**Budget Overview**

While President Obama’s FY15 budget request is unlikely to find much support in Congress this year, the document has traditionally served as a useful guide to the administration’s priorities and to federal programs related to research, regional economic development, manufacturing, entrepreneurship and STEM education.

This year, the administration is proposing the creation or expansion of several programs in these areas through the president’s $56 billion Opportunity, Growth and Security Initiative (OGSI). Since the programs associated with OGSI represent the majority of significant changes within the budget request, many of the agency sections note if a particular program is part of the initiative.

Highlights of particular interest to *Digest* readers:

- Funding for EDA’s Regional Innovation Strategies program, a major SSTI legislative priority, would increase to $25 million.
- A second round of the Treasury Department’s State Small Business Credit Initiative (SSBCI) would award $1.5 billion to increase small business lending, pending legislative approval.
- The Small Business Administration (SBA) would receive $5 million for the growth accelerators initiative and $6 million for the Regional Innovation Clusters program.
A Note on Comparisons
Each year, SSTI’s analysis of the president’s budget request includes comparisons between the proposed level of funding for agencies, offices, programs and initiatives, and past funding levels. This year’s Federal Budget Special Issue uses the FY14 enacted funding level as the default basis for comparisons, however this data is unavailable for many agencies and offices. When reading the issue, note that FY14 enacted funding levels are used except where indicated, either at the beginning of the section or on a case-by-case basis.

Entrepreneurship, Regional Innovation and Capital Access
The president’s FY15 budget request includes $248.2 million (0.7 percent increase) for the Economic Development Administration (EDA), including $210 million (0.2 percent increase) for the agency’s Economic Development Assistance Programs (EDAP). EDA’s Regional Innovation Strategies Program would receive a major increase in FY15, with $25 million (66.6 percent increase over FY14 estimated funding) to support economic development planning and projects that spur entrepreneurship and innovation at the regional level. Though details are not yet available, the budget language suggests that a number of reforms would be made to the EDA grant process, allowing the agency to offer more tailored grants to help address the specific economic needs of communities.

Under the proposed budget, the Small Business Administration’s (SBA) growth accelerators initiative would receive $5 million to help scale existing successful growth accelerators or provide funds via a competition to university and private sector accelerators to start a new accelerator program or entrepreneurship ecosystem based on successful models. Another $6 million is requested for SBA’s Regional Innovation Clusters program.

The president’s budget proposes the permanent extension of the New Market Tax Credit program, which allows Community Development Entities (CDEs) in low-income communities to apply to the CDFI Fund for tax credit investment authority in annual competitive rounds. Tax credits are awarded to private investors in return for equity investments in CDEs. The president’s proposal would allow up to $5 billion in qualifying investment each year starting in 2014. The proposed budget also would extend the CDFI Bond Guarantee Program by one year to provide long-term capital to CDFIs that support lending in underserved communities.

The budget also includes $2 billion in new tax credits for the proposed Manufacturing Communities Tax Credit Program, which would support qualified investments in communities affected by mass layoffs or military base closures.

Manufacturing
Manufacturing plays a major role in the administration’s slate of OGSI proposals. The budget would provide funding for five additional high-tech manufacturing institutes within the National Network for Manufacturing Innovation. The National Institute for Standards and Technology (NIST) would be responsible for the management of the planned institutes, and would receive $5 million to coordinate their activities. Budgetary support for the institutes themselves would continue to derive from a variety of
agencies including the Departments of Energy, Defense and Agriculture. The administration hopes to expand the network to encompass 45 institutes over the next 10 years.

NIST would receive $904.9 million under the proposed FY15 budget, a 5.7 percent increase over FY14 enacted levels. NIST Industrial Technology Services would receive $161 million (12.6 percent increase), including $141 million (10.2 percent increase) for the Hollings Manufacturing Extension Partnership (MEP) and $15 million (21.1 percent decrease) for the Advanced Manufacturing Technology Consortia (AMTech).

The budget also calls for a new SBA-managed public-private investment fund as part of the administration’s manufacturing initiative. The fund-of-funds would support transformative manufacturing technologies and offer funding to scale-up new advanced manufacturing firms into full-scale commercial production. Once fully deployed, the fund could eventually leverage up to $10 billion in total public-private investment.

The Department of Energy’s Advanced Manufacturing program would receive a major boost, with $305.1 million (69.1 percent increase) to support the Clean Energy Manufacturing Initiative deployment of at least one more Clean Energy Manufacturing Innovation Institute. In order to encourage investment in renewable energy technologies, the administration is proposing to make the renewable electricity tax credit permanent and refundable.

Science, Technology and Research
The Office of Science and Technology Policy (OSTP) estimates that the budget request includes $135.4 billion in federal R&D, an increase of 1.2 percent over FY14 as enacted. This figure includes $64.7 billion (0.7 percent increase) in basic and applied research investment.

Both defense and non-defense R&D would slightly increase with non-defense R&D receiving $65.9 billion (0.7 percent increase) and defense R&D receiving $69.5 billion (1.7 percent increase). Advanced manufacturing R&D across all agencies would receive $2.2 billion (12 percent increase), according to OSTP.

The multi-agency Brain Research through Advancing Innovative Neurotechnologies (BRAIN) Initiative would have its funding doubled under the proposed budget, from $100 million in FY14 to $200 million in FY15. Half of the initiative’s funding would come through the National Institutes of Health (NIH), while the Defense Advanced Research Projects Agency (DARPA) and the National Science Foundation (NSF) would provide the remainder.

Federal research agency highlights include (comparisons are to enacted FY14 funding except where noted):

- National Institutes of Health — $30.2 billion (0.7 percent decrease)
- National Science Foundation — $7.3 billion (1.2 percent increase from estimated FY14)
- DOE Office of Science — $5.1 billion (0.9 percent increase)
- NASA Science — $4.9 billion (4 percent decrease)
- Defense Advance Research Projects Agency — $2.9 billion (4.9 percent increase)
- DHS Science and Technology Directorate — $1.1 billion (10 percent decrease)
- U.S. Geological Survey — $1.1 billion (4 percent increase)
- EPA Science and Technology — $763.8 million (0.6 percent increase)
- NASA Space Technology — $706 million (18 percent increase)
- NIST Intramural Laboratories — $680 million (4.5 percent increase)
- USDA Agriculture and Food Research Initiative — $325 million (2 percent increase)
- Advanced Research Projects Agency-Energy — $325 million (16.1 percent increase)
Funding for multi-agency research initiatives includes:

- Networking and Information Technology Research and Development Program — $3.8 billion (2.9 percent decrease)
- U.S. Global Change Research Program — $2.5 billion (0.5 percent increase)
- National Nanotechnology Initiative — $1.5 billion (no change)

To boost private sector investment in research, the administration is again proposing to expand, simplify and make permanent the Research and Experimentation tax credit.

**STEM Education and Workforce Training**

The administration is promoting the reorganization and expansion of STEM education programs within the Departments of Education and Defense, NASA and NSF as a key component of its innovation agenda. STEM efforts across the federal government would receive $2.9 billion (3.7 percent increase), according to OSTP estimates. This includes $170 million in new funding at the Department of Education for a new STEM education framework.

Funding for STEM efforts within the Department of Education include $110 million for STEM Innovation Networks, which provide competitive awards to connect school district to national STEM resources, $40 million to prepare STEM teachers and $20 million for a pilot STEM Master Teacher Corps. NSF would receive $118 million to improve undergraduate STEM education, with another $75 million to expand research opportunities for undergraduates.

The president’s budget also includes a significant boost in funding for workforce training, particularly apprenticeships in high-demand industries. As part of OGSI, the Department of Labor would manage a new $1.5 billion Community College Job-Driven Training Fund, which would replace the Trade Adjustment Assistance Community College and Career Training program. The new fund is envisioned as a four-year, $6 billion initiative, which would award grants to establish job training programs in high-demand industries. Of that amount, $500 million would be reserved for apprenticeship programs. A new $15 million Department of Labor Sector Strategies program would offer grants to states or regional partnerships to create employment and training strategies to support regional economies.

