

DEPARTMENT OF COMMERCE FY 2017 ANNUAL PERFORMANCE PLAN / FY 2015 ANNUAL PERFORMANCE REPORT

Introduction

WHO WE ARE

The mission of the Department of Commerce is to create the conditions for economic growth and opportunity.

As part of the Obama Administration's economic team, the Secretary of Commerce serves as the voice of U.S. business within the President's Cabinet. The Department works with businesses, universities, communities, and the Nation's workers to promote job creation, economic growth, sustainable development, and improved standards of living for Americans. Through its 12 bureaus and nearly 47,000 employees located in all 50 states and territories and more than 86 countries worldwide, the Department administers critical programs that touch the lives of every American. The Department's workforce is as diverse as its mission. It is made of up economists, Nobel Prize-winning scientists, Foreign Service officers, patent attorneys, law enforcement officers, and specialists in everything from international trade to aerospace engineering.

WHAT WE DO

The Department is comprised of 12 bureaus that work together to drive progress in five key goal areas: Trade and Investment, Innovation, Environment, Data, and Operational Excellence. The underlying strength of the Department is the ability of its bureaus to work together and share expertise in all of these goal areas to drive economic growth.

As the federal government's lead agency for promoting trade and investment, the Department plays a key role in making U.S. companies more competitive abroad and attracting investment into the United States. The International Trade Administration (ITA) leads the Department's export and investment platform, working with several other bureaus both within and outside the Department to achieve this goal. For example, ITA works directly with U.S. businesses to close deals in foreign markets. At the same time, ITA coordinates with the Economic Development Administration (EDA) in assisting U.S. communities to leverage regional capacity to expand exports and connect local economic development organizations with potential foreign investors. ITA works in close partnership with the U.S. Trade Representative (USTR) to remove foreign trade barriers and with the United States Patent and Trademark Office (USPTO) to ensure adequate intellectual property (IP) protection. The Bureau of Industry and Security (BIS) enforces export control laws to ensure that national security is protected as the Department fosters trade.

Innovation is the key driver of U.S. competitiveness. The Department is well-positioned to address many of the challenges the country faces in the manufacturing sector. The National Institute of Standards and Technology (NIST) conducts foundational research that accelerates the development and adoption of technological breakthroughs, which in turn grow the economy. Increasingly, the Department also uses its unique convening power to promote public-private partnerships among universities and businesses. These partnerships provide scientific and technical resources to manufacturing firms, and support a skilled workforce to fill the manufacturing jobs of the 21st century. The Department also helps increase the capacity of regional economies to innovate. For example, NIST works with small and mid-sized manufacturers to restore robust supply chains while EDA works with communities and regions to ensure they have the hard and soft infrastructure

to support the ecosystems needed for these businesses to thrive. Many of these businesses are minority-owned and the Minority Business Development Administration (MBDA) works to provide resources to ensure they can compete and innovate.

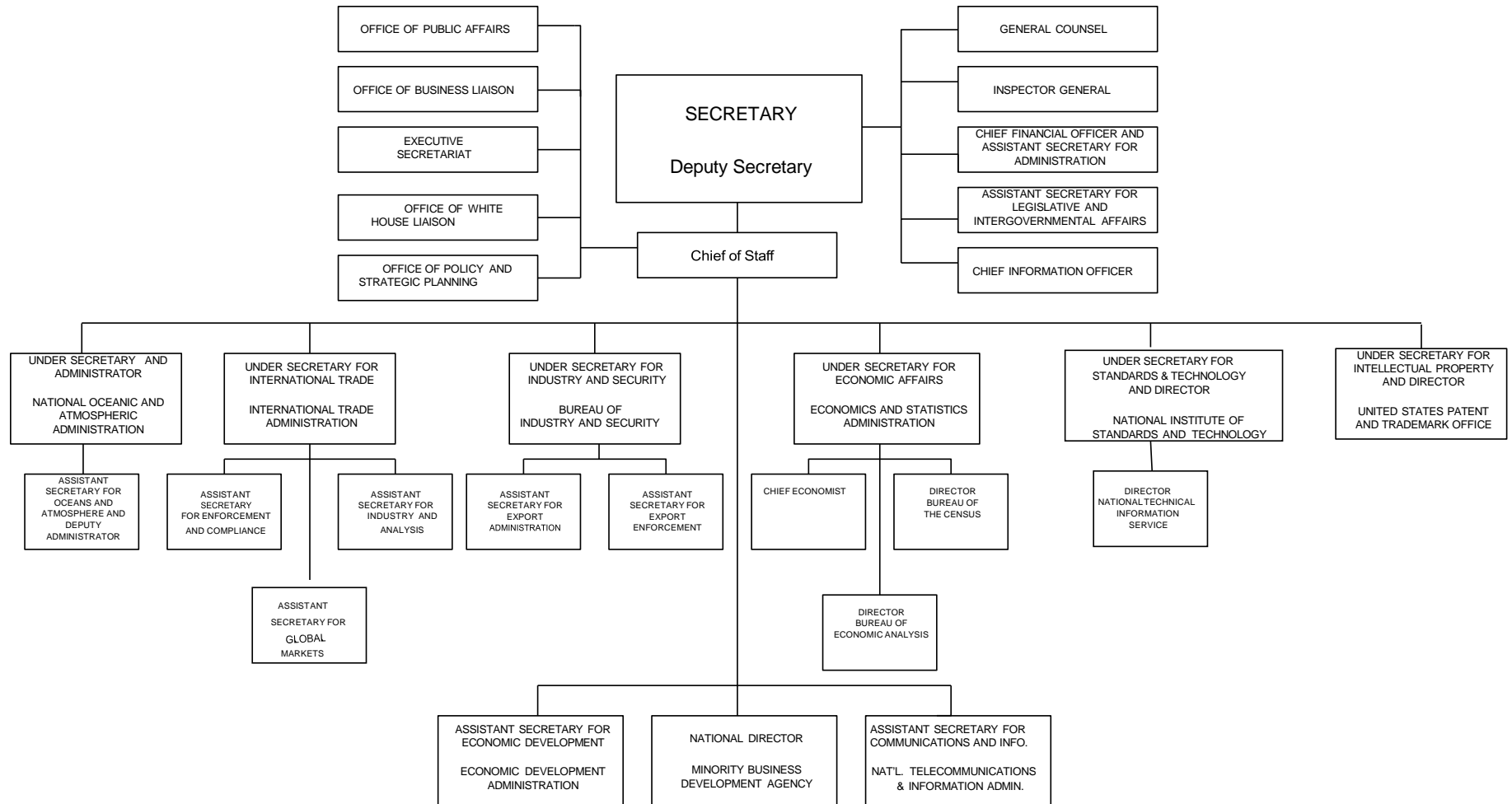
Within the federal government, the Department is the principal defender and champion of the digital economy. The National Telecommunications and Information Administration (NTIA) is the lead bureau in advising the Secretary on telecommunications issues. It works closely with NIST on advanced communications technologies, as well as with the USPTO on the intersection of Internet and copyright policies. NTIA works across the government with several agencies as it manages national spectrum resources needed for expanded high speed broadband service. NIST plays a critical role in working with industry and other government stakeholders on the development of cybersecurity standards to help protect the critical and growing digital economy. As the voice of business, the Department works to make sure that it protects a free and open Internet, and U.S. economic competitiveness, during the formulation of national security policies.

Understanding and predicting changes in the environment have never been more important and the Department plays a critical role in both. The frequency and severity of extreme weather events have increased significantly over the past decade, making investment in continued improvement of the weather and climate enterprise essential. The National Oceanic and Atmospheric Administration (NOAA) works with the private sector and other government partners to understand the best way to meet these new challenges. As the lead agency for weather and climate observations and forecasting, NOAA also works closely with the Census Bureau on disaster response, with EDA on economic resilience of communities and regions, and with NIST on disaster resilience standards. NOAA further supports the Department's mission through its strong stewardship of the ocean's resources, which contributes more than \$250 billion annually to the Nation's economy.

The foundation of all of the Department's goal areas is data. Data is the fuel that powers the 21st century economy, and Commerce data enables the Department to set the conditions for economic growth. The Department's data touches every American by informing daily business decisions, enabling start-ups, sparking invention, protecting life and property, and powering small and multi-billion dollar companies alike. In applying the Department's data, ITA determines which foreign markets to target, and EDA gains insight into regional economies. NOAA's terabytes of weather and climate data help predict severe events and generate reliable and timely weather forecasts, and NIST's data and models catalyze advanced manufacturing. The Bureau of Economic Analysis (BEA) produces estimates of gross domestic product (GDP), a key indicator of the health of the economy. The Census Bureau carries out the constitutionally mandated decennial census, which determines the allocation of billions in federal dollars to states and the drawing of Congressional districts.

Data is not only a means of advancing the Department's trade, innovation, and environment goals; it is a national asset with untapped potential. The Economic and Statistics Administration (ESA) works with the private sector to harness "Big Data" and accelerate a data-enabled economy. The National Technical Information Service (NTIS) is a center of excellence to support the entire data and information delivery pipeline (including open access, open data, and knowledge management) by leveraging its unique capabilities in collaborative processes, enterprise data management, data analytics, and data dissemination.

Organizational Structure



Department of Commerce – Locations¹

(as of December, 2015)

The Department is headquartered in Washington, D.C., at the Herbert Clark Hoover Building (HCHB) and had approximately 46,000 employees as of December, 2015. The Department also has field offices in all states and territories and maintains offices in 65 countries worldwide. The following tables show the locations of the Department's employees. **Note that staff levels (as opposed to FTE levels shown on the previous pages) are based on an Office of Human Resources (OHRM) report showing locations throughout the U.S and the world.**

	STAFF	% OF TOTAL
DC Metropolitan Area (includes all of Washington, D.C and parts of Maryland (10,696), Virginia (10,024) and West Virginia (3))	23,804	51.8
Outside DC area (includes parts of Maryland (481), Virginia (633) and West Virginia (93))	21,742	47.4
Territories (American Samoa, Guam, N. Mariana Islands & Puerto Rico) ²	123	0.3
Other Nations	234	0.5
Total	45,903	100.00

1. For these charts, DC is considered to be a state.
2. Only NOAA (72), Census (50), and ITA (1) have employees in the Territories.

Department of Commerce Staff – States and Territories

(as of December, 2015)

RK	STATE	STAFF	% of TOTAL	RK	STATE	STAFF	% of TOTAL	RK	STATE	STAFF	% of TOTAL	RK	STATE	STAFF	% of TOTAL
1	Maryland	11,177	24.5	15	Illinois	553	1.2	29	Wisconsin	242	0.5	43	South Dakota	122	0.3
2	Virginia	10,545	23.1	16	Michigan	547	1.2	30	Minnesota	232	0.5	44	Arkansas	119	0.3
3	District of Columbia	3,193	7.0	17	Alaska	518	1.1	31	Tennessee	216	0.5	45	New Hampshire	100	0.2
4	California	1,687	3.7	18	Missouri	487	1.1	32	Kansas	186	0.4	46	West Virginia	96	0.2
5	Indiana	1,507	3.3	19	Georgia	486	1.1	33	Kentucky	183	0.4	47	North Dakota	93	0.2
6	Colorado	1,369	3.0	20	Oregon	467	1.0	34	Nevada	169	0.4	48	Rhode Island	89	0.2
7	Florida	1,252	2.7	21	South Carolina	429	0.9	35	Utah	159	0.3	49	Wyoming	86	0.2
8	Washington	1,163	2.5	22	Hawaii	421	0.9	36	Montana	158	0.3	50	Puerto Rico	76	0.2
9	Texas	1,080	2.4	23	Ohio	383	0.8	37	Maine	144	0.3	51	Vermont	70	0.2
10	New York	822	1.8	24	New Jersey	379	0.8	38	Connecticut	136	0.3	52	Delaware	51	0.1
11	Arizona	729	1.6	24	Oklahoma	379	0.8	39	New Mexico	134	0.3	53	Guam	26	0.1
12	Massachusetts	664	1.5	26	Mississippi	317	0.7	40	Idaho	127	0.3	54	Amer Samoa	19	0.0
13	North Carolina	655	1.4	27	Louisiana	295	0.6	41	Iowa	125	0.3	55	N. Mar Islands	2	0.0
14	Pennsylvania	625	1.4	28	Alabama	255	0.6	41	Nebraska	125	0.3				

Department of Commerce Employees – Other Nations¹
(as of December, 2015)

REGION / NATION	STAFF	% of Other Nations	REGION / NATION	STAFF	% of Other Nations	REGION / NATION	STAFF	% of Other Nations	REGION / NATION	STAFF	% of Other Nations
EUROPE	50	21.4	AMERICAS	44	18.8	SOUTH ASIA AND MIDDLE EAST	34	14.5	NORTHEAST ASIA	56	23.9
Austria	1	0.4	Argentina	2	0.9	India ²	11	4.6	China ²	34	14.5
Belgium	7	3.0	Brazil ²	12	5.1	Israel	1	0.4	Hong Kong	3	1.3
Bulgaria	1	0.4	Canada	6	2.6	Jordan	1	0.4	Japan ²	9	3.8
Czech Republic	1	0.4	Chile	2	0.9	Kazakhstan	1	0.4	South Korea	5	2.1
Finland	1	0.4	Columbia	3	1.3	Kuwait	2	0.9	Taiwan	5	2.1
France	4	1.7	Dominican Republic	2	0.9	Pakistan	1	0.4			
Germany	6	2.6	El Salvador	2	0.9	Qatar	1	0.4	SOUTHEAST ASIA & OCEANIA	31	13.2
Greece	1	0.4	Guatemala	1	0.4	Saudi Arabia	6	2.6	Antarctica	1	0.4
Hungary	1	0.4	Mexico ²	11	4.7	Turkey	6	2.6	Australia	3	1.3
Italy	4	1.7	Panama	1	0.4	United Arab Emirates	4	1.7	Indonesia	4	1.7
Poland	2	0.9	Peru	2	0.9				Malaysia	4	1.7
Portugal	1	0.4							Myanmar	1	0.4
Romania	2	0.9	AFRICA	19	8.1				New Zealand	1	0.4
Russia	8	3.4	Angola	1	0.4				Philippines	4	1.7
Serbia	1	0.4	Chad	4	1.7				Singapore	6	2.6
Spain	1	0.4	Egypt	2	0.9				Thailand	3	1.3
Sweden	2	0.9	Ethiopia	1	0.4				Vietnam	4	1.7
Switzerland	1	0.4	Ghana	1	0.4						
Ukraine	2	0.9	Kenya	2	0.9						
United Kingdom	3	1.3	Morocco	1	0.4						
			Mozambique	1	0.4						
			Nigeria	2	0.9						
			South Africa	3	1.3						
			Tanzania	1	0.4						

1. All but three employees (one each in: Japan (NIST), New Zealand (NOAA) and Antarctica (NOAA)) working in nations outside the U.S. work for ITA.
2. Highlighted nations represent the top five countries in terms of staff.

Strategic Goals and Objectives Summary

TRADE AND INVESTMENT: Expand the U.S. economy through increased exports and inward foreign investment that lead to more and better American jobs	
1.1. Increase opportunities for U.S. companies by opening markets globally	ITA, NOAA, NTIA, USPTO,
1.2. Increase U.S. exports	BIS, EDA, ESA, ITA, MBDA, NIST, DM / OS
1.3. Increase high-impact inward foreign direct investment into the United States	EDA, ESA, ITA
1.4. Strengthen fair competition in international trade for U.S. firms and workers	ITA
INNOVATION: Foster a more innovative U.S. economy—one that is better at inventing, improving, and commercializing products and technologies	
2.1. Accelerate advanced manufacturing	EDA, NIST
2.2. Strengthen the Nation's digital economy	ITA, NIST, NTIA, USPTO
2.3. Catalyze innovation ecosystems	EDA, ESA, ITA, MBDA, NIST, USPTO, DM / OS
ENVIRONMENT: Help communities and businesses have the necessary information, products, and services to prepare for and prosper in a changing environment	
3.1. Advance the understanding and prediction of changes in the environment	NIST, NOAA,
3.2. Build a Weather-Ready Nation	ESA, NOAA
3.3. Strengthen the resiliency of communities and regions	EDA, ESA, NIST, NOAA
3.4. Foster healthy and sustainable marine resources, habitats, and ecosystems	NOAA
3.5. Enable U.S. businesses to adapt and prosper by developing environmental and climate-informed solutions	ESA, ITA, NIST, NOAA
DATA: Maximize the positive impacts of Commerce data on society	
4.1. Deliver increasing amounts of data to governments, businesses, and the public in formats that are easier to access and use	DM / OS, All Bureaus
4.2. Position the Department of Commerce to meet society's future data needs	ESA
4.3. Create a data-driven government	EDA, CENSUS, ESA, ITA, MBDA, NTIS
OPERATIONAL EXCELLENCE: Strengthen the Department's capacity to achieve its objectives, maximize return on program investments, and deliver quality, timely service	
5.1. Empower and engage Commerce employees	DM / OS, ALL BUREAUS
5.2. Support a service-oriented culture that responds to the needs of external and internal customers	DM / OS, ALL BUREAUS
5.3. Manage for results	DM / OS, ALL BUREAUS
5.4. Improve facilities, support services, and information technology products and services to drive mission success	DM / OS, OIG, ALL BUREAUS

Strategic Goals and Objectives Detailed

NOTE: The Department of Commerce FY 2017 Annual Performance Plan and FY 2015 Annual Performance Report (APPR) covers only the key and supporting indicators as they appear in the Strategic Plan. Additional indicators relating to individual Commerce bureau performance appear in the individual bureau APPR back-up document at the end of each bureau's budget submission.

