collaborative standard setting; and

(2) to achieve the objectives described in paragraph (1), the Federal Government should—

(A) fully fund the Patent and Trademark Office and enable the Office to direct its fees to fund process improvements;

(B) improve compliance with existing patenting requirements and create incentives for improved search and disclosure of prior art;

(C) create new standards for searchability of patent applications and new patents;

(D) establish a fair and balanced post-grant patent review procedure for future patents and patent applications;

(E) invest in retroactively creating searchable keywords for a subset of the most highly cited historical patents;

(F) secure reciprocal access to foreign patent databases; and

(G) set best practices and processes for standards bodies to align incentives for collaborative standard setting, and to encourage broad participation.

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