**Department of Agriculture**

*FY14 estimated is used for Department of Agriculture funding comparisons, unless otherwise noted.*

The president’s FY15 budget request would provide $23.7 billion (12 percent decrease) in discretionary funding for the Department of Agriculture (USDA). The proposed budget would launch three new multidisciplinary agricultural research institutes dedicated to crop science, advanced biobased manufacturing, and anti-microbial resistance research, and double funding for rural broadband access. Through the president’s Opportunity, Growth, and Security Initiative, additional funding would be provided for natural resource conservation programs and the construction of a new national biosafety research laboratory.

**Research, Education, and Economics**

USDA’s Research, Education, and Economics (REE) agencies would receive a total of $4.1 billion (2 percent increase) under the proposed FY15 budget. These agencies include:

- Agricultural Research Service (ARS) — $1.1 billion (no change);
- National Institute of Food and Agriculture (NIFA) — 1.5 billion (6 percent increase);
- Economic Research Service (ERS) — $83 million (6 percent increase); and,
- National Agriculture Statistics Service (NASS) — $179 million (10 percent increase).
ARS research would be directed towards several key research areas. The FY15 budget would allocate $44 million to research the effects of Climate Change on agriculture and assist with developing resilient agricultural production systems. The proposed budget would provide $25.9 million for investment in Genetic Improvements and Translational Breeding, developing resilient breed lines and strains that tolerate disease, drought, and reduce environmental impact. Active research programs to support improved agricultural Product Quality, including biobased products and biofuels, would receive $90 million in research funding.

Under the proposed budget, $698 million would be allocated to support Crop Production, Food Safety, Livestock Protection, Livestock Production, and Environmental Stewardship. As part of the Bipartisan Budget Act of 2013, discretionary funding in the proposed Opportunity, Growth, and Security Initiative would provide an additional $197 million to support various ARS initiatives, including the construction of a new Southeast Poultry Disease Research Laboratory (SEPRL) in Athens, Georgia.

The proposed FY15 budget would support modest increases in USDA competitive grants for research and development. NIFA research funding would include $3 million (no change) for Biomass R&D, $20 million (no change) for the Organic Agriculture Research and Education Initiative, $20 million (no change) for the Beginning Farmer and Rancher Development Program, and $80 million (no change) for the Specialty Crop Research Initiative. USDA discretionary funding would provide $75 million for the creation of three new agricultural innovation institutes, and include funding for:

- Agriculture and Food Research Initiative — $325 million (2 percent increase);
- Sustainable Agriculture Research / Education and Extension — $23 million (no change);
- Higher Education Programs — $34 million (11 percent decrease); and,
- Food and Ag Defense Initiative — $7 million (no change).

Under the proposed budget, USDA STEM programs would be consolidated within STEM programs at the Department of Education and National Science Foundation, including Higher Education Challenge Grants, Women and Minorities in STEM Program, and Secondary and Postsecondary Challenge Grants.

Rural Development
Rural Development (RD) includes most of USDA’s programs covering rural economic growth. Under the proposed budget, RD would receive $1.3 billion (23 percent decrease) in total funding. Despite significant reductions in RD program funding, the proposed budget would double funding for rural broadband access. The FY15 budget provides $8.3 million in budget authority to support $44.2 million in broadband loans, $21 million in broadband grant funding, and $25 million to support the Distance Learning and Telemedicine Program.

RD Rural Development and Business and Cooperative programs support entrepreneurship, energy, and appropriate technology development. Proposed FY15 funding includes:

- Rural Business and Cooperative Grants — $57.5 million for a new consolidated grant program to target small and emerging private businesses and cooperatives in rural areas with populations of 50,000 or less;
- Rural Economic Development Loans and Grants — $69 million (37 percent increase) to provide zero interest loans to rural utilities to establish revolving loan funds for local business projects that create jobs;
- Rural Microentrepreneur Assistance Program — $3.3 million for a new consolidated program to support nearly $26 million in loans that support microenterprise development organizations (MDOs);
- **Rural Business Investment Program** — $6 million to support loan guarantees and grants for a new consolidated program that supports equity funds that invest in rural business development; and,

- **Rural Energy for America Program (REAP)** — $52 million (75 percent increase) in loan guarantees and grants that provide financing for rural renewable energy systems, energy efficiency improvements, and energy audits and feasibility studies.

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**Department of Commerce**

The president’s FY15 budget request for the Department of Commerce (DOC) totals $8.8 billion in discretionary funding (6.9 percent increase over FY14 enacted), with increased funding for most agencies and programs related to research, technology transfer, advanced manufacturing and regional economic development. The department would play a key role in the administration’s Opportunity, Growth and Security Initiative (OGSI), managing the planned expansion of the National Network of Manufacturing Innovation (NNMI) to include 45 institutes over the next 10 years.

Discretionary funding for DOC’s TBED-related component offices (including salaries and expenses) includes:

<table>
<thead>
<tr>
<th>DOC Component</th>
<th>FY15 Request ($ millions)</th>
<th>Percent Change from FY14 enacted</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Oceanic &amp; Atmospheric Administration</td>
<td>5,496.7</td>
<td>3.3</td>
</tr>
<tr>
<td>Operations, Research and Facilities</td>
<td>3,361.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Procurement, Acquisition and Construction</td>
<td>2,206.4</td>
<td>9.1</td>
</tr>
<tr>
<td>Bureau of the Census</td>
<td>1,211.4</td>
<td>28.2</td>
</tr>
<tr>
<td>National Institute of Standards &amp; Technology</td>
<td>904.9</td>
<td>5.7</td>
</tr>
<tr>
<td>Scientific and Technical Research and Services</td>
<td>680</td>
<td>4.5</td>
</tr>
<tr>
<td>Industrial Technology Services</td>
<td>161</td>
<td>12.6</td>
</tr>
<tr>
<td>Construction of Research Facilities</td>
<td>59</td>
<td>5.4</td>
</tr>
<tr>
<td>International Trade Administration</td>
<td>497.3</td>
<td>8</td>
</tr>
<tr>
<td>Economic Development Administration</td>
<td>248.2</td>
<td>0.7</td>
</tr>
<tr>
<td>Economic Development Assistance Programs</td>
<td>210</td>
<td>0.2</td>
</tr>
<tr>
<td>Bureau of Industry and Security</td>
<td>110.5</td>
<td>11</td>
</tr>
<tr>
<td>Economic and Statistics Administration</td>
<td>111</td>
<td>9</td>
</tr>
<tr>
<td>National Telecommunications &amp; Information Administration</td>
<td>51</td>
<td>10.9</td>
</tr>
<tr>
<td>Minority Business Development Agency</td>
<td>28.3</td>
<td>1</td>
</tr>
</tbody>
</table>

The FY15 budget request would provide $3.2 billion in spending authority for the U.S. Patent and Trademark Office, though the agency is funded through patent fee collections when the proceeds from these fees are sufficient to cover operations.

The **International Trade and Investment Administration** would receive $497.3 million (8 percent increase), with $20 million to expand SelectUSA, which is intended to become the first, coordinated federal government effort to recruit businesses to invest in the U.S. The **Bureau of Economic Analysis** would receive $4 million to support the expansion of SelectUSA.
National Institute of Standards and Technology (NIST)
NIST would receive $904.9 million under the proposed FY15 budget, a 5.7 percent increase over FY14 enacted levels, including $680 million (4.5 percent increase) for NIST laboratories. Under the request, NIST laboratories would receive additional funding for research investments in forensic science, cyber-physical systems, advanced materials and synthetic biology. Included in the laboratory funding is $6 million for a Labs-to-Market initiative that would accelerate and expand technology transfer across the federal government.

NIST Industrial Technology Services would receive $161 million (12.6 percent increase) in FY15 for the following programs:

- Hollings Manufacturing Extension Partnership (MEP) – $141 million (10.2 percent increase) to operate the national network of 60 MEP centers with additional funding to support technology adoption by smaller manufacturers. The administration also is recommending that Congress adjust the current 2:1 cost-share ratio of non-federal to federal funds to 1:1.
- Advanced Manufacturing Technology Consortia (AMTech) - $15 million (21.1 percent decrease) to provide grants to create and support industry-led consortia on high-impact advanced manufacturing topics.