Further details for performance indicator information – including actions to be taken, adjustments to targets, notes, and information gaps – can be found in each individual bureau APPR backup document as it appears in their FY 2017 budget submissions. The FY 2017 Congressional budget submission of each bureau also provides explanations for why any FY 2015 targets were not met.

STRATEGIC GOAL 1: TRADE AND INVESTMENT

Expand the U.S. economy through increased exports and inward foreign investment that lead to more and better American jobs

Significant Benefits:

Trade and investment are critical to the Nation's prosperity. The United States is the world's largest economy, the largest exporter and importer of goods and services, and the world's largest recipient of foreign direct investment. In 2015, exports supported 11.7 million U.S. jobs. In 2015 the United States [exported more than \\$2.2 trillion](#) worth of goods and services. Exports fuel U.S. economic growth; support good jobs; and spread ideas, innovation, and American values.

Being the leader, however, is not enough. Too few U.S. companies export, and those that do export to too few markets. Of the more than 300,000 U.S. exporters, the top one percent account for approximately 80 percent of the value of U.S. merchandise exports, underscoring the tremendous opportunity for U.S. companies to export more.

The Department of Commerce works to expand exports of U.S. goods and services by opening foreign markets and ensuring that those markets do not introduce trade barriers. ITA, NIST, NOAA, USPTO and other Commerce bureaus accomplish this mission through: active support of trade and trade-related negotiations; engagement with trading partners designed to change their policies, modify their trade-restrictive actions, or otherwise expand U.S. exports; and advocacy for foreign government purchases of U.S. goods and services. In each of these instances, the Department leverages its unique abilities as a government entity to advance the trade and investment interests of U.S. business.

USPTO is responsible for advising the President, through the Secretary of Commerce, and Federal agencies on national and international Intellectual Property (IP) policy issues, including IP protection in other countries. USPTO develops and advances U.S. IP policy abroad to influence development of foreign IP systems, the goal being the harmonization of IP systems so that American inventors and businesses can enjoy a predictable and level playing field when they do business worldwide.

Increasing trade will help the U.S. economy continue to rebalance from one mostly driven by domestic consumption to one increasingly engaged with the 96 percent of the world's consumers who live outside U.S. borders. Encouraging global foreign direct investment will help the United States compete for the

opportunities that develop as emerging markets mature. As the lead trade and investment promotion agency in the federal government, the Department's goal is to increase the international competitiveness of U.S. businesses and make trade and investment a bigger part of the U.S. economy's DNA.

Significant Accomplishments/Milestones:

Significant accomplishments and milestones include international negotiations to secure the implementation of trade agreements, addressing the trade restrictive behavior of trading partners, and advocating for U.S. businesses abroad.

International Negotiations:

- Commerce bureaus supported White House-led efforts to promote the passage of Trade Promotion Authority (TPA) legislation, through extensive engagement with Congress and public stakeholders and collection and reporting of trade-related data. TPA will be necessary to implement trade agreements, such as the Trans-Pacific Partnership (TPP) and Transatlantic Trade and Investment Partnership (T-TIP), without which exports of U.S. goods and services will continue to face significant – and at times prohibitive – tariff, regulatory and other barriers. With 96 percent of global consumers living outside the U.S. in rapidly growing economies with booming middle class populations, future U.S. economic and jobs growth increasingly depends on our ability to reach those consumers. (See generally [Council of Economic Advisors' May 2015 report on "The Economic Benefits of U.S. Trade"](#).)
- China and Korea agreed to finalize Memoranda of Understanding on fisheries product safety and certification.

Address Trade-Restrictive Behavior of Trading Partners:

- In January 2015, the President announced a new, elevated commercial element of this bilateral dialogue with India under the U.S.-India Strategic and Commercial Dialogue (S&CD). The inaugural S&CD is an opportunity for the United States and India to further strengthen their partnership to meet the challenges of the coming decades, from climate change to regional security, and to deepen the economic and commercial ties between our two countries. By elevating focus within the government of India on meaningful commercial outcomes, there is a greater likelihood of securing increased market access and a more open business environment that will attract U.S. goods and services.
- In FY 2015, ITA developed and helped implement action plans with Greece, Turkey and Ukraine for strengthening business climates in those markets, which also has the result of reinforcing broader U.S. foreign policy objectives.
- Responding to longstanding requests from China, ITA worked closely with an interagency team that included the Department of State and Department of Homeland Security to secure extension of validity periods for short-term business and tourist visas to Chinese applicants, facilitating significantly greater exports of U.S. travel and tourism services. A 2014 study by ITA's National Travel and Tourism Office estimated that, assuming concomitant policy changes such as expanded air service agreements and Chinese liberalization of the sale of outbound travel to the United States, this new visa policy could increase visitors from China by 5 to 25 percent, resulting in an additional \$4 to \$20 billion of U.S. travel and tourism exports.
- ITA and NIST worked with an interagency team that included the Treasury Department to secure an April 2015 suspension of China's banking cybersecurity regulations. New commitments were established to non-discriminatory treatment and enhanced transparency and due process for foreign firms in the enforcement of the Anti-Monopoly Law. The inability of U.S. equipment to meet unjustified Chinese cybersecurity requirements, and provisions that required Chinese banks to buy more domestic IT equipment, could largely shut U.S. firms out of a banking market estimated by the International Data Corporation to be worth \$5.23 billion in 2017, and a market worth up to \$465 billion if such a policy were expanded beyond the banking sector.

Advocacy

- Leading an interagency effort in Washington and overseas, ITA achieved a record number of advocacy wins (90) totaling almost \$80 billion in FY 2014, followed by another 86 advocacy wins totaling \$26.76 billion in contracts for U.S. businesses in FY 2015.

Antidumping and Countervailing Duty Casework

- In FY 2015, ITA's Enforcement and Compliance Unit received 64 new antidumping and countervailing duty (AD/CVD) petitions filed by domestic industries and workers. This was the largest number of new complaints filed in 15 years and involved, among others products, steel, chemicals, and paper products.

STRATEGIC OBJECTIVE 1.1: Increase opportunities for U.S. companies by opening markets globally

Contributing Bureaus: ITA, NOAA, NTIA, USPTO

Key Strategies:

- Advance U.S. commercial and economic interests in negotiating and implementing trade and other international agreements (ITA, NOAA, NTIA, USPTO).
- Engage foreign governments to address government actions and policies that impede the export of U.S. goods and services (ITA, NOAA, NTIA, USPTO).
- Promote open and transparent procurement that facilitates the selection of U.S. suppliers in foreign civilian and defense acquisitions (ITA).

Summary of Progress:

- During FY 2015, the Department cultivated a positive business climate and enhanced the economic and commercial opportunities for industry at home and abroad. From April 2014 through the end of FY 2015, ITA Advocacy for U.S. companies on foreign procurements resulted in 136 signed contracts worth nearly \$66.2 billion in export content.
- ITA successfully employed longstanding mechanisms such as the U.S.-China Joint Commission on Commerce and Trade, and developed new mechanisms such as the U.S.-India Strategic and Commercial Dialogue and the President's Advisory Council on Doing Business in Africa, to deepen commercial engagement with trading partners and create new opportunities for U.S. exporters. ITA also expanded its global footprint and approached interagency relationships in novel ways to address the business environment in markets facing core security and other non-economic challenges.
- ITA, in partnership with other Commerce bureaus, effectively exercised its traditional role as the voice of industry in trade negotiations to support USTR's efforts to conclude high-standard trade agreements, including the Trans-Pacific Partnership (TPP) and to work with Congress and other stakeholders to secure passage of Trade Promotion Authority needed to implement those agreements. Negotiations are still underway regarding the Transatlantic Trade and Investment Partnership (T-TIP). The markets represented under these agreements account for 65 percent of the world's goods and services trade and 69 percent of U.S. goods exports.

- USPTO, through the Global Intellectual Property Academy (GIPA) in the Office of Policy and International Affairs, provides intellectual property educational programs for foreign government officials, U.S. small- and medium-sized enterprises (SMEs), universities, and the public. In FY 2015, GIPA conducted a total of 148 such training programs, thereby reaching 5283 foreign government officials. It is through these GIPA training programs that the USPTO is instrumental in achieving its objectives of advancing IP right policies and halting IP theft.
- Throughout FY 2015, USPTO continued to engage Congress, other U.S. Government agencies, and stakeholders to discuss, develop, promote, and implement effective and balanced intellectual property-related legislation and administrative actions.

Significant Accomplishments/Milestones:

- In FY 2015, ITA recorded 287 commercial diplomacy and advocacy wins, exceeding the annual target goal of 250. Examples of wins include:
 - Chemicolloid Laboratories, Inc. When a new sales opportunity and buyer had run into an obstacle causing delays in Egypt, hampering the potential sale of its colloid mill, ITA staff on Long Island and within Egypt facilitated positive communication with diplomacy to help expedite and resolve the shipment and maintain a positive relationship between the U.S. exporter and Egyptian importer. The profitable transactions helped secure jobs and export sales for Chemicolloid.
 - Cree, Inc. of Durham, North Carolina. Looking to pursue business in Costa Rica, the firm sought ITA's advocacy assistance. Through collaborative support provided by the Advocacy Center in Washington, D.C. and U.S. Embassy in San Jose, Costa Rica, the company successfully competed for, and won, a major \$4.2 million contract. Under the contract, Cree will supply Coopelesca, a Costa Rican energy cooperative, with 29,000 LED street lights that are more efficient than the lights Coopelesca currently uses. Cree reports that the contract will support approximately 18 U.S. jobs.
- **Increased Engagement in Africa:** During a visit to Africa this past year, President Obama announced the opening of the ITA African Development Bank Office in Abidjan, Côte d'Ivoire. The new office will enable ITA to identify and counsel U.S. companies in pursuit of financing for infrastructure projects throughout Sub-Saharan Africa. The trip also highlighted the Commerce Department's commitment to improving the economic environment in the region, such as the Doing Business in Africa initiative, business outreach and counseling, and continued efforts to reduce barriers to trade.
- **Advanced Key Trade Agreements:** ITA provided technical support to the recently concluded Trans-Pacific Partnership negotiations, which will level the playing field for farmers, ranchers, and manufacturers by eliminating over 18,000 taxes various countries put on Made-in-America products. Also, in October 2015, Under Secretary of Commerce for International Trade Stefan Selig participated in a joint press roundtable with Mexico's Under Secretary for Foreign Trade Francisco de Rosenzweig. During this meeting, they highlighted the strength of the U.S.-Mexico bilateral relationship and the benefits of the Trans-Pacific Partnership Agreement for the competitiveness of the broader North American region. In addition, ITA continued to support the Transatlantic Trade and Investment Partnership, which aims to bolster the already strong US-Europe relationship in a way that will help boost economic growth and add to the more than 13 million American and European Union jobs already supported by transatlantic trade and investment.
- **Facilitated \$2 billion in market opportunities through Greece Commercial Action Plan:** In early FY 2014, Secretary Pritzker visited Athens to show U.S. support for the Greek government's economic reform efforts and advance U.S. interests in the region by helping to stabilize a key NATO ally. The Secretary also sought to advance U.S. commercial interests in defense, healthcare, and IT sectors as well as improve the overall business climate in Greece. The Greek Government, led by former Prime Minister Samaras, had taken steps to improve the business climate and was receptive to U.S. engagement. Challenges included developing a plan of action that produced measurable results in a short period of time, engaging the private sector in a bureaucracy traditionally hostile to business concerns, and overcoming decades of bureaucratic inertia. The Secretary and Prime Minister agreed to create a Commercial Action Plan to address challenges, deliver measurable wins, and engage the private sector. During FY 2014, the Global Markets/Europe Middle East and Africa team provided the structure of the plan, roadmap and reporting deadlines, deliverables, negotiation expertise, and oversight/management. ITA consulted U.S. company representatives with the Greek government's agreement, the first time in decades that the Greek government had incorporated the U.S. private sector into its decision-making process, creating what Secretary Pritzker has highlighted as her model for commercial diplomacy globally. The impact on U.S.

companies of actions taken by the Greek government under the Commercial Action Plan total over \$2.45 billion in U.S. sales, payment of arrears, and resolution of defense offset contracts. It has also resulted in over \$2 billion in new market opportunities for U.S. companies.

- **Delivered a roadmap to improve Ukraine's Business Climate:** As part of an effort to advance the economic pillar of the Administration's Ukraine strategy, on July 13, 2015 the Department co-hosted with the U.S. Chamber of Commerce the first ever U.S.–Ukraine Business Forum. Attended by more than 200 senior U.S. and Ukrainian government and private sector officials including Prime Minister Yatsenyuk and U.S. Vice President Biden, the Forum featured high-level dialogues on ways the U.S. business community, with its technical expertise and invaluable experience, can be partners for reform in Ukraine. In October 2015 Secretary Pritzker traveled to Kyiv, Ukraine where she was joined by six U.S. business executives to continue commercial diplomacy efforts centered around U.S. engagement with the Government of Ukraine (GOU) on the microeconomic reforms needed to improve the climate for U.S. companies doing business in Ukraine. The Secretary, alongside the U.S. executives, presented President Poroshenko and Prime Minister Yatsenyuk with a U.S. industry and USG backed “roadmap” containing a list of actionable steps the GOU can take in the next 6 to 18 months to significantly improve its business climate while helping U.S. companies succeed and create jobs here at home.
- **Executed the first U.S.-India Strategic and Commercial Dialogue:** In January 2015, President Obama and Indian Prime Minister Modi announced the creation of the U.S.-India Strategic and Commercial Dialogue (S&CD), the annual whole-of-government dialogue with India, co-chaired by Secretary Pritzker and Secretary Kerry. Since then, ITA worked tirelessly to coordinate and organize the commercial track of the S&CD with multiple stakeholders within Commerce, the interagency, the Government of India, and the private sector. The primary objectives in the S&CD are to: make it easier for foreign and domestic firms to do business in India and the U.S.; deepen ties of trade and commerce; and, strengthen bilateral commercial bonds in ways that benefit workers and businesses in both countries. The first S&CD identified four joint work streams based on the feedback received from U.S. companies: 1) the ease of doing business; 2) infrastructure development; 3) innovation and entrepreneurship; and, 4) standards development. At the same time, Commerce positioned the U.S.-India CEO Forum to be the linchpin of U.S. industry engagement informing the commercial track of the S&CD. The efforts culminated in a highly successful inaugural S&CD on September 22, 2015 in Washington, D.C., as well as the U.S.-India CEO Forum on September 21, 2015, and several other events to highlight the significance of the first S&CD.
- **Advanced Standards Alignment with Brazil:** Recognizing the importance of aligning standards and standards-related work to increasing trade and investment, the U.S. Department of Commerce and the Brazilian Ministry of Development, Industry and Foreign Trade signed a memorandum of intent (MOI) during the June 2015 visit to Washington of Brazilian President Rousseff to expand cooperation between the two ministries on standards and conformity assessment. The MOI emphasizes work with relevant public and private stakeholders, including U.S. and Brazilian standards developing organizations and trade associations, to promote cooperation on standards and conformity assessment to stimulate development and competitiveness.
- **Enhanced bilateral aviation cooperation in Brazil:** U.S.-Brazil CEO Forum (a Commerce Department led bilateral public-private group) work led to the 2012 launch of a bilateral Aviation Partnership Agreement. While managed on a day-to-day basis by U.S. Trade and Development Agency (USTDA) in collaboration with Commerce and other agencies, this Agreement has led efforts to enhance bilateral cooperation in areas such as airport expansion, airspace management, and aviation safety and security. Commerce has leveraged this Agreement to introduce U.S. companies to this market, including through a May 2014 Aerospace and Aviation Trade Mission to Brazil, and a May 2015 Airport Suppliers Roadshow in Brazil to introduce U.S. airport equipment suppliers and service providers to Brazilian decision makers in business and government.
- **Advanced bilateral defense cooperation with Brazil:** The Departments of Defense and Commerce together with the Brazilian Ministry of Defense announced in June 2015 their endorsement of efforts to launch a bilateral Defense Industry Dialogue. This dialogue will institutionalize engagement between the U.S. and Brazilian private sectors to enable governments and industry to exchange information and ideas; increase technology cooperation and collaboration in the defense sector; deepen mutual understanding of our defense industries; and discuss long-term defense priorities.
- **Advanced U.S. interests in Mexico's newly liberalized energy sector:** In preparation for the High Level Economic Dialogue (HLED) meeting in January 2015, ITA played a pivotal role in ensuring that – following Mexico's historic reforms – energy and energy-regulatory issues were a prominent addition to the 2015 HLED work plan. Thirteen energy-related initiatives span a wide-range of issue areas, from technical assistance in developing unconventional oil and gas

resources to the ITA-led creation of a standing binational, government-led council of private sector representatives from the U.S. and Mexican energy industries, which are aimed at enhancing access for U.S. companies to these newly-liberalized sectors.

- **Enhanced the efficiency of border infrastructure projects with Mexico:** ITA has played an important visionary role in re-examining the interagency and binational processes for prioritizing border infrastructure projects, emphasizing the comparative importance of each project's trade and regional economic development value and helping enhance the efficiency of project execution. For example, ITA helped push to completion the U.S. side of the West Rail bridge project in Brownsville, Texas – Matamoros, Tamaulipas, which opened in August 2015.
- **Facilitated understanding of Mexican import requirements:** A number of new Mexican requirements and new or on-going import licensing schemes for the apparel, textile, footwear, and steel industries generated market access issues for U.S. exporters in 2015. ITA has worked with industry and Mexican government representatives to host webinars and other educational outreach events to reduce confusion surrounding these new requirements among U.S. companies. ITA has helped facilitate the development and expected roll-out of an alternative import licensing scheme for the steel industry, which will be much less cumbersome and costly for U.S. exporters.
- **Ensured U.S. ability to compete in Aviation procurements in Indonesia:** ITA, with support from the Federal Aviation Administration, launched the Aviation Working Group (AWG) in 2015 as a public-private platform to support the safe, secure, and efficient development of Indonesia's aviation sector. The AWG highlights U.S. aviation best practices, industry expertise, and technology. As a result of the AWG, MITRE Corporation and state-owned air-traffic company Airnav Indonesia signed an agreement to modernize Indonesia's air navigation system over the next five years. This will ensure U.S. industry's ability to compete in the related procurement opportunities.
- **Increased information to U.S. companies on Infrastructure Projects in the Philippines:** In February 2015, Assistant Secretary Kumar signed an Infrastructure Memorandum of Cooperation (MOC) with Philippine Ambassador Cuisia. This MOC facilitates information sharing of upcoming infrastructure projects in the Philippines. Successes in the past year include GE's successful bid to provide railroad locomotives as a sub-prime bidder to the Philippine National Railways and Selex's successful bid to provide airport aviation navigational aids to Clark International Airport.
- **Advanced Key Implementation Concerns in KORUS FTA:** In October 2014, Secretary Pritzker led a major trade and policy mission to Korea covering the sectors of energy and healthcare. It was the first Secretarial trade mission to Korea since 1999, helping both blue-chip and new-to-market small or medium-sized enterprise firms. The visit energized the bilateral commercial engagement between the U.S. and Korea and has led to new and important market access for U.S. firms in the world's 13th largest economy. In a December 2014 meeting, Secretary Pritzker and her Korean counterpart, Minister Sang-jick Yoon of the Ministry of Trade, Industry and Energy, informally established a Commercial Dialogue through an exchange of letters. The Commercial Dialogue provides a venue to raise key implementation concerns regarding the U.S.-Korea Free Trade Agreement (KORUS FTA), and contentious issues on auto emissions, financial services and patent protection have seen significant progress leading to record U.S. exports in 2014.
- **Advanced U.S. priorities in TIFA talks with Taiwan:** Commerce's priority is to engage with Taiwan on commercial initiatives as a strategic partner in support of President Obama's "rebalance" to Asia. Through the U.S.-Taiwan Trade and Investment Framework Agreement (TIFA), the U.S. engages in high-level economic and trade consultations with Taiwan. TIFA talks in 2014 and 2015 yielded positive results on U.S. priorities including enhancing intellectual property (IP) protection and enforcement, addressing technical barriers to trade, and fostering innovation in the pharmaceutical sector, while highlighting the need for progress to resolve a range of agricultural market access issues, medical device time-to-market concerns, and a shortfall in clarity and predictability in Taiwan's investment environment.
- **Highlighted the Importance of Trans-Pacific Partnership in Japan:** Commerce's economic priority in relation to Japan is ensuring the passage of the Trans-Pacific Partnership (TPP) to exploit the opportunities that will arise because of the agreement. In October 2014, Secretary Pritzker led a business development mission to Japan to emphasize the Administration's rebalance to Asia and its commitment to supporting American companies as they seek to do more business in high-priority Asian markets, sell American goods and services, and create more jobs for U.S. workers. She raised the importance of the TPP to the U.S.-Japan bilateral economic relationship during her meetings.

- **Advanced U.S. intellectual property policy and protection internationally:**

- In January 2015, the USPTO hosted a symposium on trade secret protection. Topics included legislative proposals, losses due to trade secret theft and challenges to protecting trade secrets, the intersection of patent and trade secret protection, issues in civil litigation, trade secret protection in foreign jurisdictions, and proposed responses to the threat of trade secret theft in the U.S.
- Throughout FY 2015, the USPTO continued to seek enhanced cooperation and improved protection for IP in several fora, including the World Intellectual Property Organization (WIPO), the World Trade Organization (WTO), and several additional intergovernmental organizations. The USPTO achieved improvements in WIPO filing and registration systems for patents (PCT system), trademarks (Madrid system), and designs (Hague system).
- During FY 2015, the USPTO actively participated in the norm-setting bodies of WIPO, including the Standing Committees related to Patents, Trademarks, and Copyright, in working groups established under the Madrid, PCT, and Hague systems, and in the Intergovernmental Committee on IP and Genetic Resources, Traditional Knowledge and Folklore.
- The USPTO actively participated in the May 2015 diplomatic conference for adoption of the Geneva Act of the Lisbon Agreement on the International Registration of Appellations of Origin and Geographical indications.
- Work sharing continued to be a key element of the USPTO's international engagement throughout FY 2015. Work sharing helps to reduce examination backlogs, improve examination quality, and promote streamlining of the international patent system. During FY 2015, work sharing received attention at the highest political levels. A joint communiqué issued on June 30, 2015, by President Obama and Brazilian President Dilma Yousef highlighted all of the major areas of cooperation between the two countries, including patent work sharing between the USPTO and Brazil's national Intellectual Property office.

- **Engaged foreign governments to address government actions and policies that impede the export of U.S. goods and services:** The National Oceanic and Atmospheric Administration (NOAA) sponsored a foreign delegation trip to Central America which identified potential sources of future conflict, forged new cooperative relationships, and initiated creative alternatives for future certification and trade development.

- **Advanced U.S. commercial and economic interests in negotiating and implementing trade and other international agreements:** Through the development of the Seafood Inspection Program (SIP) website NOAA's SIP field inspection staff have access to documentation requirements by the countries of destination.

- **Promoted open and transparent procurement that facilitates the selection of U.S. suppliers in foreign civilian and defense acquisitions:**

- NOAA's memoranda of understanding with the U.S. Department of Agriculture and the Fish Wildlife Service encompass U.S. activities in Aquatic Animal Health, U.S. controls over Aquaculture and commercial distribution, and export certification for live and processed products.
- NOAA increased its overseas 2015 SIP Approved Establishments to 49 in 9 countries (from 37 in 7, 2014).

Detailed Performance Indicators:

Indicator	Number of Commercial Diplomacy/Advocacy WINS ¹
Category	Key
Type	Immediate Outcome
Bureau	ITA

¹ This indicator reflects, in part, the "Number of Advocacy Wins" cited under Strategic Objective 1.1 in the Department's Strategic Plan. While it incorporates the "Number of Advocacy Wins," the measurement also includes additional policy work not reflected in the "Number of Advocacy Wins" reported for the similar Strategic Plan indicator. Thus, the actual for this indicator may include more (i.e., may be different) than the actual reported for the "Number of Advocacy Wins" in the Strategic Plan.

Description	This measure captures the results of Global Markets' front-line diplomatic engagement with foreign governments in support of a U.S. company or industry. A WIN occurs when a foreign government action/decision as a result of GM engagement results in the following outcomes for a U.S. company or industry: Reduced/removed/prevented trade barrier; Reduced/removed threat to U.S. business/economic interest; Foreign compliance with a trade agreement; Facilitated an export transaction; or a U.S. company has a signed contract for a foreign procurement.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					225	250	300	330
Actual					343	287		
Status					Met	Exceeded		

Indicator	Dollar value of U.S. contracts from advocacy wins							
Category	Key							
Type	Contextual ²							
Bureau	ITA							
Description	The estimated dollar value (in billions) of U.S. goods or services to a foreign government of contracts signed by U.S. businesses or their representatives with U.S. Government assistance. Commerce serves as the chair of the Interagency Task Force on Commercial Advocacy and is the lead coordinator of advocacy efforts across the U.S. Government.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target								
Actual	\$16.8	\$24.0	\$73.9	\$16.24	\$79.79	\$24		
Status								

Indicator	Number of foreign trade barriers removed, reduced or avoided							
Category	Key							
Type	Output							
Bureau	ITA							
Description	This indicator captures the results of ITA's efforts remove trade barriers and open markets to U.S. exports of goods and services. It is an indicator that is shared by all three ITA operating units and therefore, also serves as a unifying collaborative goal.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						70	75	80
Actual					74	41		
Status						Not Met		

Indicator	Number of foreign government officials trained on best practices to protect and enforce intellectual property							
Category	Supporting (Strategic Plan)							
Type	Output							
Bureau	USPTO							
Description	The Global Intellectual Property Academy (GIPA) offers training programs on protection, utilization and enforcement of IP rights, patents, trademarks, and copyrights. It is through the GIPA training programs that the USPTO is instrumental in achieving its objectives of advancing IP right policies and halting IP theft.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					4,300	6,300	5,000	5,500
Actual		4,338	9,217	7,078	4,960	5,283		
Status					Exceeded	Not Met		

² Note that this indicator appeared in the Strategic Plan as "key indicator." ITA is changing this indicator type from a key indicator to a contextual one. This indicator depends on the value and type of projects foreign governments procure in any given year. Since this indicator fluctuates greatly from year to year depending on foreign government action, this indicator cannot be targeted and serves as a contextual indicator only.

Other Evidence and Evaluation:

- In October 2015, the Commerce Department released ([50 state-specific and 14 industry-specific reports](#)) highlighting the Trans-Pacific Partnership benefits for American businesses. The reports highlight by state the value of U.S. goods exports to Trans Pacific Partnership markets; the number of U.S. jobs supported by exports from each state; and the tariff reductions that stand to benefit each state's top export sectors.
- An Office of the Inspector General (OIG) report issued on March 25, 2015 ([OIG-15-021-1](#)) identified challenges with implementing the ITA consolidation. One of the identified challenges was that certain employees were unclear about their responsibilities, limited effectiveness of Trade Promotion Programs office, and a need for export promotion training for former Market Access and Compliance staff and trade policy training for Foreign Commercial Service staff. An action plan is in place to address the OIG recommendations, which will help strengthen the ability of ITA to meet trade policy and promotion objectives.

Conclusions, Recommendations and Next Steps:

In order to increase opportunities for U.S. companies, ITA will accomplish the following actions and initiatives:

- Protect the free flow of data through conclusion of U.S. consultations with the European Commission on an enhanced U.S. - EU Safe Harbor Framework (FY 2016 Q2). Implementation of the new Framework will continue throughout FY 2016.
- Educate the public on the benefits of the Trans-Pacific Partnership Agreement which includes sponsoring stakeholder outreach events for U.S. exporters (FY 2016 Q1):
 - Discover Global Markets Western Hemisphere meeting in Ft. Lauderdale, FL (FY 2016 Q3)
 - Trade Winds – Latin America Conference in Chile (FY2016 Q4)
 - Sector-specific outreach (e.g. energy, aerospace, agriculture) at trade shows, seminars, webinars (FY 2016 and FY 2017 Q1-2)
- Continue working closely with the interagency team to identify actions to be taken in markets where Commerce led the effort for improved economic policies to reinforce security and stability in those markets.
- Work with an interagency team and the Government of India to identify specific outcomes for 2016 U.S.-India Strategic & Commercial Dialogue and CEO Forum in India, and accelerate engagement between experts to achieve these outcomes. (FY 2016 Q1-4)
- Convene another meeting of the interagency task force on Commercial Advocacy, chaired by the Secretary of Commerce, and schedule a principals meeting with all agencies to task each agency with specific actions to address and advocate on behalf of Advocacy Center clients. (FY 2016 Q2)
 - ITA's Industry & Analysis (I&A) project plan for remaining ITA's consolidation actions includes implementing an Intellectual Property Rights (IPR) team that brings together IPR expertise across ITA; organizing Trans Pacific Partnership briefings for all ITA units, an example of cross-ITA repeatable training opportunities which support ITA consolidation and organizational integration themes; and,
 - Aligning I&A's Trade Promotion Programs staff with industry analysts expands opportunities for participation/delivery of industry-specific expertise to ITA clients.
- Commerce will continue to track monthly visitor volume to the U.S. from international markets including China. Commerce will also continue the Survey of International Air Travelers program to provide an annual update on traveler characteristics for visitors from China and other international markets to assist U.S. stakeholders expand travel and tourism exports. Additionally, the 2016 U.S.-China Tourism Year (Tourism Year) announced jointly by President Obama and President Xi in September 2015 provides an important opportunity to capitalize on the recent reciprocal extension of visa validity between the

two countries and maximize the potential for the U.S. to capture a larger percentage of the Chinese outbound tourism market. The Tourism Year will be conducted through a series of events and activities throughout the year that are designed to elevate and accelerate trade in travel services between our two countries by advancing initiatives to increase awareness of the U.S. as a travel destination and ensure a quality visitor experience for increasing numbers of Chinese travelers. (FY 2016 and FY 2017, ongoing)

- Continue to promote the protection and enforcement of Intellectual Property of American innovators and creators on both the domestic and international levels. (USPTO)
- Offer intellectual property capacity-building programs by the Global Intellectual Property Academy to patent, trademark, and copyright officials; judges; prosecutors; police; customs officials; foreign policy makers; examiners; and IP rights owners, as well as college students and faculty in intellectual property-related programs of study.

STRATEGIC OBJECTIVE 1.2: Increase U.S. exports

Contributing Bureaus: BIS, EDA, ESA, ITA, MBDA, NIST, DM / OS

Key Strategies:

- Educate U.S. companies and communities on benefits and best practices of exporting (ESA, ITA, MBDA, NIST).
- Connect U.S. companies to foreign markets and qualified buyers and partners (BIS, ITA, MBDA, NIST, DM / OS).
- Reduce the transaction costs and complexities of exporting (ESA, ITA).
- Utilize partnerships to increase U.S. exports worldwide (EDA, ITA, MBDA, NIST).
- Overhaul and simplify the Nation's export control system (BIS).

Summary of Progress:

U.S. firms under-export compared to competitor industrialized nations. Through its programs, expertise, and global presence, the Department is uniquely positioned to help U.S. companies understand the importance of exporting and capitalize on opportunities to sell their products and services overseas.

In FY 2015, export assistance services provided directly by the Department to companies and communities included the following:

- ITA expanded its ability to serve U.S. businesses overseas and support the National Export Initiative (NEI)/NEI NEXT effort and the President's Trade Africa, Power Africa, and Asia Rebalance initiatives by opening new offices in markets in Africa and Asia.
- Trade Winds Africa, the largest U.S. Government led trade mission ever to the continent of Africa, was successfully completed with 108 companies participating with over 175 private sector attendees; more than 25 states represented; 500 one-on-one meetings held with Senior Commercial Officers; and, 90 "Gold Key Services" conducted across eight markets.

- ITA launched the Industry Forward Pilot to test a way to further evolve the service delivery model to create greater focus on providing sectoral expertise. The seven industry sectors identified for an initial pilot include: Automotive/Transportation; Energy; Franchising; Healthcare; Manufacturing; Travel & Tourism, and Design & Construction with Global Team leaders for each sector.
- ITA developed a Rural Export Innovation Team that will support the White House's Made in Rural America initiative.
- A Center for Excellence in electronic commerce will be in operation in California. A Foreign Service Officer will be assigned to the center.
- As part of the Startup Global Pilot Initiative (<https://commerce-department-startup-global-pilot>) educational seminars were held in Washington, DC, Nashville and Pittsburgh with local businesses as incubators, startup companies and U.S. Export Assistance Centers to educate the start-up community on exporting at the early stage of their development and identify the available federal resources.
- Minority Business Development Agency (MBDA) provided \$450,000 in supplemental funding to four of its existing centers (Chicago, Phoenix, Puerto Rico, and San Antonio) in late FY 2014 to assist minority business enterprises to access trade financing and transactions.
- MBDA and ITA successfully implemented a memorandum of understanding with The White House Initiative on Asian Americans and Pacific Islanders in support of Asian American Business, which led to a new and innovative program. This program significantly impacts issues facing Asian Americans and Pacific Islanders in construction, federal contacts, and the availability of federal resources to support new the immigrant business community.
- In partnership with Department of Labor, MBDA Business Center, and National Asian Pacific Islander American Chamber of Commerce and Entrepreneurship, the Asian American construction Advocacy program provided the ground work for addressing issues facing them in construction and engineering federal contacts.
- From April 2014 to September 2015, BIS published and implemented ten regulations ([bis/export-administration-regulations](https://bis.export-administration-regulations)) to control the tens of thousands of military items the President determined no longer warranted control under the State Department's International Traffic in Arms Regulations. The regulations contribute to the national security objectives of the Export Control Reform (ECR) effort in that they help increase interoperability with our close allies, help the defense industrial base by reducing incentives to avoid U.S.-origin content, and allow the Government to focus its resources on transactions of greater concern. The regulations and BIS' implementation of them have been well-received by the President's Export Council, U.S. industry, allied nations, and the national security community.
- Economic Development Administration (EDA) invested approximately \$66 million in 48 economic development projects (including infrastructure, technical assistance and planning) to help communities and regions build the capacity to support export-related activities.
- ITA implemented a new Customer Relations Management (CRM) tool, Salesforce in FY 2015 to enhance the CRM database, IT infrastructure and internal controls.