NIST also would be responsible for the management of the national institutes planned under NNMI. Though key funding for the four existing institutes and the five planned institutes has come from the Departments of Energy, Defense and Agriculture, NIST would receive $5 million to coordinate operations. NIST would use the funding to engage with manufacturers, enable sharing of best practices, reduce redundant operations and strengthen cross-institute collaborations.

NIST would receive $100 million as part of the Wireless Innovation Fund, an initiative originally introduced in the Middle Class Tax Relief and Job Creation Act of 2012. The fund would support research to improve public safety communications through an interoperable national broadband network using proceeds from spectrum auctions.

Economic Development Administration (EDA)
The president’s FY15 budget request includes $248.2 million (0.7 percent increase) for EDA, including $210 million (0.2 percent increase) for Economic Development Assistance Programs (EDAP). Note that the numbers below are based on the top-line figure released by the administration, as a detailed agency budget is not yet available.

<table>
<thead>
<tr>
<th>EDAP Category</th>
<th>FY15 Request ($ millions)</th>
<th>Percent Change from FY14 Estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Works</td>
<td>115</td>
<td>(9.4)</td>
</tr>
<tr>
<td>Economic Adjustment Assistance</td>
<td>47</td>
<td>11.9</td>
</tr>
<tr>
<td>Partnership Planning</td>
<td>29</td>
<td>No change</td>
</tr>
<tr>
<td>Regional Innovation Strategies Program</td>
<td>25</td>
<td>66.6</td>
</tr>
<tr>
<td>Trade Adjustment Assistance</td>
<td>15</td>
<td>(33.3)</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>12</td>
<td>(9.1)</td>
</tr>
<tr>
<td>Research and Evaluation</td>
<td>2</td>
<td>No change</td>
</tr>
</tbody>
</table>

EDA’s Regional Innovation Strategies Program would receive $25 million (66.6 percent increase over FY14 estimated funding) to promote economic development planning and projects that spur entrepreneurship and innovation at the regional level.
National Telecommunications and Information Administration (NTIA)
NTIA would receive $51 million (10.9 percent increase), including $5 million (no change) for telecommunications sciences research. The budget would provide an additional $7.5 million for a new NTIA Internet Policy Center to coordinate broadband policy with national stakeholders.

Department of Defense
The FY15 budget request for the Department of Defense (DOD) would provide $495.6 billion (0.1 percent decrease) in discretionary base funding. DOD is proposing a strategic rebalance to the Asia-Pacific region as the war in Afghanistan nears an end, while also maintaining a military presence and engagement with allies and partners in the greater Middle East. The budget supports this adjustment and makes strategic investments in areas identified as priorities, such as increasing security challenges and opportunities in cyberspace, continuing to invest in R&D to feed innovation in both the military and civilian sectors, and combating terrorism.

The FY15 budget request of $5.1 billion continues to fully support defensive and offensive cyberspace operations capabilities to develop the Cyber Mission Forces initiated in FY13. DOD Space Investment Programs would be funded at $7.2 billion.

DOD Research, Development, Test, and Evaluation (RDT&E) would receive a total $63.5 billion (0.7 percent increase) in FY15. This includes $11.5 billion for Science and Technology (4.2 percent decrease), which is comprised of Basic Research, Applied Research and Advanced Technology Development. DOD Basic Research would receive $2 billion (6.9 percent decrease), Applied Research $4.5 billion (4 percent decrease) and Advanced Technology Development $5 billion (3.1 percent decrease).

FY15 budget request for DOD RDT&E by military branch (in millions of dollars, change from FY14 enacted)

<table>
<thead>
<tr>
<th></th>
<th>Army</th>
<th>Navy</th>
<th>Air Force</th>
<th>Defense-Wide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Research</td>
<td>424 (-2.8%)</td>
<td>576 (-6.9%)</td>
<td>455 (-13.4%)</td>
<td>562 (-4.0%)</td>
</tr>
<tr>
<td>Applied Research</td>
<td>863 (-9.6%)</td>
<td>821 (-4.5%)</td>
<td>1,081 (-5.7%)</td>
<td>1,692 (+0.7%)</td>
</tr>
<tr>
<td>Advanced Technology Development</td>
<td>918 (-13.7%)</td>
<td>595 (-4.6%)</td>
<td>594 (-6.7%)</td>
<td>2,933 (+1.95%)</td>
</tr>
<tr>
<td>Advanced Component Development and Prototypes</td>
<td>323 (-22.1%)</td>
<td>4,592 (+6.3%)</td>
<td>1,372 (+62.7%)</td>
<td>6,047 (-0.1%)</td>
</tr>
<tr>
<td>System Development and Demonstration</td>
<td>1,719 (-16.5%)</td>
<td>5,419 (+27.5%)</td>
<td>3,337 (-26.1%)</td>
<td>611 (-12.3%)</td>
</tr>
<tr>
<td>Management Support</td>
<td>1,000 (-14.0%)</td>
<td>977 (+13.4%)</td>
<td>1,183 (+6.2%)</td>
<td>888 (-3.9%)</td>
</tr>
<tr>
<td>Operational System Development</td>
<td>1,346 (+29%)</td>
<td>3,286 (-4.6%)</td>
<td>15,718 (+6.2%)</td>
<td>4,032 (-7.0%)</td>
</tr>
<tr>
<td>Total</td>
<td>6,594 (-7.6%)</td>
<td>16,266 (+8.6%)</td>
<td>23,740 (+0.7%)</td>
<td>16,766 (-2.3%)</td>
</tr>
</tbody>
</table>

A total of $26.4 billion is included for DOD under the FY15 Opportunity, Growth and Security Initiative, of which $335 million is slated for Science and Technology.
Funding levels for select DOD research agencies in the FY15 budget include:

- **Defense Advanced Research Projects Agency (DARPA)** — $2.9 billion (4.9 percent increase)
  DARPA plans to invest approximately $80 million in the **BRAIN Initiative**, a National Institutes of Health priority aimed at better understanding the human brain.
- **Chemical and Biological Defense Programs** — $1.1 billion (4 percent decrease)
- **Defense Threat Reduction Agency** — $480.1 million (1.8 percent decrease)
- **Defense Information Systems Agency** — $216.1 million (2.7 percent decrease)
- **Defense Logistics Agency** — $233.5 million (9.2 percent decrease)

**Department of Education**

The **FY15 budget request** for the **Department of Education (ED)** totals $68.6 billion (1.9 percent increase) in total discretionary funding. An overhaul of P-12 STEM education programs and a ConnectED initiative providing next-generation broadband and high-speed wireless network support to students and teachers are among the new proposals.

With the FY15 budget request, the administration is proposing $170 million in new funding for a comprehensive STEM innovation proposal to transform teaching and learning in STEM education. The goal is to create a fresh framework for delivering STEM education to more students and teachers more effectively while reducing fragmentation. Key activities include:

- **STEM Innovation Networks** — $110 million to provide competitive awards to local education agencies (LEAs) in partnership with institutions of higher education, nonprofit organizations, other public agencies, and businesses to transform STEM teaching and learning by accelerating the adoption of practices in P-12 education that help increase the number of students who seek out and are effectively prepared for postsecondary education and careers in STEM fields.
- **STEM Teacher Pathways** — $40 million to help develop 100,000 new, effective STEM teachers though competitive grants for recruiting, preparing, placing, and supporting talented recent college graduates and mid-career professionals in the STEM fields in high-need schools.
- **National STEM Master Teacher Corps** — $20 million to identify, refine, and share models to help America's best and brightest math and science teachers make the transition from excellent teachers to school and community leaders and advocates for STEM education. This program would recognize, enlist and reward a nationwide corps of outstanding STEM educators to help improve STEM teaching and learning in schools and communities.

The proposal also would replace the **Mathematics and Sciences Partnerships** program with a new **Effective Teaching and Learning: STEM** program, which would be funded at the same level — $149.7 million. The new program would provide formula grants to support comprehensive, evidence-based strategies and professional development that aligns federal, state and local resources to provide high-quality STEM instruction.

A new **ConnectEDucators** program would help educators transition to using technology and data to personalize learning and improve instruction and assessment. The goal is to ensure that teachers and leaders with access to high-speed internet and devices for students are well prepared to use the resources in a way that improves classroom instruction and learning. The budget proposes $200 million for the effort in FY15 and the Opportunity, Growth and Security Initiative would add $300 million to the initiative to provide a total of 100,000 teachers in 500 school districts across the U.S. with access to professional development in this area.
Department of Energy
The administration’s FY15 budget request in discretionary funding for the Department of Energy (DOE) is $27.9 billion (1 percent decrease from FY14), of which $12.3 billion would support R&D (8.4 percent increase) and $4.2 billion would support investment in the Department’s applied energy sector programs to drive an “all-of-the-above” approach to energy sector innovation. The proposed budget would provide substantial increases for funding advanced manufacturing and clean energy R&D.

DOE Office of Science (SC), the largest federal sponsor of basic research in the physical sciences, would receive $5.1 billion (0.9 percent increase) to support basic research in fundamental science that drives energy innovation. The proposed budget would reduce funding for Workforce Development for Teachers and Scientists ($19.5 million, 26.4 percent decrease) and Science Laboratories Infrastructure ($79.2 million, 19 percent decrease). However, funding for all of SC research programs except High Energy Physics and Fusion Energy Sciences would increase. SC Research programs include:

- **Basic Energy Sciences** — $1.8 billion (5.5 percent increase) to promote basic science research related to energy technology development;
- **Biological and Environmental Research** — $628 million (3 percent increase) to advance understanding of the role of atmospheric, terrestrial, ocean, and subsurface interactions in predicting climate change and plan for future energy and resource needs;
- **Nuclear Physics** — $593.6 million (4.3 percent increase) to support nuclear matter research;
- **High Energy Physics** — $744 million (6.6 percent decrease) to promote fundamental research of the universe;
- **Advanced Scientific Computing Research** — $541 million (13.2 percent increase) to support the advanced computational research, applied mathematics, computer science, and the development and operation of high performance computing facilities; and,
- **Fusion Energy Sciences** — $416 million (17.6 percent decrease) to promote the research and development of nuclear fusion technology.

The proposed SC budget would also continue funding for Energy Frontier Research Centers, the Fuels from Sunlight Innovation Hub and the Batteries and Energy Storage Energy Innovation Hub(s), new investment in computational materials sciences to develop community codes for the design of functional materials and the construction of a Rare Isotope Beam facility at Michigan State University.

The Office of Energy Efficiency and Renewable Energy (EERE) would receive $2.3 billion (21.9 percent increase) to support its operational focus on research, development, demonstration, and deployment (RDD&D) of cost effective, clean energy manufacturing technologies. EERE’s Advanced Manufacturing program would have its budget more than doubled to $305.1 million (69.1 percent increase) to support the Clean Energy Manufacturing Initiative deployment of at least one more Clean Energy Manufacturing Innovation Institute. The proposed budget also supports advanced manufacturing and materials R&D aimed at supporting U.S. manufacturing gains in energy productivity, environmental performance, and economic competitiveness.
Funding for EERE research programs includes:

<table>
<thead>
<tr>
<th>EERE Research Programs</th>
<th>FY15 Request ($ millions)</th>
<th>Percent Change from FY14 enacted</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Energy Efficiency and Renewable Energy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle Technologies</td>
<td>359</td>
<td>23.9</td>
</tr>
<tr>
<td>Bioenergy Technologies</td>
<td>253.2</td>
<td>9</td>
</tr>
<tr>
<td>Solar Energy Technologies</td>
<td>282.3</td>
<td>9.8</td>
</tr>
<tr>
<td>Wind Power Technologies</td>
<td>115</td>
<td>30.5</td>
</tr>
<tr>
<td>Water Power Technologies</td>
<td>62.5</td>
<td>6.7</td>
</tr>
<tr>
<td>Geothermal Technologies</td>
<td>61.5</td>
<td>34.4</td>
</tr>
<tr>
<td><strong>Energy Efficiency</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advanced Manufacturing</td>
<td>305.1</td>
<td>69.1</td>
</tr>
<tr>
<td>Building Technologies</td>
<td>211.7</td>
<td>19</td>
</tr>
<tr>
<td>Weatherization and Intergovernmental Programs</td>
<td>304.7</td>
<td>25.9</td>
</tr>
</tbody>
</table>

The president’s budget request would allocate $325 million (16.1 percent increase) for the Advanced Research Projects Agency – Energy (ARPA-E), which supports high-impact energy research with real-world applications. Proposed funding would support a $150 million open-funding opportunity to support transformational energy systems research and provide seed funding for proof-of-concept ideas that could support the development of future programs.

Fossil Energy Research and Development (FER&D) would receive $475.5 million (15.4 percent decrease) to support conventional energy R&D programs focused on carbon capture research. Funding highlights include:

- $35 million (69.9 percent increase) in R&D funding for natural gas technologies;
- $25 million to establish a new demonstration program, Natural Gas Carbon Capture and Storage, to support projects that capture and store carbon emissions from natural gas power systems; and,
- $33.5 million (15.8 percent decrease) to support cross-cutting research in the design, construction, and operation of energy systems.

The president’s budget request would also eliminate the Unconventional Fossil Energy Technologies program.

As part of the president’s Climate Action Plan, the Innovative Technology Loan Guarantee Program (LGP) would receive a net appropriation of $7 million (65 percent decrease) to offset the program’s administrative costs. The program’s remaining $8 billion in loan guarantee authority would be used to support renewable energy and greenhouse gas reduction projects. The Advanced Technologies Vehicles Manufacturing (ATVM) Loan Program, which supports the domestic production of advanced technology vehicles, would receive $4 million (33.3 percent decrease) to cover administrative and operational expenses of the program.

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**Department of Health and Human Services**

The administration’s FY15 budget request for the Department of Health and Human Services (HHS) is $77.1 billion in discretionary spending, reflecting a 1.6 percent decrease from FY14 enacted funding levels. Discretionary spending accounts for only 7.5 percent of the total proposed HHS budget.
Mandatory spending for programs like Medicare, Medicaid and the Children’s Health Insurance Program accounts for the balance. Total FY14 budget authority for HHS would be $1 trillion (6 percent increase over FY14 enacted). Through the Opportunity, Growth and Services Initiative (OGSI), the National Institutes of Health (NIH) would be allocated $970 million to support the awarding of about 650 additional new grants several initiatives including:

- $30 million in funding for a new advanced research program to support high-risk high-reward projects modeled after the Department of Defense’s Advanced Research Projects Agency (DARPA), NIH entities would contribute an additional $100 million to the program; and,
- Increased funding for the Brain Research through Advancing Innovation Neurotechnologies (BRAIN) initiative.

The budget provides $462 million to support the advanced development of next generation medical counter-measures against chemical, biological, radiological and nuclear threats including $415 million to develop and procure new measures through Project Bioshield. The Biomedical Advanced Research and Development Authority (BARDA) also would be allocated funding for the support advanced research and development.

The proposed Universal Influenza Vaccine Development initiative would be allocated $50 million to support the advanced development of vaccine candidates for universal influence vaccine and to support activities to improve the basic effectiveness of existing vaccines. The initiative would be administered by the Public Health and Social Services Emergency Fund. It would bring the total FY14 funding for universal influenza vaccine development to $123 million for FY14.