Significant Accomplishments/Milestones:

- In FY 2015, ITA's Global Markets served 25,029 business clients, a jump of 42 percent over the number served during FY 2014. This illustrates the Department's reach into the U.S. business community. Historical data indicates that over 75 percent of companies assisted are small and medium-sized enterprises. Moreover, 73 percent of clients served by ITA's Global Markets (GM) unit reported that the Department helped them achieve their export objectives. This exceeded the annual target of 71 percent for this agency priority goal. Additionally, 84 percent of GM clients said they are highly likely to recommend GM assistance. Global Markets offers U.S. companies a robust set of capabilities to help them achieve their international exporting goals,

whether those goals are to set up an overseas distribution channel; gain easier access to challenging markets; or meet additional foreign buyers for their goods.

- During FY 2015, the Look South initiative successfully encouraged U.S. exporters to consider expanding sales to additional Free Trade Agreement partner markets in Latin America. The Look South Initiative brought state, local and interagency programs together to promote trade to eleven markets through regular coordinating calls, newsletter communications, and support of state and local trade missions and events. This also included U.S. Department of Commerce sponsored events such as Discover Global Markets: Latin America, a Look South Trade Mission to Central America, the Look South Denver roadshow event, and many county and industry specific webinars, with nearly 1,000 U.S. companies participating. The Look South Initiative made market research and data more accessible online and created a New Market Tool (<http://export.gov/tradeamericas/looksouth/countries/index.asp>) to identify which Look South country has the most favorable export conditions for current exporters by their product code.
- Under the Vets-Go-Global program, ITA assists veteran-owned businesses in maximizing their export potential and increasing their access to economic opportunities. In FY 2015, Vets-Go-Global team members participated in three national veteran conferences where they exhibited and engaged over 400 veteran owned businesses while providing one-on-one export counseling to 130 veteran owned businesses. In addition, the team collaborated with 20 veteran associations that support veteran-owned businesses, and hosted learning sessions providing export education and resources during the national conferences with over 80 participating veteran-owned businesses. The team also participated in over 15 local and regional veteran business conferences providing speakers and thought leadership on all things trade to the veteran-owned business community.
- In May 2015, ITA published nineteen Top Markets studies (<http://trade.gov/topmarkets/>) to address key questions from customers such as which markets have the best opportunities. Many of these sectors are also services to address the growth in the number of service exports and opportunities.
- In FY 2014 the National Institute of Standards and Technology's (NIST) Manufacturing Extension Partnership's Export Tech program (<http://www.nist.gov/exportech/>) conducted 21 programs with 103 companies. For FY 2015, it completed 8 programs with 44 companies. While results are not expected from these sessions until the end of this calendar year, historically participating companies have seen an average of \$770,000 in increased sales.

Performance Indicators:

Indicator	Percentage of Global Markets clients that achieved their export objectives (Agency Priority Goal)							
Category	Key							
Type	Customer Service							
Bureau	ITA							
Description	This indicator evaluates Global Markets' effectiveness in helping companies achieve their export objectives. Global Markets offers U.S. companies a more robust set of capabilities to help them achieve their international exporting goals, whether those goals are to set up an overseas distribution channel; gain easier access to challenging markets; or meet additional foreign buyers for their goods. Global Markets focuses on understanding clients' exporting needs, and providing services to meet those needs.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					69%	71%	73%	75%
Actual		67%	68%	67%	73%	73%		
Status					Exceeded	Exceeded		

Indicator	Number of clients assisted by Global Markets
Category	Key
Type	Output

Bureau	ITA							
Description	This indicator illustrates ITA's reach into the U.S. business community. Historical data indicates that over 75 percent of companies assisted are small and medium-sized enterprises.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		19,723	20,709	20,800	22,150	23,000	23,000	26,500
Actual	18,784	20,143	18,945	18,126	17,593	25,029		
Status		Exceeded	Not Met	Not Met	Not Met	Exceeded		
Indicator	Number of export transactions completed under the new authority of Commerce export licenses and license exceptions							
Category	Key							
Type	Efficiency							
Bureau	BIS							
Description	A key element of the Export Control Reform (ECR) Initiative is moving tens of thousands of items -- mostly parts and components -- from the U.S. Munitions List to the more flexible Commerce Control List. The move will enable more nuanced distinctions among technologies, destinations, and end users than under the State Department's International Traffic in Arms Regulations. Through our outreach programs, BIS will track shipments of such items made under the Automated Export System.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						80,000	100,000	150,000
Actual					42,837	126,798		
Status						Exceeded		

Indicator	Number of grants that support placed-based export strategies							
Category	Supporting (Strategic Plan)							
Type	Intermediate Outcome							
Bureau	EDA							
Description	This performance indicator measures the number of EDA grants which support place-based export strategies. EDA grants support locally-driven economic development efforts.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					35	59	43	43
Actual					66	48		
Status					Exceeded	Not Met		

Indicator	Dollar amount of grants that support placed-based export strategies (millions)							
Category	Supporting (Strategic Plan)							
Type	Intermediate Outcome							
Bureau	EDA							
Description	This performance indicator measures the dollar amount of EDA grants which support place-based export strategies							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					\$30M	\$53.4M	\$59.2M	\$59.2M
Actual					\$59.3M	\$65.8M		
Status					Exceeded	Exceeded		

Indicator	Dollars leveraged (contracts and financing) through minority business export activity*							
Category	Supporting (Strategic Plan)							
Type	Intermediate Outcome							
Bureau	MBDA							

Description	Grant recipient dollar amount of awarded transactions (contracts and financing) as a result of supplemental Global Pathways grants from MBDA that support U.S. exports							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					\$113M	\$143M	\$143M	\$143M
Actual					\$710M	\$635M		
Status					Exceeded	Exceeded		
*MBDA states this indicator as "Minority Business Contracts Awarded (billions)"								

Indicator	Number of jobs created or retained through minority business export activity							
Category	Supporting (Strategic Plan)							
Type	Intermediate Outcome							
Bureau	MBDA							
Description	Grant recipient number of Jobs Created and Retained as a result of supplemental Global Pathways grants from MBDA that support U.S. exports							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					1,000	1,000	1,000	1,000
Actual					1,087	547		
Status					Exceeded	Not Met		

Other Evidence and Evaluation:

- The International Monetary Fund predicts global growth of 3.5 percent in 2015, and 3.6 percent growth for the U.S.
- Economic growth is slowing in several major trading partners (the Eurozone is projected to grow 1.2 percent) and emerging economies (China's economy began slowing in 2012 and is projected to grow at 6.8 percent in 2015, after many years of 10 percent growth).
- In 2015, economic growth rates are expected to continue to exceed 5 percent throughout most of East Asia and the Pacific, to increase in 7 of 11 Free Trade Agreement trading partners in Latin America, and to continue growing at nearly 5 percent in Sub-Saharan Africa (April 2015 IMF World Economic Outlook).
- Over the longer term, the global middle class will continue to undergo a fundamental demographic shift. During the last five years, the worldwide urban population has grown from 3.5 billion to 3.8 billion. Estimates project the global middle class reaching 4.9 billion people in 2030, the majority of which is expected to be in the Asia-Pacific region (World Bank Development Indicators Report, Urban Population 2015).
- The National Travel and Tourism Strategy establishes an overarching goal of increasing American jobs by attracting 100 million international visitors who will spend an estimated \$250 billion annually by the end of 2021. To accomplish this goal, the Federal Government will expand its promotional efforts to market the U.S. as a travel destination and also work with the industry to increase U.S. travel and tourism exports. Travel and tourism set a record in 2014 for international arrivals with nearly 75 million visitors spending \$220.8 billion, making travel and tourism the largest service export for the U.S. Based on the current National Travel and Tourism Office forecast for international travel, the U.S. is projected to host 96 million international visitors in 2020 and will reach the 100 million traveler goal by 2021.
- Chinese travel to the U.S. also set a record in 2014 for arrivals and spending. China is currently the sixth largest arrival market and the second largest travel export market for the U.S. In 2014, nearly 2.2 million Chinese travelers visited this country, spending \$24 billion. Travel and tourism exports account for 57% of all U.S. services exports to China, the single largest services export to China. Moreover, the U.S. experienced a \$19.0 billion travel and tourism trade surplus with China in 2014.

- The forecast for Chinese travel to the U.S. by 2020 shows 129% growth over 2014. If realized, China may become the third largest arrival market for the U.S. by 2019. By 2020, China could generate over 5.0 million visitors to this country.
- Analysis of ITA clients conducted by the Census Bureau shows that the typical ITA client is a manufacturer and has been in business longer than the average U.S. business.
- Preliminary Census report on profile of U.S. exporting companies shows that in 2014, there were 301,923 identified U.S. exporters, and 97.7 percent were small to medium-sized enterprises.
- From 1998 to 2010, Information and Communications Technology (ICT) enabled services sector exports grew at an average annual rate of 9 percent, compared with a growth rate of 3 percent for all other services sector exports. During this period, digitally enabled services account for more than 50 percent of U.S. service exports. The share of private services exports composed of ICT-enabled services increased from 45 to 61 percent. The fastest average annual growth was in insurance services (13 percent) and financial services (12 percent). Private sector projections estimate that U.S. cross-border e-commerce transactions will double to \$80 billion from 2013 to 2017. This has led to ITA developing partnerships with Etsy and E-bay, and also underscores the need to redesign Export.gov to make sure it has tools necessary to help services exporters.
- U.S. minority-owned companies are twice as likely to export as non-minority owned companies, and minority-owned firms are more likely to have exports accounting for a majority of sales. (U.S. Census Bureau, 2007 Survey of Business Owners).
- Case Study: Looking to pursue new export sales, Wheeling Truck Center of Wheeling, West Virginia, turned to ITA in Wheeling, West Virginia. ITA West Virginia worked with the State of West Virginia to organize a Trade Mission to Romania and Poland in June 2015. During the mission, the company participated in Gold Key business matchmaking meetings with pre-screened prospective foreign partners arranged in collaboration with ITA in Poland and Romania. Shortly thereafter, Wheeling Truck Center quoted several orders from new clients and was able to complete the first shipment to Romania in August 2015, making Romania the 102nd country on their list of export markets. The company also confirmed the shipment of a large order to a new customer it met with during the visit to Poland. The company has increased the number of employees due to the success of selling internationally and currently has three full-time employees dedicated to international sales.
- Case study: Squip, Inc. of Lebanon, NJ, worked with ITA in its Northern New Jersey office to attend two of the health care industry's largest international trade shows, MEDICA and Arab Health, both of which had USA Pavilions that were heavily supported and organized by the ITA's Global Healthcare Team, and ITA in India and Kuwait – with ITA in Northern Jersey providing support along the way. In attending Arab Health 2014, Squip also took advantage of the State Trade and Export Program (STEP) grant offered by the State of New Jersey's Business Action Center. As a result of its participation in Arab Health, the company reported in fall of 2014 the signing major contracts with customers in India and Kuwait, and a sizeable order in Germany.

Conclusions, Recommendations and Next Steps:

In order to increase opportunities for U.S. companies, the U.S. Department of Commerce will target the following actions and initiatives in FY 2016 and FY 2017:

- Complete a Customer Service Survey of its clients in order to provide more customer-oriented programs and services. Continue training client-facing staff to improve client satisfaction and meet client objectives, including Trade Promotion Coordinating Committee training and industry specific training. (FY 2016 Q1)
- Continue programs to prepare more Small Business Development Centers (SBDC) to identify potential exporters and increase availability of export counseling assistance, including: support of more than twenty export training workshops at the Annual SBDC Conference, launch of an ITA-North American Small Business International Trade Educators Memorandum of Understanding, and certification of SBDC counselors (currently 600+ certified at the intermediate or advanced level).

- Advance trade-related data and information (through Application Programming Interfaces) to at least five more strategic partners in order to utilize public-private partnerships to increase U.S. exports.
- Add new data sets to the Trade Developer Portal, such as tariff information for goods and services covered under Free Trade Agreements, and answers to questions frequently asked by exporters. ITA will launch new tools that enable users to generate reports detailing the size, challenges, and opportunities of specific export market segments by product type and/or country, and will provide more tailored data and information to exporters. (FY 2016)
- Continue implementing Export Control Reform.
- Expand the export ecosystem in communities across the U.S. and around the world. Develop and disseminate toolkits for economic development officials on promoting exports and investment in U.S. regions in order to educate communities on the benefits of exporting. (FY 2016 Q1-4)
- Continue piloting a comment card survey for non-fee-based assistance and events to expand ITAs client survey population in FY 2015 and 2016 with the intention to capture and report these in FY 2017. (FY 2016 Q1-4) In FY 2016, ITA will explore new survey mechanisms to be integrated with its new Salesforce CRM. (FY 2016 Q1)
- Plan additional educational seminars as part of the Startup Global Pilot Initiative to educate the start-up community on exporting at the early stage of their development and identify the available federal resources.
- Implement the Executive Order on “Single Window.” (FY 2016 Q4)
 - Ensure active industry engagement and adoption of the new International Trade Data System (ITDS), through expansion of current outreach efforts with participating government agencies and Department of Homeland Security/Customs and Border Protection (CBP) with additional specialized events for the trade (focus on brokers and forwarders) at major ports of entry that are similar to the more than 22 events for brokers completed in June-August 2015. The special events include: (1) webinars directed at the clients of major participating agencies (project 5-6 in FY 2016), (2) a new series of seminars aimed exclusively at exporters, and (3) targeted events relating to changes in rollout schedules and software functionality, in quantities and at times dictated by the program’s progress;
 - Ensure a smooth rollout by increasing the number of events to publicize and secure participation in pilot testing programs (linked in number and timing to agency/CBP test schedules); and,
 - Initiate development of a strategy for international interoperability of the ITDS system by engaging the Advisory Committee on Supply Chain Competitiveness to help develop a vision for North American Single Window, in parallel with efforts through CBP’s Commercial Operations Advisory Committee in FY 2016.
- Hold ExporTech or similar export training programs in several states, and provide other levels of export assistance through local Manufacturing Extension Partnership Centers to educate more U.S. manufacturing companies and their communities on the benefits of exporting. (NIST)

STRATEGIC OBJECTIVE 1.3: Increase high-impact inward foreign direct investment into the U.S.

Contributing Bureaus: EDA, ESA, ITA

Key Strategies:

- Lead coordinated investment promotion (ITA).
- Provide tailored assistance to investors (ESA, ITA).
- Provide coordinated support to states and localities to attract investment (EDA, ITA).
- Advocate globally for the U.S. as a destination for investment (ITA).

Summary of Progress:

The Department of Commerce, in consultation with the Office of Management and Budget, has highlighted this as an objective demonstrating noteworthy progress during FY 2015.

As of 2013, the most recent data available nearly 6.1 million people in the U.S. were directly employed by U.S. affiliates of international companies. These U.S. affiliates account for more than one-fifth of U.S. goods exported and spent \$53 billion on U.S. research and development that year. SelectUSA is the U.S. government-wide program within ITA that promotes and facilitates job-creating business investment in the U.S. The SelectUSA program works collaboratively with the Economic Development Administration, the Economic Statistics Administration, and more than twenty Federal agencies through the Interagency Investment Working Group.

SelectUSA assists U.S. state, local, and regional economic development organizations to compete globally for investment by providing information and counseling to interested investors, a platform for international marketing, and high-level advocacy for companies considering whether to invest in the U.S. or a foreign destination. SelectUSA, together with the U.S. and Commercial Service, assists companies that are considering expanding or establishing operations in the U.S. by supplying credible, unbiased, detailed data and analytics; creating platforms optimized to establish and build business relationships; providing a better understanding of the federal regulatory system; and, identifying appropriate contacts at federal and state agencies to streamline the process.

Funded by Congress for the first time in FY 2014, SelectUSA has expanded and enhanced its services that companies, states, and local governments need. For example, the 2015 SelectUSA Investment Summit was filled to capacity with over 2,600 participants, doubling attendance over the 2013 Investment Summit. Since the beginning of FY 2015, the SelectUSA program has assisted more than 1,651 unique investment clients, continuing a trend of exceeding the FY 2015 annual target for the number of investment clients assisted.

Significant Accomplishments/Milestones

Examples of accomplishments for this objective include:

- Assisting 1,651 diverse investment clients from 67 countries in FY 2015. Commerce increased the number of unique clients assisted by almost 60 percent compared to FY 2014.