National Institutes of Health (NIH)
In FY15, NIH estimates the budget request of $30.1 billion (0.7 percent increase) to support a total of 34,197 research project grants, including 9,326 new and competing awards (3.7 percent over FY14) including 1,635 new SBIR/STTR awards. The additional $970 million from OGSI would increase the NIH budget to $31.3 billion in FY15. Approximately 11.3 percent of the budget would support intramural programs consisting of basic and clinical research activities.
Approximately 83 percent of NIH's available funding would support the extramural research community including universities, medical schools, hospitals and other research facilities. The total request for the 24 institutes of NIH and the Office of the Director breaks down as follows:

<table>
<thead>
<tr>
<th>Institute</th>
<th>FY14 Request ($ millions)</th>
<th>Percent Change (From FY14 Enacted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Cancer Institute (NCI)</td>
<td>4,931</td>
<td>0.2</td>
</tr>
<tr>
<td>National Institute of Allergy and Infectious Diseases (NIAID)</td>
<td>4,423</td>
<td>0.7</td>
</tr>
<tr>
<td>National Heart, Lung and Blood Institute (NHILBI) (NIGMS)</td>
<td>2,988</td>
<td>0.2</td>
</tr>
<tr>
<td>National Institute of General Medicine Studies (NIGMS)</td>
<td>2,369</td>
<td>0.3</td>
</tr>
<tr>
<td>National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)</td>
<td>1,893</td>
<td>0.6</td>
</tr>
<tr>
<td>National Institute of Neurological Disorders and Stroke (NINDS)</td>
<td>1,608</td>
<td>1.5</td>
</tr>
<tr>
<td>Office of the Director (NIH)</td>
<td>1,452</td>
<td>3.7</td>
</tr>
<tr>
<td>National Institute of Mental Health (NIMH)</td>
<td>1,440</td>
<td>1.6</td>
</tr>
<tr>
<td>National Institute of Child Health and Human Development (NICHD)</td>
<td>1,283</td>
<td>0.2</td>
</tr>
<tr>
<td>National Institute of Aging (NIA)</td>
<td>1,171</td>
<td>0.2</td>
</tr>
<tr>
<td>National Institute of Drug Abuse (NIDA)</td>
<td>1,023</td>
<td>0.7</td>
</tr>
<tr>
<td>National Institute of Environmental Health and Sciences (NIEHS)</td>
<td>742</td>
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</tr>
<tr>
<td>National Eye Institute (NEI)</td>
<td>675</td>
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<tr>
<td>National Center for Advancing Translational Sciences (NCATS)</td>
<td>657</td>
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</tr>
<tr>
<td>National Institute for Arthritis and Musculoskeletal and Skin Diseases (NIAMS)</td>
<td>520</td>
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<tr>
<td>National Human Genome Research Institute (NHGRI)</td>
<td>498</td>
<td>0.2</td>
</tr>
<tr>
<td>National Institute of Alcohol Abuse and Alcoholism (NIAAA)</td>
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<tr>
<td>National Institute of Deafness and Other Communication Disorders (NIDCD)</td>
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<tr>
<td>National Institute of Dental and Craniofacial Research (NIDCR)</td>
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<td>—</td>
</tr>
<tr>
<td>National Library of Medicine (NLM)</td>
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<tr>
<td>National Institute of Biomedical Imaging and Bioengineering (NIIBI)</td>
<td>329</td>
<td>0.9</td>
</tr>
<tr>
<td>National Institute of Minority Health and Health Disparities (NIMHD)</td>
<td>268</td>
<td>—</td>
</tr>
<tr>
<td>National Institute of Nursing Research (MINR)</td>
<td>140</td>
<td>—</td>
</tr>
<tr>
<td>National Center for Complementary and Alternative Medicine (NCCAM)</td>
<td>125</td>
<td>0.8</td>
</tr>
<tr>
<td>John E. Fogerty International Center (FIC)</td>
<td>68</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Note: NIEHS’ total request of $742 million includes appropriation allocated to the HHS, the Department of the Interior and the Department of Labor.

Approximately 54 percent of the proposed NIH research budget is devoted to basic and biomedical and behavioral research including $100 million to expand its contribution to the BRAIN initiative. In FY15, NIH also proposed to continue the implementation of the Accelerating Medicines Partnership (AMP), a venture between NIH, ten biopharmaceutical companies and several organizations to develop new diagnostic and
therapeutics. Strategic research areas of investment include: $3 billion for research on HIV/AIDS; and, $556 million for Alzheimer’s Diseases research.

**Agency for Healthcare Research and Quality (AHRQ)**
The FY15 total program level request for the **Agency for Healthcare Research and Quality** (AHRQ) is $40 million, a decrease of $24 million (5.2 percent) from FY14 enacted. AHRQ provides extramural research support in the form of grants, cooperative agreements and research contracts to improve the quality, safety, efficiency and effectiveness of healthcare. The primary research areas of funding for AHRQ include:

- $106 million (13.5 percent increase) for **Patient-Centered Health Research**;
- $93 million (16.2 percent decrease) for **Health Services Research, Data and Dissemination** including $20 million for new investigator-initiated research grants on the quality and efficiency of healthcare services ($15 million will focus on economics research);
- $73 million (1.4 percent increase) for **General Patient Safety Research** including $15 million for a new initiative that will expand the implementation of recent advances in patient safety;
- $23 million (23.3 percent decrease) **Health Information Technology Research** including $20 million to support 40 grants for foundation health IT research; and,
- $11 million (52.2 percent decrease) for **Prevention/Care Management Research**.

**Department of Homeland Security**
The administration’s FY15 budget request for the **Department of Homeland Security (DHS)** is $38.2 billion (2 percent decrease) in non-disaster, net discretionary funding, excluding disaster relief funding. The proposed budget includes funding for major asset acquisitions, including $300 million for completing the construction of the **National Bio- and Agro-Defense Facility**. The proposed budget also includes $549 million to support the EINSTEIN intrusion, detection, and prevention cybersecurity system.

In the president’s budget, funding for the DHS **Science and Technology Directorate (S&T)** would receive $1.1 billion (10 percent decrease) for research and development activities and would target opportunities in cybersecurity and the detection of nuclear, chemical, biological, and explosive threats. S&T works with state and local partners to support research, development, testing, and evaluation (RDT&E) and provides technology solutions to improve mission effectiveness. Proposed funding for ST&T initiatives includes:

- **Laboratory Facilities** — $435.2 million (20 percent decrease);
- **Research, Development and Innovation** — $433.8 million (6 percent decrease); and,
- **University Programs** — $31 million (28 percent decrease).

**Department of Housing and Urban Development**
The president’s FY15 **budget request** for the **Department of Housing and Urban Development (HUD)** is $47.7 billion, a 2.6 percent increase. The administration’s Growth, Opportunity and Security Initiative proposes $280 million for HUD to support comprehensive revitalization in high-poverty neighborhoods and for the Promise Zones Initiative.

The **Community Development Fund**, which includes the **Community Development Block Program (CDBG)**, would receive $2.9 billion (7.4 percent decrease). Of this amount, $2.8 billion (7.6 percent decrease) is for the CDBG formula grant program to assist state and local governments address community and economic development activities.
The budget requests $75 million within the Opportunity, Growth and Security Initiative for Integrated Planning and Investment grants, formerly known as Sustainable Communities grants. Grants would be used to spur economic progress and promote opportunity by supporting communities and regions with developing long-term, strategic investment plans that serve as a formalized blueprint for revitalizing communities.

Department of the Interior
The administration’s FY15 budget request for the Department of the Interior (DOI) would provide $11.7 billion (0.3 percent increase) in discretionary funding. DOI would receive $888.7 million (7.3 percent increase) for research and development activities. Of the proposed R&D budget, $94.8 million (3.5 percent increase) would be allocated to DOI’s Powering Our Future initiative, which supports renewable energy projects on federal lands and waters.

DOI would receive $140 million of its R&D funding through the administration’s Opportunity, Growth and Security Initiative (OGSI). OGSI-supported research would target energy and mineral development; climate resilience; landscape scale ecosystem management, restoration and protection; water resources management; and, species protection and health.

Department of Justice
The Department of Justice (DOJ) would receive $27.4 billion in FY15 discretionary funding under the president’s budget request, a 0.4 percent increase.