- Sponsoring the 2015 SelectUSA Investment Summit, Commerce built on the success of the first Summit in 2013 by doubling the number of attendees to over 2,600 participants. International investors were well represented, with over 1,120 representatives of firms and business organizations from over 70 markets. The investors met with over 920 representatives of state and local governments and U.S. Economic Development Organizations from 50 states, two territories, and the District of Columbia.
- Leading the first SelectUSA Investment Academy, a half-day event where approximately 400 company and Economic Development Organization representatives learned more about strategies for successful foreign direct investment in the U.S.
- Organizing road shows since April 2014 to bring U.S. Economic Development Organizations to meet decision-makers directly, and media briefings that reach a broader audience in key focus markets, including Chile, Brazil, Colombia, Korea, Mexico, Greater China, Taiwan, and the Nordic region.
- Concluding four Memoranda of Intent since April 2014 with the India Export-Import Bank, ProMexico, InvestKOREA, and the Italian Trade Agency, adding to the existing agreements with the Polish Information and Foreign Investment Agency and Apex-Brazil, to enhance cooperation and foster investment.
- Successfully procuring and releasing a comprehensive, updated database of state business incentives through the public SelectUSA website (<http://www.stateincentives.org/>). Investors are often intimidated by the need to research all U.S. states and territories, and this resource will help demystify that process.
- Leveraging the Harvard-Economic Development Administration partnership's U.S. Cluster Mapping Project (<http://www.clustermapping.us/>) that allows Economic Development Organizations to self-identify as searchable organizations and gives them the ability to develop data-driven economic development strategies. This publicly available web-site overlays disparate data sources onto a map of the U.S. providing detail down to the county level. International investors can use the unbiased, open data in this tool to identify locations and industry-specific clusters of interest based on project specific investment criteria. Users can explore interactive, robust data and tools to understand clusters and regional business environments, improve strategic decision making, and locate appropriate partners across the country.
- Economic Development Administration awarded economic development grants to help communities and regions build the capacity to support inward investment. According to recipients, these are estimated to create and/or retain approximately 7,566 jobs and result in \$1.3 billion in private investment.
- Examples of FY 2015 client verified investments facilitated by the SelectUSA program include:
 - ABB Group, a power and automation technology company, announced a \$30 million investment in a new customer experience site near Memphis, Tennessee that would create 200-300 new jobs;
 - Yuhuang Chemical, a Chinese chemical company, invested \$1.85 billion for a methanol production investment in Louisiana that is estimated to create 400 permanent new jobs. The groundbreaking ceremony was held on September 18, 2015;
 - Lung Soon Ocean Group, a Taiwan-based seafood processing and cold storage facility, announced two investment projects in Astoria, Oregon in 2014. The first project is valued at \$12 million, creating 50 jobs. By the end of 2016, the company expects to set up a new cold storage facility and estimates \$22 million total in investments and the creation of 150 new jobs;
 - PEDS Legwear (formerly Richelieu Legwear), a Canadian textile company that invested \$16 million in a state-of-the-art manufacturing facility in North Carolina expanded their initial investment to bring PEDS' total investment in the U.S. to \$24 million. The new investment project is expected to create over 200 jobs over the next five years; and
 - SG Mills, a textile and spinning company from India, announced the opening of its first U.S.-based operation in Eden, North Carolina. The company is investing more than \$40 million and will create 84 jobs over the next two years. Operations began in 2015.

Performance Indicators:

Indicator	Number of investment clients assisted by the Department ³							
Category	Key							
Type	Output							
Bureau	ITA							
Description	This indicator captures the number of domestic and foreign firms, as well as domestic and foreign Economic Development Organizations, assisted by the Department of Commerce to attract inward investment into the U.S.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					900	1,600	2,400	2,600
Actual					1,038	1,651		
Status					Exceeded	Exceeded		

Indicator	Recipient-estimated number of jobs generated as a result of grants that support inward investment							
Category	Key							
Type	Intermediate Outcome							
Bureau	EDA							
Description	This performance indicator measures the recipient-estimated number of jobs generated as a result of EDA grants which support foreign direct investment							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					4,020	4,516	6,908	6,908
Actual					5,018	7,566		
Status					Exceeded	Exceeded		

Indicator	Recipient-estimated dollar amount of private investment generated as a result of grants that support inward investment							
Category	Key							
Type	Intermediate Outcome							
Bureau	EDA							
Description	This performance indicator measures the recipient-estimated number dollar amount of EDA grants which support foreign direct investment							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					\$176M	\$2,600M	\$1,100M	\$1,100M
Actual					\$2,008M	\$1,264M		
Status					Exceeded	Not Met		

Other Evidence and Evaluation:

- For the third straight year, A.T. Kearny's *FDI Confidence Index* reports the U.S. as the number one place for foreign direct investment for the third straight year, as it leads all countries in terms of macroeconomic outlook. Forty-six percent say they are more optimistic about the U.S. economy's outlook than they were a year ago. See: <http://www.atkearney.com/research-studies/foreign-direct-investment-confidence-index/2015>.

³ Note that the indicator, "Number of ombudsman cases facilitated by the Department," is listed as a supporting indicator for objective 1.4 in the Commerce 2014-2018 Strategic Plan, but it is not being tracked by ITA. Instead, it will be incorporated into a future intermediate outcome indicator for Investment WINS under development in FY 2016.

- Findings from the Brookings Institute's *FDI in U.S. Metro Areas: The Geography of Jobs in Foreign-Owned Establishments* (<http://www.brookings.edu/research/reports/2014/06/20-fdi-us-metro-areas-saha-fikri-marchio#Profiles>) indicate that:
 - Majority foreign-owned U.S. affiliates directly employ workers spread across every sector of the economy.
 - Mergers and acquisitions—not establishment openings—drive changes in the number of jobs in foreign-owned establishments over time.
 - States and metro areas must partner with the federal government to renew the pillars of U.S. competitiveness and build strong clusters that maximize the amount, quality, and impact of investment into the U.S. to ensure that it remains a premier destination for high quality inward investment.
- Foreign investment is important to the U.S. economy, driving job creation, innovation, and exports. (Source: Bureau of Economic Analysis <http://www.bea.gov/international/index.htm>).
 - Foreign subsidiaries support 6.1 million U.S. jobs resulting in \$488 billion in total wages with an average salary of \$79,979.
 - Foreign-owned firms account for over 1/5 of U.S. goods exports.
 - U.S. subsidiaries spent \$53 billion on research and development and capital investments, such as plants and equipment.

Conclusions, Recommendations and Next Steps:

As next steps, the Department will accomplish the following actions and initiatives in FY 2016 and FY 2017:

- Support Hannover Messe 2016, the largest industrial trade show, with the U.S. as the Partner Country and lead recruitment of Economic Development Organizations (FY 2016 Q2)
- Organize and execute the 2016 SelectUSA Summit (FY 2016 Q3)
- Establish an Investment Advisory Committee (FY 2016 Q2)

Additionally, in FY 2016 and FY 2017, SelectUSA will:

- Enhance service offerings, resources, and tools for investment clients.
- Continue to follow up with Summit stakeholders, contributors, and participants to build meaningful working relationships as investments may take months or years to come to fruition.
- Document lessons learned and implement business processes to better leverage opportunities for attracting and supporting investors.
- Implement a variety of road shows and missions to further objectives. These events are posted online at <http://selectusa.commerce.gov/events.html>
- Continue to improve partnerships with state Economic Development Organizations through semi-annual gatherings and increased outreach.
- Continue efforts to professionalize communications and marketing to reach more investors with appropriate information, services, and messages.

STRATEGIC OBJECTIVE 1.4: Strengthen fair competition in international trade for U.S. firms and workers

Contributing Bureaus: ITA

Key Strategies:

- Enforce U.S. antidumping and countervailing duty trade remedy laws (ITA).
- Enhance partnership with other U.S. enforcement agencies and private sector stakeholders to identify and thwart evasion of border measures (ITA).
- Monitor and ensure compliance with trade agreements (ITA).

Summary of Progress:

American businesses and workers should have a full and fair opportunity to compete in global markets. Through implementation of this strategic objective, ITA's Enforcement and Compliance (E&C) unit provides many tools for them to counter foreign trade barriers and unfair trade practices both in the U.S. and abroad. Examples of progress include the following:

- Despite undertaking the most significant volume of new investigations in well over a decade, E&C successfully issued 387 determinations in its Antidumping Duty (AD)/Countervailing Duty (CVD) casework in FY 2014, and 193 in the first two quarters of FY 2015.
- From April 2014 through September 2015, E&C successfully resolved 43 trade agreements compliance cases despite significant resource challenges posed by Trans-Pacific Partnership (TPP) end-game and Transatlantic Trade and Investment Partnership (T-TIP) reinvigoration needs and staff turnover issues.
- Outreach efforts increased to yield progress on trade agreements compliance issues, including through senior level engagement with countries such as Brazil, China, India, Indonesia, Japan, Korea, Mexico, El Salvador, Turkey, and Vietnam.
- Participated in joint Department of Homeland Security and Customs and Border Protection (HS/CBP) training seminars on recognizing and preventing evasion of AD/CVD orders.
- Partnered with CBP to improve enforcement of AD/CVD measures on steel products through participation in Steel Customs Fraud Symposium organized by North American steel industry.
- In FY 2014, E&C issued 1,348 AD/CVD instructions; received 370 CBP port inquiries and addressed 599 calls made to our call center. In FY 2015 Q1 and Q2, E&C issued 684 AD/CVD instructions, received 151 CBP port inquiries and addressed 345 calls made to our call center. Internally, for FY 2014, E&C responded to 275 case team inquiries and ran 316 data queries.
- Successfully resolved 20 E&C-lead trade agreements compliance cases in FY 2014.
- In FY 2014, 96 percent of new E&C compliance cases were reviewed for trade agreement relevance within the required 10 business day deadline.
- A strong E&C outreach and engagement effort started in FY 2014 and continued throughout FY 2015 yielded progress on trade agreements compliance issues (via senior-level travel to and engagement with countries such as Brazil, China, India, Indonesia, Japan, Korea, Mexico, El Salvador, Turkey, and Vietnam) and created greater stakeholder understanding of E&C's new mission in this area, including conducting 78 trade agreements compliance-related outreach events (with 1940 participants) and 25 training events (544 participants) in FY 2015.
- In FY 2014 and FY 2015, E&C used trade negotiations and policy making to strategically advance compliance matters, including partnering with the U.S. Trade Representative to support successful conclusion and ongoing ratification of the WTO Trade Facilitation Agreement; advanced regulatory coherence as a way to avoid technical barriers to trade in Taiwan, Brazil, and Korea; seeking new country accession to the WTO Agreement on Government

Procurement; advocated for improvements in the U.S.-China Bilateral Investment Treaty (BIT) text to address the known challenges of U.S. industry; and, pressed for strong, first-ever-trade-agreement disciplines on State-Owned Enterprises in the Trans-Pacific Partnership negotiations.

Significant Accomplishments/Milestones

In FY 2015, Commerce undertook 62 new investigations, which represents a 15-year high in the number of cases initiated by Commerce in a year. Further, in FY 2015, E&C issued 384 AD/CVD determinations (including investigations, administrative and new shipper reviews, and scope and circumvention inquiries) covering a number of diverse products ranging from uncoated and supercalendered paper, polyethylene terephthalate resin, and numerous steel products covering a dozen countries. Of the 384 determinations, 70 were issued in the context of new AD/CVD investigations. From April 1, 2014 to September 30, 2014, E&C issued 211 AD/CVD determinations.

- Conducted 318 counseling sessions in FY 2014 and in FY 2015, conducted 755 counseling sessions with companies or their representatives regarding use of the AD/CVD trade remedy laws.
- In FY 2015, successfully resolved 24 E&C-led trade agreements compliance cases.
- In FY 2015, 95 percent of new E&C compliance cases were reviewed for trade agreement relevance within the required 10 business day deadline.

Performance Indicators:

Indicator	Percent of antidumping and countervailing duty determinations issued within statutory and/or regulatory deadlines							
Category	Key							
Type	Process							
Bureau	ITA							
Description	This indicator captures the timely completion of all AD/CVD determinations associated with on-going investigations, reviews (including administrative, new shipper and changed circumstance reviews), scope, and circumvention inquiries conducted pursuant to U.S. laws and regulations. The indicator will increase certainty within the trade community as to which importers will be liable for the payment of antidumping and/or countervailing duties, the amount of the potential duties owed, and when those duties will be collected. It will also signal to domestic producers the level of potential relief provided to offset the unfair trading practices of foreign producers/exporters and governments identified in the context of an AD/CVD proceeding.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	90%	90%	90%	90%	91%	91%	91%	91%
Actual	94%	99%	95%	96%	92%	93%		
Status	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Number of antidumping and countervailing duty petition counseling sessions							
Category	Key							
Type	Output							
Bureau	ITA							
Description	In FY 2016, Enforcement and Compliance (E&C) will be implementing a new indicator that will capture all E&C petition counseling assistance to U.S. companies and their workers, including counseling resulting from contacts initiated by companies or their workers and E&C outreach to U.S. companies. Such counseling improves the understanding of and access to the U.S. unfair trade laws dealing with injurious dumping and foreign government subsidies that can impede the competitiveness of U.S. companies and workers. After discussions with E&C's Petition Counseling and Analysis Unit, whether or not a U.S. industry ultimately files an AD or CVD petition, or pursues other options, is a complex decision each party makes after considering the resources involved in participating in the AD or CVD process.							

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target							259	259
Actual								
Status								

Indicator	Number of trade agreement compliance cases resolved successfully							
Category	Key							
Type	Output							
Bureau	ITA							
Description	This indicator provides the number of successful case conclusions (usually barriers removed) in trade agreements compliance cases, i.e., agreement relevant cases where E&C staff are responsible issue experts. The measure tends to fluctuate over time as the outcome (foreign governments agreeing to voluntarily honor trade agreement obligations) is dependent on actions by sovereign nations outside of direct U.S. government control.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						32	33	34
Actual			41	39	20	24		
Status						Not Met		

Other Evidence and Evaluation:

- GAO initiated a review of international procurement agreements within U.S. bilateral and multilateral trade agreements. GAO's review focuses primarily on four broad areas: (1) the nature and extent of procurement provisions; (2) the relation between procurement provisions to domestic procurement preferences; (3) benefits and tradeoffs of U.S. participation in these agreements; and, (4) U.S. agencies monitoring and enforcing of procurement provisions.
- Balancing the AD/CVD caseload across E&C offices has ensured that experience and technical ability is developed across offices with respect to both AD/CVD expertise and market economy/non-market economy (*e.g.*, China) expertise. This has permitted E&C to continue to meet its timeliness performance metrics while providing for greater managerial flexibility in caseload assignments.
- In FY 2015, ITA/E&C added 20 new case analysts. Two new office directors, replacing interim managers, were also assigned, as well as two new program managers.
- Recent CBP Port, Centers of Expertise and Excellence and National Targeting Center visits have reinforced the cooperation and coordination between E&C and CBP with regard to AD/CVD enforcements by facilitating more direct communication between E&C and the DHS personnel enforcing the AD/CVD determinations at the border. Such visits allow E&C to gain a better understanding of the process at the ports leading to improved communication that directly addresses specific concerns or issues identified by the CBP/DHS enforcement teams.
- In FY 2015, E&C engaged in 78 trade agreements compliance-related outreach events (with 1940 participants) and 25 training events (544 participants) to seek trade compliance complaints and leverage expertise and resources across ITA in resolving them. Additionally, E&C participation in the USTR-chaired Interagency Compliance Task Force, including preparing and disseminating a monthly written report on its compliance efforts, has resulted in increased interagency coordination on compliance and related activities. There has since been joint DOC-interagency activity on compliance cases with the Departments of State, Treasury, and Agriculture, and overall visibility with USTR and the ITEC.

Conclusions, Recommendations and Next Steps:

ITA will accomplish the following actions and initiatives in FY 2016 and FY 2017 as next steps:

- In FY16, Commerce and other agencies will work on a series of long- and short-term goals to mitigate the problems related to excess global steel capacity and its impact on the U.S. steel industry.
- Commerce's application of the American Trade Enforcement Effectiveness Act, enacted in June 2015, is already strengthening Commerce's enforcement of the AD/CVD laws, and in FY16, Commerce will continue its implementation in key areas of its practice and procedures, including Commerce's use of adverse facts available for non-cooperative respondent companies, making the examination of below-cost sales mandatory for all respondents, increasing its discretion regarding the decision to review voluntary respondents, and strengthening its ability to disregard subsidized or dumped prices in valuing inputs in non-market economy AD proceedings.
- Continue timely issuance of AD/CVD determinations. (FY16 and FY17, all quarters)
- Continue efforts to expeditiously recruit and bring on board new AD/CVD case analysts. (FY 16 and FY 17, all quarters)
- Develop and train new staff expeditiously to meet AD/CVD law requirements in the identification, analysis, and proper investigative and resolution techniques. (FY16 and FY17, all quarters)
- Expand and strengthen efforts to identify any false information provided in new shipper reviews in order to prevent foreign respondents from enjoying improperly low cash deposit rates that could risk under collection of AD/CVD duties by CBP. (FY16 and FY17, all quarters)
- Develop and implement outreach strategies to educate importers, brokers and downstream customers on how to identify, report, and/or address AD/CVD fraud and evasion. (FY16 and FY17, all quarters)
- Expand collaborative Commerce/Department of Homeland Security initiatives to combat AD/CVD fraud to include coordination with the CBP Centers of Expertise and Excellence and CBP's National Targeting Center. (FY16 and FY17, all quarters)
- Continue participation in Steel Customs Fraud Symposium organized by North American steel industries.
- Use bilateral engagement to seek WTO member ratification of the successfully-concluded WTO Trade Facilitation agreement so it can come into force by the WTO Kenya Ministerial in December 2015. Initiate new trade agreements compliance investigations based on proactive monitoring of agreement operation and industry complaints. (FY16 and FY17, all quarters)
- Execute outreach plans to U.S. industries and trade associations. (FY16 Q4 and FY17 all quarters)
- Engage and collaborate with the Interagency Trade Enforcement Center (ITEC) on DOC trade enforcement and compliance priorities. (FY16 and FY17, all quarters)
- Design and implement a system to replace an aging/inadequate system of monitoring and managing AD/CVD caseload. (FY16 and FY17, all quarters)
- Use bilateral engagement to seek WTO member ratification of the successfully-concluded WTO Trade Facilitation agreement so it can come into force by the WTO Kenya Ministerial in December 2015. (FY16 and FY 17, all quarters until agreement ratified)
- Continue to train newly hired staff in identification, analysis and proper investigative and resolution techniques. (FY16 and FY 17, all quarters)
- Continue efficient operation of the Steel Monitoring & Analysis Program (SIMA). (FY16 and FY17, all quarters)
- Continue timely issuance of Foreign Trade Zone Board decisions. (FY 16 and FY17, all quarters)

STRATEGIC GOAL 2: INNOVATION

Foster a more innovative U.S. economy—one that is better at inventing, improving, and commercializing products and technologies.

Significant Benefits:

Innovation is the primary driver of U.S. competitiveness, wage and job growth, and long-term economic growth. Up to half of all economic growth in the U.S. can be attributed to advances in science, technology, and business processes. Innovation starts with the birth of new ideas that are nurtured through applied research and development and then brought to scale through manufacturing, which in turn generates new products and services. The Department has central responsibility for supporting and expanding each part of this cycle and has the relationships with businesses necessary to identify workforce skills in growing industries.

Through NIST, DOC promotes innovation and industry competitiveness by supporting research and development activities spanning the most basic science to the deployment of advanced technologies to direct connection with industry. NIST programs are designed to span this pipeline, enabling organizational excellence for institutions from non-profits and universities to manufacturers, supporting advanced manufacturing by facilitating pre-competitive and applied research as well as technology deployment, and performing world-class metrology and technology research and services.

NIST creates the infrastructure necessary to measure the performance and quality of products and services. In close cooperation with industry, academia, and other federal agencies, NIST continually advances measurement science, develops standard protocols and test methods, and evaluates and generates data. Industry relies on NIST for the physical measurements and standards needed to enable advanced manufacturing, to develop and test new materials, to enable innovation, and to ensure compliance with regulations, all important components to ensure U.S. competitiveness, foster global trade and support a vibrant economy.

The Department has the essential responsibility to champion the digital economy. Through NTIA, USPTO, ITA and NIST, the Department collaborates and coordinates to leverage the opportunities of the digital economy to create jobs, enable global trade, innovate to bolster U.S. competitiveness, and improve lives.

The Department of Commerce, through USPTO, promotes the intellectual property (IP) system through the protection of inventions or creations via patents. Under this system of protection, industry in the United States has flourished, creating employment opportunities for millions of Americans. Patents provide incentives to invent and invest in new technology by allowing innovators the opportunity to benefit from their discoveries.

Through its economic development grant programs at EDA, the Department has helped communities and regions catalyze regional innovation ecosystems by supporting innovators at every stage, with a specific focus on advanced manufacturing, job-driven skills development, and innovation capacity building.

Significant Accomplishments/Milestones:

- In FY 2015, NIST worked to establish the foundation for the National Network for Manufacturing Innovation (NNMI), leading the interagency effort to develop policy documents on intellectual property guidelines and performance metrics for Institutes for Manufacturing Innovation. Policy documents have also been developed for the major grants management effort of NNMI on cost share, evaluation practices, visiting fellows, industry experts for proposal evaluation, and program income. NIST, through the Advanced Manufacturing National Program Office, held the first meeting of all existing Institutes for Manufacturing Innovation and their sponsor agencies to establish connections and develop the network aspects of the NNMI.

- In FY15, NIST expanded a number of partnerships with experts in academia to expand capabilities in emerging areas of science and national need. NIST awarded two new Centers of Excellence to provide a collaborative interdisciplinary environment to address innovations in measurement science and emerging technical needs. The new Centers are focused on community resilience and improving the statistical analysis of forensic evidence.
- On the one-year anniversary of the release of the Cybersecurity Framework in February 2015, NIST supported the Administration's Cybersecurity Summit. This Summit brought together leaders from across the country to collaborate and explore partnerships, as well as to raise awareness about the Framework. The Framework is being employed across the country, in a host of sectors, and by organizations ranging from multinationals to small businesses. Recently, NIST has focused outreach efforts on the international, regulator, and small and medium business (SMB) communities. In all of these interactions, NIST continues to communicate the merits of the Framework as an organizational and communication tool to better manage cybersecurity risk.
- NIST has signed a Memorandum of Understanding with the NTIA and the Department of Defense in support of National Advanced Spectrum and Communications Test Network (NASTCN) focused on increasing Federal and commercial access to spectrum by accelerating the development and deployment of spectrum sharing technologies.
- NIST along with partner organizations launched the Global City Teams Challenge to provide an opportunity for communities to partner with public and private organizations to accelerate the deployment of Internet of Things (IoT) technologies to address some of the most pressing challenges facing cities. In June 2015, NIST co-hosted an expo culminating in the Global City Teams Challenge. More than 60 teams from 51 cities around the world—made up of city planners and technology innovators—came to the expo to show off projects that are solving real challenges in real communities.
- By launching the BroadbandUSA initiative in January 2015, NTIA is empowering communities to increase jobs, economic development, and innovation by providing tools needed to obtain and leverage broadband as a means to succeed in the digital economy. In addition, on behalf of the Department, NTIA spearheaded the 25-agency Broadband Opportunity Council (established by a March 2015 Presidential memorandum) to promote broadband investment and coordinate broadband policy across the federal government.
- NTIA convened stakeholders to improve consumer trust and adoption of technologies in the areas of commercial use of facial recognition technologies; increasing privacy, transparency, and accountability for commercial and private use of unmanned aircraft systems; and enhancing the digital economy through collaboration on vulnerability research disclosures.
- Between the start of FY 2010 and June of FY 2015, the USPTO achieved a 20.7 percent reduction in the unexamined patent application backlog, an almost eight month reduction in first office action pendency, and an eight month reduction in average total pendency. This effort will be further enhanced by the implementation of the Cooperative Patent Classification (CPC) system, which is operational with 100 percent of examiners searching in CPC. Focus is now centered on completing the transition, the quality of CPC, and international cooperation in CPC.
- The USPTO held the Patent Quality Summit in March 2015 that engaged in a productive exchange of ideas with the public on patent quality. This was the kickoff event for the comprehensive Enhanced Patent Quality Initiative, which focuses on improving patent operations and procedures to provide the best possible work products, to enhance the customer experience, and to improve existing quality metrics.
- The Department supported a large number of businesses and communities to enhance their innovation and advanced manufacturing capacity, leveraging a significant amount of private investment. For FY 2015, EDA awarded 192 grants, totaling \$119.5M, in support of innovation-based capacity-building activities; for FY 2014, EDA awarded 188 grants, totaling \$112.4M, in support of innovation-based capacity-building activities. For FY 2015, grant recipients estimate that EDA grants for industry-driven skills training have resulted in 9,802 jobs being created or retained, and \$593.4M in private investment being leveraged; for FY 2014, grant recipients estimate that EDA grants for industry-driven skills training have resulted in 2,876 jobs being created or retained, and \$538.7M in private investment being leveraged.
- As a result of Advanced Manufacturing supplemental grants made by MBDA to its funded Business Centers to date, MBDA has assisted minority businesses obtaining and executing transactions valued at \$435MM and creating and retaining 406 jobs as a result of those actions.

STRATEGIC OBJECTIVE 2.1: Accelerate advanced manufacturing

Contributing Bureaus: EDA, NIST

Key Strategies:

- Catalyze manufacturing breakthroughs for national priorities (NIST).
- Advance innovation-enabling fundamental measurement science research priorities (NIST).
- Strengthen community, regional, and small and mid-sized firm advanced manufacturing capacity (EDA, NIST).

Summary of Progress:

In FY 2015, the Department has made significant progress building and strengthening partnerships that will accelerate the growth of advanced manufacturing in the United States. Public-private partnerships are critical to ensure precompetitive collaboration and industry investment towards development, demonstration, and deployment of new technology. Through a multifaceted approach, the Department's programs have contributed to a vibrant ecosystem of advanced manufacturing stakeholders, from academia and industry, small and large businesses, trade associations, and state and local government. These efforts were deeply shaped by intensive stakeholder outreach efforts led by the Department, working with business leaders to craft and oversee the Administration's manufacturing agenda.

NIST made significant investments expanding its capabilities in emerging basic and applied research to meet national needs through its intramural laboratory programs and through new partnerships and joint efforts. Internally, NIST continued to make focused investments in areas critical to advanced manufacturing, including cyber-physical systems, synthetic biology and bio-manufacturing, and NIST on a Chip. Examples of partnerships to support NIST's capabilities include two Centers of Excellence NIST established in FY 2015, adding to the Center of Excellence in advanced materials awarded in FY 2014. These Centers, which focus on community resilience and forensic science, ensure NIST has the capabilities to meet rapidly evolving areas of national need. NIST has also expanded its Joint Centers to strengthen its capabilities in quantum information science and molecular biology, key research areas for future U.S. competitiveness.

NIST is also making critical advances in its extramural programs supporting advanced manufacturing, the Hollings Manufacturing Extension Partnership (MEP) and the National Network for Manufacturing Innovation (NNMI). NIST completed the first round of a system-wide, multi-year competition to provide MEP centers funding based on the percentage of manufacturers in their state. Centers receiving new awards will operate with a one to one cost share requirement allowing them to work with more small, rural and start-up manufacturers. NIST awarded a second round of planning grants in FY15, supporting or creating 16 manufacturing consortia with \$7.8 million of grants, adding to the FY 2014 support of 19 consortia with \$9 million in grants. NIST worked to establish the foundation for the NNMI, leading the interagency effort to develop policy documents on intellectual property guidelines and performance metrics for Institutes for Manufacturing Innovation. Policy documents have also been developed for the major grants management effort of NNMI on cost share, evaluation practices, visiting fellows, industry experts for proposal evaluation, and program income. NIST, through the Advanced Manufacturing National Program Office, held the first meeting of all existing Institutes for Manufacturing Innovation and their sponsor agencies to establish connections and develop the network aspects of the NNMI.

In addition, EDA provided communities and regions with economic development grants to build community capacity for advanced manufacturing, while also continuing to lead the Investing in Manufacturing Communities Partnership (IMCP). EDA also continued to lead the Investing in Manufacturing Communities Partnership (IMCP). IMCP promotes the creation of regional economic development strategies that will strengthen the communities' competitive edge for attracting

global manufacturer and supply chain investments. Through IMCP, the federal government is rewarding best practices by coordinating federal aid to support communities' strong development plans. Under IMCP, 11 federal agencies with grant funding can use the designees' plans to make targeted investments to strengthen regional manufacturing. In addition, each designated community has a federal liaison to help it navigate the federal grant process and the ability to capitalize on its designation to help attract additional private investment and partnerships. In FY 2014, EDA led the designation of the first 12 communities, with another 12 communities receiving the IMCP designation in FY 2015. Additionally, in FY 2015, EDA invested approximately \$51.7 million in 42 advanced manufacturing projects; in FY 2014, the figures were \$59.8 million and 57 projects.

Performance Indicators:

Indicator	Dollar amount of co-investment by non-federal sources in DOC-supported NNMI institutes							
Category	Key							
Type	Intermediate Outcome							
Bureau	NIST							
Description	This indicator reflects how well the focus area of the National Network for Manufacturing Innovation (NNMI) Institutes matches a real national need and is intended to measure the extent to which the industrial partners perceive they are receiving value from the existence of the Institute. Non-federal partners dedicate resources when they believe there will be economic benefit. Non-federal sources include industry partners of all sizes, state and local governments, economic development entities, institutions of higher education, private organizations and individuals. Investment includes cash and in-kind resources provided.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					\$0	\$0	\$0	\$12M
Actual					\$0	\$0		
Status								
Notes	Targets in FY 2014 & 2015 were adjusted after appropriated funds were not received to support a DOC funded NNMI. FY 2016 targets have been adjusted because appropriated funds for a DOC-supported NNMI were not received in FY2015. The FY2017 target assumes launching a competition for two DOC-supported NNMIs in FY2016 which would be awarded in early FY2017.							

Indicator	Number of businesses using NIST research facilities							
Category	Key							
Type	Output							
Bureau	NIST							
Description	This indicator reflects the value, relevance, and usefulness of NIST research facilities to industry users. NIST research facilities are unique capabilities that can be leveraged through partnerships with businesses, especially manufacturers, to accelerate discovery and commercialization of innovative products. This indicator counts the number of Cooperative Research and Development Agreements between industry and NIST laboratories, as well as the number of industrial institutions that use the NIST user facilities (NIST Center for Neutron Research and the Center for Nanoscale Science and Technology).							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					215	225	275	325
Actual					514	444		
Status					Exceeded	Exceeded		
Notes	FY2015 is partial data because data from the NIST Center for Neutron Research (NCNR) and the Center for Nanoscale Science and Technology (CNST) lag due to the time it takes for industry participants to publish in peer-reviewed publications. The FY 2014 actual in the FY 2016 Congressional Budget submission was an estimate. FY2014 actual has since been updated.							

Indicator	Number of firms receiving in-depth technical assistance from MEP centers							
Category	Key							
Type	Output							
Bureau	NIST							
Description	Number of client firms receiving services from MEP centers where those services were substantial and essential and therefore could reasonably be assumed to have directly or entirely led to the impacts reported through the MEP client survey.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					8,340	8,750	8,986	9,187
Actual			7,614	8,353	8,353	8,419		
Status					Exceeded	Met		
Notes	While NIST had actual information for this indicator dating back to FY 2012, it did not use this as a GPRA indicator until FY 2014 and thus did not have targets until then.							

Indicator	Percentage of MEP clients receiving in-depth technical assistance that increase their competitiveness							
Category	Key							
Type	Outcome							
Bureau	NIST							
Description	Percentage of MEP clients receiving in-depth technical assistance that reported increasing sales, reducing costs, or making new investments as a result of the services received.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					60%	62%	63%	64%
Actual			61%	58%	58%	56%		
Status					Met	Met		
Notes	While NIST had actual information for this indicator dating back to FY 2012, it did not use this as a GPRA indicator until FY 2014 and thus did not have targets until then. With the focus on recompetition, the MEP system has experienced a decline in the responses to the client impact survey resulting in a lower percentage of companies indicating an increase in competitiveness due to MEP services.							

Indicator	Citation impact of NIST-authored publications							
Category	Key							
Type	Outcome							
Bureau	NIST							
Description	This indicator demonstrates that NIST consistently produces useful and relevant scientific and technical publications and is outcome-oriented. The "relative citation impact indicator is the ratio of the average number of citations per publication (citation rate) for all NIST publications in a year to the average citation rate for a large group of peer institutions in the world. Publications typically lag by a minimum of two years due to the time needed for research, writing, journal peer review, and publication processes.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	1.1	1.1	1.1	1.1	1.5	1.5	1.5	1.6
Actual	1.6	1.9	1.7	2.1	2.4	Not available		
Status	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded			

Other Evidence and Evaluation:

NIST, the Department of Commerce, and the Administration have extensively engaged industry to help shape the focus and approach for programs supporting advanced manufacturing. For example, reports from the President's Council of Advisors on Science and Technology⁴, and the Advanced Manufacturing Partnership⁵, and the Visiting Committee on Advanced Technology⁶ have been seminal documents in guiding the development of NNMI and AMTech. Organizations outside of the government have also published reports that support the overarching principle of government support for precompetitive research supporting advanced manufacturing.⁷ Furthermore, the Department's manufacturing programs are designed based on formal engagement with the private sector through, for example, requests for information and workshops.⁸ For a comprehensive list of documents shaping and supporting the Administration's manufacturing efforts, see http://manufacturing.gov/pubs_resources.html. The efforts by the Hollings Manufacturing Extension Partnership to support regional supply chains is supported by a number of reports and research in that area, summarized here: <http://www.nist.gov/mep/data/reports-supplychain.cfm>. In addition, NIST's partnerships with industry are evaluated and captured in an [annual report on technology transfer](#).

The Hollings Manufacturing Extension Partnership cites several reports highlighting the competitive importance of ensuring small and medium-sized manufacturers have access to new technologies. A summary of these reports can be found here: <http://www.nist.gov/mep/data/reports-innovation.cfm>. NIST MEP also collects success stories from each MEP center, and these stories are [accessible on a searchable database](#) that is updated regularly. They provide a snapshot as to the types of services provided, industries served, and how the work is accomplished.