For the Office of Justice Programs (OJP), the budget request for FY15 totals $2.4 billion (0.5 percent decrease) with $137 million (14 percent increase) for Research, Evaluation, and Statistics. This appropriation includes programs that provide grants, contracts and cooperative agreements for research, development and evaluation; development and dissemination of quality statistical and scientific information; and, nationwide support for law enforcement agencies. Of this amount, $47.5 million (18.8 percent increase) is requested for research, development and evaluation efforts under the National Institute of Justice (NIJ), which serves as the R&D agency of DOJ.

The FY15 budget request includes $6 million for the Forensics Initiative (50 percent increase). This program strengthens and enhances the practice of forensic sciences. Included is $3 million for the National Institute of Standards and Technology for measurement science and standards in support of forensic science and funding to support the Forensic Science Advisory Committee.

Department of Labor
The president’s FY15 budget would provide $11.8 billion in discretionary funding for the Department of Labor (DOL), a 1.9 percent decrease from FY14 enacted levels. In addition, the administration’s Opportunity, Growth and Security Initiative (OGSI) would provide $2.4 billion not accounted for in the departmental budget to expand the agency’s workforce training and apprenticeship programs. Most DOL programs related to high-tech and manufacturing industries reside within the department’s Employment and Training Administration (ETA), which would receive $3.3 billion (3.4 percent increase).
The Workforce Innovation Fund, which offers competitive grants to test new strategies and replicate successful practices in workforce training, would receive $60 million (26.8 percent increase). At least $10 million of these funds would be dedicated to strategies targeting younger workers. The administration is requesting $15 million for a new Sector Strategies program, which would award grants to states, consortia of states or regional partnerships to develop employment and training strategies focused on particular in-demand industry sectors in regional economies. The Job Training for Employment in High Growth Industries program is funded through H-1B visa fee collections and no annual appropriations and offers grants to training programs focused on high-growth fields. Under the request, the program would receive $125 million (0.4 percent increase).

The Trade Adjustment Assistance Community College and Career Training program, which received $464 million in FY14, would be succeeded by a new Community College Job-Driven Training Fund program. The replacement program is part of OGSI and funding is not incorporated into the DOL budget. If approved, the new program would receive $1.5 billion in FY15 to offer competitive grants to partnerships of community colleges, public and private training entities, industry groups and employers to launch training programs. Of that amount, $500 million would be set aside to help create new apprenticeship programs in high-demand fields. The fund is intended as a four-year initiative, eventually awarding $6 billion in grants.

The OGSI package also includes $750 million to restore prior cuts in DOL job training and employment services and $100 million to support the creation of state paid leave programs.

Department of Transportation
Estimated FY14 funding is used for the Department of Transportation comparisons, unless otherwise noted.

The president’s FY15 budget request for the Department of Transportation (DOT) totals $90.8 billion (25.7 percent increase), including the first installment of $73.6 billion for a $302.3 billion four-year surface transportation reauthorization proposal that would improve U.S. surface transportation systems. DOT would be allocated $865 million to support research and development (R&D) efforts across the department. Several administrations under DOT would see limited change in their R&D budgets. Funding for various research and development initiatives include:

- $451 million for the Federal Highway Administration’s Research, Technology and Education program to move forward the restructuring of R&D and technology development support proposed under the Moving Ahead for Progress in the 21st Century Act in 2012.
- $157 million for the Federal Aviation Administration’s Research, Engineering & Development activities related to NextGen and other research areas, such as environmental, safety and weather.
- $60 million (39.5 percent increase over enacted FY14) for Transit Research and Training activities under the Federal Transit Administration including the creation of a Ladders of Opportunity for transit-dependent populations that will help improve access to jobs and educational opportunities.

The administration also is requesting $14.8 million to elevate the role of research at DOT by converting the Research and Innovative Technology Administration (RITA) into the Office of the Assistant Secretary for Research and Technology within the Office of the Secretary.
Department of the Treasury
The administration’s FY14 request for the Department of the Treasury’s domestic programs is $13.8 billion (9.2 percent increase). Under the proposed budget, Treasury would continue to fund programs focused on economic development, small business support, and job creation.

The Treasury Department recommends a legislative proposal that would provide $1.5 billion (18.6 percent decrease) for a second round of funding for the State Small Business Credit Initiative (SSBCI) to support state-sponsored, public-private partnerships that increase lending, investment, and technical assistance to small businesses and manufacturers. Of that funding, $1 billion would be awarded on a competitive basis to states that target underserved groups and $500 million would be allocated to states according to a need-based formula.

The Community Development Financial Institutions (CDFI) Fund provides infusions of capital to financial institutions that serve economically distressed urban and rural communities. The president’s budget proposes $224.9 million (0.49 percent decrease) in funding for the CDFI Fund, with a lower level of funding due to the proposed termination of the Bank Enterprise Award Program. Proposed funding would include:

- **CDFI Core Program** — $151.3 million (3.37 percent increase) to expand the availability of credit, investment capital, and financial services in distressed urban and rural communities;
- **Healthy Food Financing Initiative** — $35 million (59.1 percent increase) to develop healthy food outlets in areas classified as “food deserts,” low-income areas where a majority of residents do not have access to a supermarket; and,
- **Native American CDFI Assistance Program** — $15 million (no change) to assist distressed Native American communities with access to credit, capital, and financial services through the creation and expansion of Native American CDFIs.

The president’s budget proposes the permanent extension of the New Market Tax Credit program, which allows Community Development Entities (CDEs) in low-income communities to apply to the CDFI Fund for tax credit investment authority in annual competitive rounds. Tax credits are then awarded to private investors in return for equity investments in CDEs. The president’s proposal would allow up to $5 billion in qualifying investment each year starting in 2014. The budget recommendation allocates $2 billion in new tax credits for the proposed Manufacturing Communities Tax Credit Program, which would support qualified investments in communities affected by mass layoffs or military base closures.

The proposed budget also would extend the CDFI Bond Guarantee Program by one year to provide long-term capital to CDFIs that support lending in underserved communities. The proposed budget does not appropriate new funds for the program, but does support the administration of $325 million in bonds guaranteed by the Treasury Department in FY14 to finance loans to CDFIs that provide financing for affordable multi-family rental housing, healthcare facilities, charter schools, and commercial real estate in low-income or underserved rural areas.

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Environmental Protection Agency
The president’s FY15 budget request of $7.9 billion for the Environmental Protection Agency (EPA) reflects a 3.8 percent decrease from FY14 enacted. However, funding for science and technology programs would increase by 0.6 percent under the budget proposal. Priority funding areas for EPA R&D in FY15 include research in potential endocrine disrupting chemicals, human health risk assessment, air quality, sustainable approaches to environmental protection, and safe drinking water.
For **Science and Technology (S&T)**, including R&D activities, the administration requests $763.8 million (0.6 percent increase). Funding for S&T represents 9.7 percent of EPA’s total budget request.

Funding for EPA’s **Science to Achieve Results (STAR)** and the **Greater Research Opportunities fellowship** programs will be consolidated as part of a comprehensive reorganization to facilitate a cohesive, national strategy of STEM education programs to increase the impact of federal investment in four areas. This includes K-12 instruction, undergraduate education, fellowships and scholarships, and information education. The president’s budget reflects a decrease of $11.1 million as part of the consolidation.

The Climate Protection program, which includes **Energy STAR**, **Greenhouse Gas Reporting Registry** and the **Global Methane Initiative** (formerly Methane to Markets), is funded at $104 million (9 percent increase) under the president’s budget.

**NASA**

The president’s FY15 budget request for **NASA** totals $17.5 billion in discretionary funding and prioritizes research and development that has the potential to bolster long-term space exploration. Major priorities of the proposed budget include extending the life of the International Space Station to 2024 and institutionalizing partnerships with the commercial space industry.