The National Research Council (NRC) provides expert assessments of the NIST Laboratory programs. The NRC assessments assure decision-makers within the Federal government that NIST maintains the highest standards of effort, performance, and relevance. The assessments also help NIST respond to recommendations and advice as provided to NIST by its advisory body, the Visiting Committee on Advanced Technology. In addition, the process of bringing expert NRC panelists to the NIST campus creates an opportunity for NIST scientists to obtain direct feedback and to foster professional relationships with experts in their field. For FY 2015, the NRC conducted technical assessments of the scientific impact of the Information Technology Laboratory, the Physical Measurement Laboratory, and the NIST Center for Neutron Research on the following criteria: the technical quality and merit of the laboratory programs relative to the state-of-the-art worldwide, the effectiveness with which the laboratory programs are carried out and the results disseminated to customers, the relevance of the laboratory programs to the current and future needs of stakeholders, and the adequacy of the facilities and laboratory equipment to perform the program functions. The most recent NRC reports are available here: <http://nist.gov/director/nrc/>

NIST performs a yearly Facilities Condition Assessment to identify deficiencies in need of correction and provide a cost estimate to each. Further, a 1996 Report from the Federal Facilities Council, *Report Number 131: Budgeting for Facilities Maintenance and Repair Activities*, recommends annual funding of 3-4% of current replacement value (for NIST Buildings and Structures, current replacement value is \$2.670B). At 3-4% the recommended funding level for NIST would be \$80 million - \$107 million. The FY15 Safety Capacity Maintenance and Major Repairs (SCMMR) funding level has been set at \$50 million.

As part of the IMCP initiative, the Department of Commerce, through the EDA, convened stakeholders in FY 2014 for the first IMCP Summit to provide an opportunity for the designated communities, applicants, and potential future applicants to share best practices and work to address regional challenges. The second IMCP Summit, held in FY 2015, brought together both first and second round designees. Findings from the IMCP Summit included: 1) designated

⁴ <https://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast-advanced-manufacturing-june2011.pdf>

⁵ https://www.whitehouse.gov/sites/default/files/microsites/ostp/pcast_amp_steering_committee_report_final_july_17_2012.pdf ;
https://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/amp20_report_final.pdf

⁶ <http://www.nist.gov/director/vcat/upload/VCAT-Mfg-Summary-Recommendations.pdf>

⁷ For example, see The MIT Task Force on Production and Innovation's *Production in the Innovation Economy*. <http://mitpress.mit.edu/content/production-innovation-economy-preview>

⁸ http://manufacturing.gov/docs/nnmi_prelim_design.pdf

communities want to be as involved as possible in the growth and development of IMCP; 2) communities are looking for additional federal funding streams, with additional preferences, targeted to their communities; 3) communities would like more discussions and programming focused on their particular manufacturing sector; and 4) communities would like more technical assistance in filling out grant applications.

Conclusions, Recommendations and Next Steps:

NIST, through a diverse set of research activities and industrial outreach, works to accelerate innovation, technical breakthroughs and advanced measurements to support advances in manufacturing. Next steps in support of this effort include:

- In support of the Administration's Materials Genome Initiative, which aims to accelerate materials innovation to decrease the cost and time-to-market by half, NIST will continue to develop the key infrastructure to enable data and models to be exchanged between researchers and integrated in real time. The infrastructure will also provide the critical quality metrics (validation, verification, sensitivity, and uncertainty quantification) for these data and models to allow realization of advanced, new materials. The effort will rely on NIST's partnership with the Center for Hierarchical Materials Design, a NIST-funded Center of Excellence led by Northwestern University.
- NIST will launch a two-stage competition for two DOC-supported NNMI focused on addressing specific technology needs of manufacturers. NIST anticipates making awards for the DOC-supported centers the first quarter of FY 2017. Further, the National Program Office of the NNMI, housed at NIST, will develop a strategic plan for NNMI by Q1 FY16 and annual reports of the NNMI program by Q1 FY16 and Q1 FY17.
- Scale up MEP's Supply Chain Optimization Service to strengthen supply chains across all 50 states. The service is focused on offering a systems approach to help manufacturers address technology risk, increase visibility throughout their supply chain, and upgrade their capabilities. MEP's current work in this area has strengthened the small manufacturers in several major supply chains, improving the economics of locating in the United States. The Supply Chain Optimization Services should be available across the entire MEP system by first quarter of FY 2017.
- NIST will continue to expand the NIST on a Chip program. The goal of this program is to develop manufacturable, NIST-traceable measurement and physical standards that can be easily used and integrated, and provide a broad range of measurements and standards relevant to customer needs. This program will explore new technical areas, including integrating single chip-scale devices to include atom-based measurements in ultra-miniature vapor cells, photonic structures, and standard silicon MEMS technologies. The output will be multifunctional NIST chips that can make quantum-based measurements of length, frequency, electrical and magnetic quantities, temperature, motion/acceleration, and other quantities in a single device. In FY16, NIST will demonstrate a photonic pressure standard, chip-scale photonic thermometers, and microfluidic systems for potential pharmaceutical delivery systems, among other advancements.
- In order to support U.S. industry's competitiveness in advanced manufacturing, the NIST laboratories will make a number of advancements in standards, methods, testbeds, and models for smart manufacturing in FY 2017. This includes developing and disseminating a methodology for estimating key performance indicators of smart manufacturing systems, establishing a testbed to evaluate methods of collecting and distributing real-time production information, and developing temperature measurement methods for use with metal-based additive manufacturing processes.

EDA will continue to support communities and regions in developing advanced manufacturing capabilities. Next steps in support of this effort include:

- FY16 Q1-Q4: EDA will continue to prioritize, award and administer grants that help communities and regions build the economic development capacity to support advanced manufacturing.
- FY17 Q1-Q4: EDA will continue to prioritize, award and administer grants that help communities and regions build the economic development capacity to support advanced manufacturing.
- FY16 – FY17: EDA will continue to lead IMCP efforts to foster regional manufacturing ecosystems. Specific actions to be taken in FY 2016 and FY 2017 include: 1) ensuring designated communities have the appropriate federal points of contact and federal funding liaisons; 2) establishing "Manufacturing Road Shows" across the nation with engagement from high-level principals in the federal government; 3) developing themed and targeted programmatic

webinars and plans for engagement with the communities; 3) creating a mentoring program for the communities to foster relationships and connections among the communities; 4) engaging more industry experts who can lend useful advice and direction to the communities; and 5) identifying alternate streams of funding (i.e., other federal or non-federal) for the communities.

STRATEGIC OBJECTIVE 2.2: Strengthen the Nation's digital economy

Contributing Bureaus: ITA, NIST, NTIA, USPTO

Key Strategies:

- Increase broadband infrastructure and capacity (NIST, NTIA).
- Foster and promote capabilities, tools, and governance frameworks that advance the deployment of digital technologies (ITA, NIST, NTIA, USPTO).
- Craft policies that promote the Internet as an engine of growth (ITA, NTIA, USPTO).

Summary of Progress:

In FY 2015, the Department made significant progress in promoting and supporting the digital economy. The Department increased broadband infrastructure and capacity for both wireless and wireline, and developed organizations that will continue to expand connectivity with next-generation technologies. The Department created capabilities, conventions, and frameworks that advance the deployment of digital technologies, convening wide groups of stakeholders to ensure best practices and effective codes of conduct are followed by all parties. The Department also advanced policies that promote the Internet as the engine of growth.

In October 2014, the Department formed a Digital Economy Leadership Team comprised of ESA, ITA, NIST, NTIA, OGC, OPSP, OSY, and PTO to drive strategy, coordination, and execution of deliverables. NTIA advanced the digital economy through policy work on privacy and international Internet governance. Significant progress was made toward achieving the privatization of NTIA's role in the Internet's Assigned Numbers Authority (IANA) functions, which will help ensure bottom-up international Internet governance driven by all interested stakeholders as opposed to top-down government regulation. NTIA also worked to increase consumer trust on topics such as facial recognition technology, unmanned aircraft, and cybersecurity vulnerability research disclosures. The Department worked to bring together interested parties to advance policies that help the Internet flourish. In FY 2015, NTIA held 10 multi-stakeholder meetings to advance Internet policy issues, exceeding its goal of six such proceedings. NTIA and the USPTO also completed a stakeholder proceeding on improving the operation of the notice and takedown system for removing infringing content from the Internet under the Digital Millennium Copyright Act. The process produced [a document containing a useful list of good, bad, and situational practices](#).

At the halfway point, NTIA is on track to meet [the President's target](#) of making 500 megahertz of spectrum available for commercial wireless broadband by 2020. NIST and NTIA made advances in their joint Center for Advanced Communications as a forum for driving partnerships to develop technologies and gather data to efficiently and effectively leverage spectrum resources. The NIST/NTIA Public Safety Communications Research (PSCR) program made strong strides testing and evaluating cutting-edge advanced public safety technologies that will feed into the First Responders Network Authority (FirstNet). FirstNet is an independent entity within NTIA that is building the first nationwide wireless broadband network for public safety users.

In July 2015, NIST formed a 5G mm Wave Channel Model Alliance of companies, academia, and government organizations to support the development of more accurate, consistent, and predictive channel models for wireless systems. This Alliance will provide a venue to promote fundamental research into measurement, analysis, identification of physical parameters, and statistical representations of mmWave propagation channels. In addition to making available methodology and

best practice data, the Alliance will focus on the development of usage scenarios for Indoor, Outdoor and Emerging environments which are key to developing more accurate and predictive channel models.

NIST's Cybersecurity Framework was advanced through significant follow-on activities and outreach. USPTO made important progress on policy issues related to the protection of intellectual property online. ITA continues to make advances for U.S. digital economy businesses through its international negotiations to promote global free flow of information in a number of ways. First, ITA is working on an enhanced U.S.-EU Safe Harbor Framework, which provides U.S. companies a mechanism to comply with EU data protection law. ITA is also leading efforts to implement the Asia Pacific Economic Cooperation (APEC) Cross Border Privacy Rules System, which will facilitate data flows, trade and consistent privacy protections throughout the APEC region. ITA also works to represent digital economy industry interests on issues including cloud computing, data localization, the European Union's Digital Single Market initiative, cybersecurity, and media and entertainment. Finally, ITA provides industry expertise on the negotiation of Internet-related issues in important trade negotiations including the Trans-Pacific Partnership, the Transatlantic Trade and Investment Partnership and the Trade in Services Agreement.

As NTIA's Broadband Technology Opportunities Program (BTOP) draws to a close at the end of FY 2015, an independent study concluded that the program's grant projects are projected to increase economic output by as much as \$21 billion annually. NTIA also successfully launched BroadbandUSA, a well-received initiative to continue providing communities tools to increase broadband capacity and reap the benefits of broadband. On behalf of the Department, NTIA spearheaded the 25-agency Broadband Opportunity Council formed by the President to promote broadband investment and coordinate broadband policy across the federal government. Major broadband-related work products driven by NTIA include the release of [An Introduction to Effective Public-Private Partnerships for Broadband Investments](#), a [Guide to Federal Funding of Broadband Projects](#), and a [report to the President on Expanding Broadband Deployment and Adoption by Addressing Regulatory Barriers and Encouraging Investment and Training](#).

Performance Indicators:

Indicator	Agency Priority Goal: Miles of broadband infrastructure							
Category	Key							
Type	Outcome							
Bureau	NTIA							
Description	This measure's target is the cumulative total number of miles of network (e.g., fiber, microwave) deployed using BTOP funding. BTOP funded projects provide broadband service in unserved areas and enhance broadband service in underserved areas of the United States. The BTOP portfolio of projects initially included 123 infrastructure projects totaling \$3.5 billion in Federal grant funds to construct broadband networks and connect community anchor institutions such as schools, libraries, hospitals, and public safety facilities. The Recovery Act provided all funding for BTOP grants. Infrastructure projects were substantially completed by the end of FY 2013. As in FY 2014, NTIA continued to administer in FY 2015 the BTOP grants through their completion and Federal interest period in order to protect the Federal government's investment in broadband infrastructure, public computer centers, and broadband adoption projects.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		10,000	50,000	100,000	115,000	118,000	Retired	Retired
Actual		29,191	78,120	111,400	113,555	TBD		
Status		Exceeded	Exceeded	Exceeded	Met	Not Met *		
*The number of miles of broadband is based on the efforts of the grant recipients and is not directly in NTIA's control. Grantees exceeded the program's original goal, which was set at 100,000 miles. Overachievement led to resetting the target to a "stretch goal" of 118,000 miles. Reports from grantees are not expected until October 30, so NTIA will not have preliminary metrics until late November. NTIA does not anticipate that actuals will meet the target, since it was revised upward.								

Indicator	Agency Priority Goal: Number of community anchor institutions connected							
Category	Key							
Type	Outcome							

Bureau	NTIA							
Description	The Recovery Act places a high priority on deploying and enhancing broadband capabilities for community anchor institutions such as libraries, hospitals, schools, and public safety entities. The Recovery Act provided all funding for BTOP grants. The BTOP portfolio of projects initially included 123 infrastructure projects totaling \$3.5 billion in Federal grant funds to construct broadband networks and to connect community anchor institutions such as schools, libraries, hospitals, and public safety facilities. This measure's target is the cumulative total number of anchor institutions connected with new or improved broadband capabilities. Infrastructure projects were substantially completed by the end of FY 2013. As in FY 2014, NTIA continued to administer in FY 2015 the BTOP grants through their completion and Federal interest period in order to protect the Federal government's investment in broadband infrastructure, public computer centers, and broadband adoption projects.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		3,000	10,000	18,000	23,000	23,500	Retired	Retired
Actual		4,163	11,240	20,332	25,391	TBD		
Status		Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	New household and business subscribers to broadband (Sustainable Broadband Adoption Projects)							
Category	Key							
Type	Outcome							
Bureau	NTIA							
Description	The BTOP portfolio of projects initially included 44 sustainable broadband adoption (SBA) projects totaling \$250.7 million in Federal grant funds to support innovative projects that promote broadband adoption, especially among vulnerable population groups where broadband technology traditionally has been underutilized. This measure's target is the cumulative total number of new household and business subscribers to broadband generated by projects funded through the BTOP Sustainable Broadband Adoption category of funding, as reported by awardees.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		100,000	350,000	600,000	670,000	Retired	Retired	Retired
Actual		210,213	522,981	629,175	736,489			
Status		Exceeded	Exceeded	Exceeded	Exceeded			

Indicator	Communities to which NTIA provides broadband technical assistance.							
Category	Key							
Type	Outcome							
Bureau	NTIA							
Description	Various communities were not able to receive NTIA assistance during the BTOP grant period. By taking advantage of NTIA's technical expertise during NTIA's subsequent outreach program, those communities can realize broadband adoption also. This performance metric measures the additional communities that can adopt broadband. This indicator replaces "Number of new household and business subscribers to broadband" which was retired because NTIA met its goal.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						175	250	425
Actual						337		
Status						Exceeded		

Indicator	Spectrum identified for commercial broadband use							
Category	Key							
Type	Intermediate Outcome							

Bureaus	NTIA, NIST							
Description	NTIA is undertaking tasks, in response to the June 28, 2010 Presidential Memorandum and in collaboration with the Federal Communications Commission (FCC), to make available a total of 500 MHz (in bandwidth) of spectrum to support wireless broadband services or products by 2020. NTIA, with input from other Federal agencies and the FCC, developed a Ten-Year Plan and Timetable, identifying over 2,200 MHz of spectrum for evaluation. As this work has progressed, the band analysis process continues, but much of the effort has turned toward implementation of bands that NTIA and/or the FCC have identified. The combination of the ongoing analysis and implementation of band-repurposing results in a new set of deliverables each fiscal year. NTIA will establish at the beginning of each fiscal year the set of expected deliverables to complete this complex project.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		Complete Identification	Meet 66% of milestones regarding the identification of 500 MHz for wireless broadband	Meet 66% of milestones regarding the identification of 500 MHz for wireless broadband	Meet 66% of milestones regarding the identification of 500 MHz for wireless broadband	Meet 66% of milestones regarding the identification of 500 MHz for wireless broadband	Meet 66% of milestones regarding the identification of 500 MHz for wireless broadband	Meet 66% of milestones regarding the identification of 500 MHz for wireless broadband
Actual		Completed	85%	85%	100%	80%		
Status		Met	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Number of critical infrastructure sectors with work products integrating the Cybersecurity Framework							
Category	Key							
Type	Intermediate Outcome							
Bureau	NIST							
Description	This indicator demonstrates that NIST consistently produces useful and relevant cybersecurity publications and reference materials that organizations representing or participating in a diverse set of the sixteen total critical infrastructure sectors can use. The Cybersecurity Framework may be cited in professional journals; international/national/industry standards, guidelines, and practices; sector-specific federal agency guidance to industry; and commercial/government-off-the-shelf software.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					10	12	13	14
Actual					9	12		
Status					Met	Met		

Indicator	Number of Public safety communications stakeholder R&D roadmaps							
Category	Supporting							
Type	Intermediate Outcome							
Bureaus	NIST, NTIA							
Description	This indicator demonstrates significant milestones and the value of NIST's convening and technical roles in advanced communications related to communications for public safety. NIST will receive funds starting in 2015 from the 2012 Middle Class Tax Relief act to perform R&D that supports FirstNet, the broadband first responder communications network. In addition to legislatively-mandated R&D topics, NIST has worked with stakeholders to prioritize additional critical R&D topics. From this prioritization, and working closely stakeholders, NIST will develop an R&D roadmap for each topic.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						1	2	3
Actual						1		
Status						Met		

Other Evidence and Evaluation:

For its efforts towards strengthening the digital economy, the Department has used significant stakeholder outreach and research to shape programs, partnerships, and initiatives. In developing the Cybersecurity Framework, for example, NIST performed significant stakeholder engagement through workshops and Requests for Information (RFIs) to ensure the Framework would meet the needs of users. Since its release in February 2014, NIST has continued to evaluate the impact of the Framework on the needs of its users. Summaries of these efforts can be found here: <http://www.nist.gov/cyberframework/cybersecurity-framework-industry-resources.cfm>. In addition, NTIA and USPTO worked with stakeholders through roundtables and RFIs to establish policy priorities and implementation plans in all areas related to the Digital Economy.