The proposed budget would allocate $4.9 million (4 percent decrease) for NASA’s **Science Mission Directorate**, which supports research science, invests in advanced technologies, supports over 90 space missions, and maintains partnerships with a dozen other federal agencies and 60 other nations. Funding would include:

- **Earth Science** — $1.8 billion (no change) for improved climate modeling, weather prediction, and natural hazard mitigation, through Earth observation from space;
- **Planetary Science** — $1.3 billion (no change) to explore the planetary bodies of our solar system;
- **Astrophysics** — $607 million (10 percent decrease) to scan the universe and search for earth-like planets; and,
- **Heliophysics** — $669 million (2 percent increase) to study the influence of the sun on our solar system.

**Science Mission Directorate** funding would provide $645 million (2 percent decrease) for the continued development of the James Webb Space Telescope, which is slated for a 2018 launch.

NASA’s **Human Exploration Operations** budget would be $7.8 billion (no change) and allocate $3 billion to expand the life of the International Space Station and $848 million to support **Commercial Spaceflight** partnerships, including the **Commercial Crew Program**, which funds efforts for NASA certification of U.S.-based commercial space service providers to become official partners. The budget would provide $250 million to accelerate the development and certification of those partnerships as part of the **Opportunity, Growth, and Security Initiative**. An additional $343.4 million would be allocated for **Exploration Research and Development**, supporting the development of foundational technologies that support future exploration missions.
NASA’s Education programs would be restructured under the president’s budget proposal, and would receive $89 million (31 percent decrease) to support the administration’s five-year federal strategic plan on STEM education. NASA Education funding would include:

- **Space Grants** — $24 million (66 percent decrease) to provide NASA-related education opportunities to a national network of universities and colleges;
- **EPSCoR** — $9 million (50 percent decrease) to provide competitive NASA-related research opportunities to eligible higher education institutions;
- **MUREP** — $30 million (no change) to provide financial assistance to the nation’s Historically Black Colleges and Universities, Hispanic Serving Institutions, Asian American and Native American Pacific Islander – Serving Institutions, Tribal Colleges and Universities, and eligible community colleges; and,
- **SEAP** — $26 million (11 percent decrease) to support a competitive process to identify and implement NASA education initiatives.

The budget would provide $15 million for NASA to competitively fund the best application of its research assets to improve STEM education. More details will be available when the full agency budget is released.

The budget would provide $3.1 billion for the International Space Station (ISS), including $100 million for promoting the ISS as a tool for STEM education.

The proposed budget for NASA Space Technology is $706 million (18 percent increase) to fund innovations that have the potential to support the country’s space exploration and scientific research goals. Funding would include $257 million for Exploration Technology Development to pursue high-powered solar electric propulsion capability and invest in capabilities needed to support long-range human space exploration; $191 million for Small Business Innovation Research and Small Business Technology Transfer (STTR) programs to support small business R&D through competitively awarded contracts; and, $257 million for Crosscutting Space Technology Development to conduct satellite and spacecraft launches, implement space-to-ground laser communication tests, and conduct supersonic demonstration of descent and landing technologies.

**National Science Foundation**

*Estimated FY14 funding levels are used for NSF comparisons, unless otherwise noted.*

The president’s FY15 budget proposal for the National Science Foundation (NSF) would provide $7.3 billion (1.2 percent increase). Of that amount, $5.8 billion (no change) would be designated for research and related activities, $200.8 million (0.4 percent increase) for R&D facilities and equipment, and $889.8 million (5.2 percent increase) for education and training. The president’s budget proposes three priority goals to improve NSF’s effectiveness and efficiency:

- Increase public access to NSF funded peer-reviewed publications;
- Improve the nation’s capacity in data science; and,
- Optimize the award process to level workload.
Nearly 90 percent of NSF funding is awarded through a merit review process that includes distribution of grants and cooperative agreements. Key initiatives included in the proposal are:

- $213.2 million (7.3 percent decrease) for *Cyber-Enabled Materials, Manufacturing and Smart Systems* (CEMMSS);
- $139 million (14.1 percent decrease) for *Science, Engineering and Education for Sustainability* (SEES);
- $124.8 million (14.2 percent decrease) for *Cyberinfrastructure Framework For 21st Century Science, Engineering And Education* (CIF21);
- $99.8 million (20 percent decrease) for *Secure and Trustworthy Cyberspace* (SaTC);
- $29.3 million for *Research at the Interface of Biological, Mathematical and Physical Sciences and Engineering* (BioMaPS);
- $29 million (109.4 percent increase) for *cognitive science and neuroscience research* including NSF’s contribution to the BRAIN initiative; and,
- $24.9 million (11 percent increase) for *NSF Innovation Corps* (I-Corps).

The FY15 budget request would fund several initiatives that cross several NSF entities including $362 million for clean energy, $415.6 million (6.1 percent decrease) for homeland security activities and $151 million for advanced manufacturing. Other initiatives that cross several entities include:

- **Faculty Early Career Development** (CAREER) — $212.9 million (1.2 percent increase) to support exceptionally promising college and university junior faculty who are committed to the integration of research and education and who are most likely to become the leaders in their respective fields; and,
- **Enhancing Access to the Radio Spectrum** (EARS) — $23 million (6.1 percent decrease) to identify interdisciplinary research opportunities that will lead to future enhancements in the efficiency by which the radio spectrum is used and increase access to broadband wireless services and other benefits derived from efficient spectrum use.

The budget provides several allocations for NSF contributions to several multiagency initiatives including:

- **Networking and Information Technology Research and Development** (NITRD) — $1.2 billion (0.2 percent decrease) to support large-scale networking, cybersecurity, high-confidence software and systems, human-computer interactions and software productivity;
- $409.9 million (0.2 percent decrease) for the *National Nanotechnology Initiative* (NNI);
- $318 million (1.5 percent increase) for the *U.S. Global Change Research Program* (USGCRP);
- $29 million for the *National Robotics Initiative* (NRI); and,
- $22 million for the *Material Genome Initiative* (MGI).

Under the proposed budget, NSF would receive $552 million for the administration’s proposed *Opportunity, Growth and Security Initiative* (OGSI) to fund 1,000 new awards across the NSF portfolio to accelerate S&T in key national priority areas such as advanced manufacturing, clean energy, cybersecurity, neuroscience and STEM workforce development.
NSF Centers Programs
NSF requests $240.5 million (10 percent decrease) for center programs, which are the principal means by which NSF fosters interdisciplinary research. Many NSF centers receive additional support from research-based state TBED strategies. NSF programs include:

- **Engineering Research Centers (ERCs)** — $64 million (6.6 percent decrease) to fund partnerships working toward the development of next-generation advances in engineered systems;
- **Materials Research Science & Engineering Centers (MRSECs)** — $56 million to support centers that support materials research and education efforts at academic institutions across the country;
- **Science & Technology Centers (STCs)** — $48.4 million (17.6 percent decrease) to advance interdisciplinary discovery and innovation in both science and engineering through funding for research, education, knowledge transfer and workforce development efforts;
- **Centers for Chemical Innovation (CCIs)** — $32 million (9.4 percent increase) to support long-term “big questions” in basic chemical research;
- **Centers for Analysis & Synthesis** — $20.9 million (2.6 percent decrease) toward the development of new tools and standards for the management of biological information and to support data analysis capabilities across the country;
- **Nanoscale Science & Engineering Centers (NSEs)** — 12.2 million (14.9 percent decrease) toward research to advance the development of ultra-small technology in electronics, materials, medicine, environmental science and other fields; and,
- **Science of Learning Centers (SLCs)** — $7 million (63.1 percent decrease) to conduct research that advances the understanding of learning and its social implications.

NSF Directorates, Offices and Commission
NSF is organized into several directorates, offices and a commission. FY15 funding for these entities would include:

<table>
<thead>
<tr>
<th>Directorate, Office or Commission</th>
<th>FY15 Request ($ millions)</th>
<th>Percent Change (From FY14 estimated)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geosciences</td>
<td>1,304</td>
<td>0.1</td>
</tr>
<tr>
<td>Mathematical &amp; Physical Sciences</td>
<td>1,296</td>
<td>(0.3)</td>
</tr>
<tr>
<td>Computer &amp; Information Sciences &amp; Engineering</td>
<td>893</td>
<td>(0.1)</td>
</tr>
<tr>
<td>Engineering</td>
<td>858</td>
<td>(0.1)</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>709</td>
<td>(1.7)</td>
</tr>
<tr>
<td>Social, Behavioral &amp; Economic Sciences</td>
<td>272</td>
<td>5.8</td>
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<tr>
<td>International and Integrative Activities</td>
<td>474</td>
<td>(1.7)</td>
</tr>
<tr>
<td>Arctic Research Commission</td>
<td>1</td>
<td>—</td>
</tr>
</tbody>
</table>

The administration FY15 request for research and related activities within NSF directorates and offices would total $7.3 billion (1.2 percent increase). Selected programs from NSF directorates and offices include:

- **Industrial Innovation and Partnerships (IIP)** — $213.7 million (3.8 percent increase) within the Engineering Directorate to support the commercialization and technology transfer efforts of institutions of higher education. Programs of interest within the IPP budget request include Partnership for Innovation program, Industry/University Cooperative Research Centers (I/UCRC) program, and Accelerating Innovation Research (AIR) program. The IPP administers
the **Small Business Innovation Research** (SBIR) and **Small Business Technology Transfer** (STTR) programs that would receive $165 million (3.5 percent increase);

- **Experimental Program to Stimulate Competitive Research** (EPSCoR) — $159.7 million (0.9 percent increase) within the Office of International and Integrative Activities to promote the development of eligible states’ S&T resources through partnerships involving universities, industry, government and federal R&D enterprise;

- **Emerging Frontiers** (EF) — $87.6 million (1.8 percent decrease) within the Biological Sciences Directorate to provide funding to identify, incubate and support infrastructure and research areas that transcend scientific disciplines and/or advance the conceptual foundations of biology;

- **Division of Emerging Frontiers in Research Innovation** (EFRI) — $31.3 million (2.3 percent increase) also administered by the Engineering Directorate to help NSF focus on emerging areas in a timely manner. EFRI recommends, prioritizes and funds interdisciplinary topics at the frontiers of engineering research and education; and,

- **Integrated NSF Support Promoting Interdisciplinary Research and Education** (INSPIRE) — $13.8 million (47.1 percent decrease) within the Office of International and Integrative Activities to support research projects by extramural researchers that address some of the most complicated and pressing scientific problems that lie at the intersection of traditional disciplines. The INSPIRE program is intended to encourage investigators to submit bold, exceptional proposals that some may consider to be at a disadvantage in a standard NSF review process.

In line with the administration’s commitment to support science, technology, engineering and mathematics (STEM) education efforts, the FY15 budget would establish NSF as the lead agency for the administration of federal STEM education funding, particularly graduate and undergraduate education. The administration’s budget also would task NSF with supporting research that would strengthen the foundation of STEM education. Centered in the **Directorate for Education and Human Resources** (EHR), some key initiatives include:

- $333.4 million (11 percent increase) for **Graduate Research Fellowships** (GRF) including $7 million for a new initiative to support innovation in graduate education by providing awards to universities to explore novel ideas in student training;

- $118.5 million (33.2 percent increase) for **Improving Undergraduate STEM Education** (IUSE), an initiative for a more extensive coordination of NSF’s undergraduate STEM education investments;

- $102.5 million (10.8 percent increase) would be contributed by NSF for **Discovery Research K-12** (DR K-12), a partnership between NSF and the Department of Education to support evidenced-based solutions for improved K-126 mathematics education and knowledge building;

- $75.1 million (0.1 percent decrease) for **Research Experiences for Undergraduates** (REU) to support enhanced research experiences for students in their first two years of college; and,

- $58.2 million (5.7 percent increase) for **NSF Research Traineeships** (NRT) to support effectual innovation and design of graduate programs within specific disciplines.

To broaden participation in STEM, the budget proposes $167.5 million (0.6 percent decrease) to support several initiatives that will increase the number of women, minorities and other underrepresented groups in STEM via investments in education. These initiatives include $14.9 million (9.5 percent decrease) for the **Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers** (ADVANCE) program that would fund transformative efforts to address the system barriers of women’s full participation in academic STEM.

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Small Business Administration
The administration’s FY15 budget request for the Small Business Administration (SBA) is $710 million, a 7.8 percent decrease from FY14 (not including presidential disaster funding). Of this amount, $47.5 million is for business loan subsidy and $197.8 million is for non-credit programs. Through the Opportunity, Growth and Security Initiative the administration also proposes public-private investment funding to support the scaling-up of new advanced manufacturing firms into full-scale commercial production.

SBA has defined several key priorities for FY15 that support competitiveness and job creation. They include: improving America’s entrepreneurial ecosystem with a focus on high-growth entrepreneurship that includes regional clusters and growth accelerators; and, building capacity and depth in the small business supply chain to strengthen manufacturing and exporting.

In FY14, SBA’s non-credit programs were separated into a new account called Entrepreneurial Development programs. For FY15, SBA’s request for non-credit program funding would increase by 0.8 percent.

**FY15 budget request for SBA Entrepreneurial Development Programs**

<table>
<thead>
<tr>
<th>Program</th>
<th>FY15 Request ($ millions, Change from FY14 Enacted)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7(j) Technical Assistance Program</td>
<td>$2.8 million (0.4%)</td>
</tr>
<tr>
<td>Boots to Business</td>
<td>7 (no change)</td>
</tr>
<tr>
<td>Entrepreneurship Education</td>
<td>15 (200%)</td>
</tr>
<tr>
<td>Growth Accelerators</td>
<td>5 (100%)</td>
</tr>
<tr>
<td>HUBZone Program</td>
<td>2 (-11.1%)</td>
</tr>
<tr>
<td>Microloan Technical Assistance</td>
<td>20 (no change)</td>
</tr>
<tr>
<td>National Women’s Business Council</td>
<td>0.9 (-10%)</td>
</tr>
<tr>
<td>Native American Outreach</td>
<td>2 (no change)</td>
</tr>
<tr>
<td>Regional Innovation Clusters</td>
<td>6 (20%)</td>
</tr>
<tr>
<td>SCORE</td>
<td>7 (no change)</td>
</tr>
<tr>
<td>Small Business Development Centers</td>
<td>113.6 (no change)</td>
</tr>
<tr>
<td>Veterans Business Outreach Centers</td>
<td>2.5 (no change)</td>
</tr>
<tr>
<td>Women’s Business Centers</td>
<td>14 (no change)</td>
</tr>
</tbody>
</table>

The funding request of $5 million (100 percent increase) to support the growth accelerators initiative will be used to either scale up existing successful growth accelerators or provide funds via a competition to university and private sector accelerators to start a new accelerator program or entrepreneurship ecosystem based on successful models.

Through its Small Business Investment Company (SBIC) program, the SBA is authorized to invest up to $4 billion annually in high-growth businesses. The president’s budget requests $4 billion in FY15 for the SBIC Debenture program (no change).

Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs would receive $584,000 in FY15. This reflects a decrease of 87.2 percent from FY14 that included $2 million for SBIR evaluation. These funds will be used to launch a central commercialization database to track data and perform business intelligence analysis. During FY15, SBA plans to implement
and monitor multiple cross-agency initiatives designed to improve program effectiveness, including sharing best practices and continuing to enhance the TechNet database.

Funding for the Business USA Initiative would double under the president’s budget to $6 million. Launched in 2012, BusinessUSA.gov serves as a one-stop resource for businesses to access government support services and coordinates federal business assistance programs. With the increase, SBA plans to incorporate more features and upgrade its content management system.

SBA’s primary economic development program, the 504 Certified Development Loan program, which provides “brick and mortar” and major equipment financing, would receive $46.5 million in FY15 (1.4 percent increase). This funding would support $7.5 billion in lending authority for the 504 loan program.

The budget also calls for a public-private investment fund as part of the administration’s manufacturing initiative. To address the gap in financing for new manufacturing firms, the budget proposes as part of the Opportunity, Growth and Security Initiative, a fund of funds to support transformative manufacturing technologies in the U.S. Once fully deployed, the fund could eventually leverage up to $10 billion in total public-private investment.

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