In 2014 NIST formed the Communications Technology Laboratory focused on promoting the development and deployment of advanced communications technologies, through leading edge R&D on both the metrology and understanding of physical phenomena, materials capabilities, and complex systems relevant to advanced communications. A [recent National Academies study](#) highlights the important role this NIST laboratory will have given the importance of access to spectrum and spectrum sharing to the wireless networking and mobile cellular industries.

As NTIA's Broadband Technology Opportunities Program (BTOP) draws to a close at the end of FY 2015, [an independent study concluded](#) that the program's 214 grant projects are projected to increase economic output by as much as \$21 billion annually. BTOP-funded projects have significantly increased broadband capacity to more than 7,880 local and regional communities across the country. These connections, many to a gigabit or more, provide a platform for new and expanding innovations in many fields, including healthcare, manufacturing, and education. [A report on BTOP's short-term economic impacts](#) indicated that BTOP projects created an estimated 79,189 jobs and more than \$12.9 billion in total output. In other words, every \$1 spent by BTOP grantees produced \$2.81 in total output. [Many project case studies have also been released showing the benefits of NTIA's broadband programs](#). As part of its BroadbandUSA program, [NTIA released a lessons-learned document](#) to help communities leverage public-private partnerships to increase broadband capacity.

NTIA continues to monitor and provide guidance to grant recipients through technical assistance on refining methodologies for collecting data on new subscribers and accurately reporting that information. NTIA also collects reports from grant recipients regularly detailing performance and performs case reviews evaluating projects' successes and challenges in meeting milestones. These activities help NTIA understand the progress made by recipients and inform the provision of appropriate corrective actions and enforcement measures, if needed.

[Data released in March 2015 from NTIA's last update of the National Broadband Map](#) indicated achievement of the President's 2011 challenge for 4th Generation (4G) mobile broadband service to reach 98% of Americans. Map data show lower speeds broadband (10 Mbps) is available to 99% of the country and 25 Mbps speeds are available to nearly 85% of the country. Data shows there is still a large gap between urban and rural areas when it comes to access to broadband at 25 Mbps (55% rural areas, 32% tribal areas). (www.broadbandmap.gov/analyze) [NTIA's Digital Nation report](#) (October 2014) indicated U.S. broadband adoption at home increased to 72% of households in 2012 from 69% in 2011 but significant gaps in broadband adoption still exist.

NTIA's State and Local Implementation Grant Program ([SLIGP](#)) provides funding to states and territories to plan for the First Responder Network Authority (FirstNet) as it deploys the nationwide public safety broadband network. Through June 30, 2015, state grantees had engaged with over 98,000 first responder stakeholders across the nation to perform outreach regarding FirstNet. Using grant funds, states have distributed electronically or in-person nearly 700,000 education and outreach materials to stakeholders focused on planning for public safety broadband. In March 2015, NTIA opened a new phase of SLIGP allowing states to perform data collection to help inform FirstNet as it prepares to deploy the network.

Conclusions, Recommendations and Next Steps:

The Department, through a diverse set of activities, will continue to advance innovation through the digital economy. Next steps in support of this effort include:

- In order to increase understanding and use of the Cybersecurity Framework version 1.0, in early FY17 NIST will release web learning materials on Framework components and NIST draft publication on complementary use of the Framework and FISMA standards/guidelines to manage cybersecurity risk. The learning materials will be tailored for different Framework stakeholder communities (e.g. small businesses, federal agencies).
- In order to evolve the Cybersecurity Framework and maximize its impact and adoption, NIST will assess needed updates to and future industry governance of the Framework by obtaining stakeholder feedback. In FY16 NIST will hold workshops to discuss stakeholder inputs on Framework updates, governance, and user experiences to date.
- To strengthen cybersecurity of Federal networks, systems, and data, NIST will support the OMB-directed Cybersecurity Strategy and Implementation Plan (CSIP) for Federal Civilian Government, signed October 30, 2015. Specifically, in Q1 FY 2016 NIST will publish best practices for privileged user PIV implementation based on lessons learned. By Q4 FY 2016, NIST will provide guidance to agencies on how to recover from a cyber event.
- NIST's and NTIA's joint Center for Advanced Communications will work to develop technology solutions and support standards that strengthen cybersecurity and enable the deployment of new technologies. They will expand partnerships to provide opportunities for collaborative R&D and access to test bed resources to provide testing, modeling, and analysis necessary to develop and deploy spectrum-sharing technologies and inform future spectrum policy and regulations. A multipurpose test facility will be launched to replicate complex electromagnetic environments for testing wireless devices.
- In order to gain better perspective on rising digital economy issues and to address them in a manner that maximizes innovation and commerce, the Department will create and launch the Digital Economy Advisory Board in FY 2016.
- In order to increase trade opportunities for U.S. companies, ITA will continue its work on an enhanced U.S.-EU Safe Harbor Framework, and its efforts to fully implement the APEC Cross Border Privacy Rules system.
- In order to increase consumer adoption of innovative digital economy projects, services, and applications, NTIA will complete multi-stakeholder processes on facial recognition technologies, cybersecurity, and unmanned aircraft systems and begin additional processes to develop codes of conduct, best practices, and principles on digital economy policy issues.
- In order to preserve bottom-up innovation on the Internet, NTIA will transition stewardship of the IANA functions related to the Domain Name System to the global stakeholder community.
- In order to provide the first nationwide wireless broadband network for public safety use, FirstNet and Departmental partner organizations in NIST's and NTIA's joint Public Safety Communications Research program will advance FirstNet's strategic roadmap milestones (e.g., releasing and completing a network RFP) and the state of public safety communications technologies.
- In order to support the government-wide National Strategic Computing Initiative, which seeks to maximize the benefits of high performance computing in the US, NIST will serve as a foundational research and development agency supporting the multi-agency effort. NIST's efforts in FY16 and FY17 include conducting research to enable the design, assessment, and operation of advanced devices, device materials and concepts for the next generation of high-performance computing; developing measurements and prototype devices required to support alternative computational paradigms including neuromorphic and quantum computing; and assessing measurement needs for data analytics at large scales.

STRATEGIC OBJECTIVE 2.3: Catalyze innovation ecosystems

Contributing Bureaus: EDA, ESA, ITA, MBDA, NIST, USPTO, DM / OS

Key Strategies:

- Support the emergence of regional innovation ecosystems (EDA, ESA, ITA, MBDA, NIST, USPTO).
- Accelerate industry-led skills development (EDA, ESA, NIST, DM / OS).
- Provide the tools necessary to support high-growth entrepreneurship (EDA, MBDA, NIST, USPTO).

Summary of Progress:

The Department has expanded its efforts to catalyze and encourage regional innovation ecosystems that help communities, regions, and business build the capacity to support innovators at every stage and size, increasing US competitiveness, attracting investment, and bolstering regional economic prosperity. Through collaboration and thoughtful alignment of its varied services, the Department is better supporting regional economic ecosystems by emphasizing entrepreneurship, commercialization, and industry-driven workforce skills development.

The Department used its strategic programs to provide economic development planning, technical assistance, infrastructure construction, and access to capital and contracts to help communities, regions and businesses (including minority businesses) build the capacity to support innovation. Examples of the almost 200 innovation capacity-building grants (worth approximately \$120 million) awarded in FY 2015 to communities include a project that establishes a revolving loan fund for gap financing in a disaster impacted region, and a business assistance center that will offer business incubation services, workforce training and business acceleration services to an economically distressed community. In addition, The Department established the Innovation Ecosystem Leadership Team (IELT) which is charged with aligning DOC bureau (EDA, MBDA, ITA, NIST, USPTO) field operations to maximize the value delivered to communities and businesses focused on innovation-related activities.

In terms of talent, the Department, through the Skills for Business initiative, successfully undertook various efforts to reduce the gap between the workforce needs of employers and the supply of workers with in-demand skills. By making its workforce-related data more accessible, emphasizing an ecosystem approach to workforce-related interagency coordination, and stressing the importance of aligning workforce development and economic development, the Department has become industry's voice to the Administration's job-driven skills training agenda. In addition, through the Department's SelectUSA program, the Department's partnership with the Department of Labor, which links foreign investors to needed workforce development resources, including apprenticeships and other DOL funding and support services, has increased substantially. In partnership with the Aspen Institute, the Department established a skills learning exchange for seven communities to identify, disseminate, and facilitate best practices in public-private partnerships that can be used to build a regional pool of workers with the skills needed by regional businesses. Also, the National Advisory Council on Innovation and Entrepreneurship (NACIE) began supporting regional innovation and entrepreneurship in three key areas (pro-active business partnerships, scaling best practices in talent, and better leveraging labor market data) to better engage and inform industry in the talent development ecosystem. The Department participated in the SummerWorks 2016 Task Force to identify programs/initiatives focused on summer youth employment opportunities, and agreed to highlight and disseminate information to stakeholders as the program is rolled out in FY 2016. The Department also undertook a landscape review and analysis of existing data sources for cybersecurity labor market information.

The Department supported entrepreneurs by investing in projects that support new business formation and growth through community, regional, and business capacity building, helping startups to think and grow globally, and inspiring the next generation of businesses through engagements with America's most successful entrepreneurs. The Department continued to actively work to allow the free flow of knowledge and protect intellectual property through strong patents

and trademarks, making historic strides in reducing the backlog of applications and streamlining the patent application process. In addition, the Department led interagency efforts to accelerate lab-to-market technology transfer and commercialization, and launched an Entrepreneur-in-Residence program to provide resources to in-house researchers interested in entrepreneurial opportunities to accelerate technology transfer of Department-developed innovations.

The [Patent Public Advisory Committee's FY 2014 report to the President](#) noted that the USPTO made “excellent progress in a number of areas, including Information Technology infrastructure initiatives, hiring of patent examiners and judges, and ongoing efforts to reduce patent pendency and the application backlog.”

Performance Indicators:

Indicator	Number and dollar amount of grants that support innovation-based capacity-building activities							
Category	Key							
Type	Input							
Bureau	EDA							
Description	This performance indicator measures the number of EDA grants supporting innovation-based capacity-building activities							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					200	169	173	
Actual					188	192		
Status					Met	Exceeded		
Indicator	First action patent pendency							
Category	Key							
Type	Process							
Bureau	USPTO							
Description	This measure indicates the average time from the Utility, Plant and Reissue (UPR) application filing date to the date of mailing the First Office action. The measure is based on a three-month rolling time period. This is one of the two primary measures to track timeliness in the Patent Organization's processing time.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	25.4	23.0	22.6	18.0	17.4	15.7	14.6	13.2
Actual	25.7	28.0	21.9	18.2	18.4			
Status	Met	Not Met	Exceeded	Met	Met			
Indicator	Total patent pendency							
Category	Key							
Type	Process							
Bureau	USPTO							
Description	Patent total pendency is the average time in months for a complete review of a UPR patent application, from the filing date to issue or abandonment of the application. The measure is based on a three-month rolling time period. This is one of the two primary measures to track timeliness in the Patent organization's processing time. Requests for Continued Examination (RCE's) are not included.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	34.8	34.5	34.7	30.1	26.7	26.4	24.6	22.6
Actual	35.3	33.7	32.4	29.1	27.4			
Status	Met	Exceeded	Exceeded	Exceeded	Met			

Indicator	Patent Backlog							
Category	Key							
Type	Process							
Bureau	USPTO							
Description	This measure tracks the number of patent applications awaiting first action review by an examiner.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	698,000	659,000	615,300	574,100	593,700	534,900	424,200	384,700
Actual	708,535	669,625	608,283	584,998	605,646			
Status	Met	Not Met	Exceeded	Met	Met			

Indicator	Patent quality composite score							
Category	Key							
Type	Efficiency							
Bureau	USPTO							
Description	This indicator is composed of seven items that are measures of the propriety of the final disposition of individual applications, i.e., allowance or final rejection; the propriety of the actions taken during the course of examination in individual applications, i.e., first and subsequent actions on the merits by examiners; the degree to which the initial search performed by the examiner and the First Action on the Merits (FAOM) conforms with the best practices of the USPTO; the degree to which patent examiner behaviors in the prosecution of all patent applications reveals trends indicative of quality concerns; the degree to which the experience of examiners reveals trends and issues indicative of quality concerns. The overall Quality Composite is a weighted combination of these seven components. The items are specifically noted as follows: 1) Final Disposition Compliance Rate (Percent); 2) In-Process Compliance Rate (Percent); 3) Pre FAOM Search Review; 4) Complete FAOM Search Review (Percent); 5) Quality Index Report (Percent); 6) External Quality Survey (Response Ratio – Positive to Negative); and 7) Internal Quality Survey (Response Ratio – Positive to Negative).							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target			48-56	65-73	83-91	100	¹	¹
Actual		30.7	72.4	71.9	75.0			
Status			Exceeded	Exceeded	Not Met			
Notes	While USPTO had actual information for this indicator in FY 2011, it did not use this as a GPRA indicator until FY 2012 and thus did not have a target for FY 2011.							
¹ As part of its quality initiatives, USPTO intends to evaluate and refine its quality metrics with its stakeholders, as stated in the 2014-2018 Strategic Plan.								

Indicator	Number of jobs created or retained for minority businesses (not including those jobs associated with exports)							
Category	Supporting							
Type	Outcome							
Bureau	MBDA							
Description	Grant recipient number of jobs created and retained as a result of supplemental Advanced Manufacturing grants from MBDA that support U.S. manufacturing							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					2,500	325	325	325
Actual					1,960	406		
Status					Not Met	Exceeded		

Indicator	Dollars leveraged (contracts and financings) for minority businesses (not including those dollars associated with exports) (millions)							
Category	Supporting							

Type	Outcome							
Bureau	MBDA							
Description	Grant recipient dollar amount of awarded transactions (contracts and financing) as a result of supplemental Advanced Manufacturing grants from MBDA that support U.S. manufacturing							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					1,000	481	481	481
Actual					1,500	435		
Status					Exceeded	Met		

Indicator	Recipient-estimated number of jobs generated as a result of infrastructure for industry-driven skills training							
Category	Supporting							
Type	Outcome							
Bureau	EDA							
Description	This performance indicator measures the recipient-estimated number of jobs generated as a result of EDA grants supporting infrastructure for industry-driven skills training							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					3,500	2,588	8,822	
Actual					2,876	9,802		
Status					Not Met	Exceeded		

Indicator	Recipient-estimated dollar amount of private investment generated as a result of infrastructure for industry-driven skills training (millions)							
Category	Supporting							
Type	Output							
Bureau	EDA							
Description	This performance indicator measures the recipient-estimated dollar amounts of private investment generated as a result of EDA grants supporting infrastructure for industry-driven skills training							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					\$155.0	\$484.9	\$534.1	
Actual					\$538.7	\$593.4		
Status					Exceeded	Exceeded		

Indicator	Number of MEP centers partnering with skills training providers (e.g., community colleges) to link manufacturing firms with skills training resources							
Category	Supporting							
Type	Output							
Bureau	NIST							
Description	This indicator reflects the number of MEP centers involved in activities supporting the development of a workforce with industry-aligned skills. MEP is working with partners throughout the national network of centers to provide the tools, services, and connections necessary to develop a workforce with industry-aligned skills.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					50	55	53	48
Actual					54	54		
Status					Exceeded	Met		

Indicator	Percentage of prioritized countries for which country teams have made progress							
Category	Supporting							
Type	Outcome							
Bureau	USPTO							
Description	Tracks the USPTO's efforts in relation to prioritizing countries of interest for purposes of improved IP protection and enforcement, capacity building, legislative reform, including creation of country/region strategic plans and specific action plans.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	50%	75%	75%	75%	75%	75%	75%	75%
Actual	75%	100%	75%	100%	100%			
Status	Exceeded	Exceeded	Met	Exceeded	Exceeded			

Other Evidence and Evaluation:

- The Manufacturing Institute in partnership with Deloitte, has released their 2015 Skills Gap in [U.S Manufacturing: 2015 and Beyond](#) report that once again highlights the mismatch between skills in demand by manufacturer and the skills of the available workforce. The new study reinforces the challenges manufacturers have been facing over the last few years in recruiting and retaining qualified employees.
- The Administration's [Ready to Work](#) report highlights successful job-driven training strategies, details executive actions that are being taken by the federal government, and new commitments by employers, non-profits, unions and innovators to help spread what's working and to support more Americans in getting and moving up in in-demand jobs and careers.
- EDA continues to provide economic development know-how, including understanding how capacity changes based on individual, firm and community investments in assets, workforce skills, strategic planning and technical assistance will lead to economic development. Based on study recommendations from University of North Carolina and SRI International, EDA employed new metrics aligned with EDA's Logic Model to evaluate the impact of its Office of Innovation and Entrepreneurship's Regional Innovation Strategies grants. Building on the success of this past research, EDA has awarded a grant to SRI International to study how additional new metrics and techniques could be applied to evaluate a wider array of economic development programs, particularly those funding non-construction projects.
- Recent theoretical and empirical academic research highlights the importance of regional clusters in spurring innovation and boosting economic growth. Close geographic location promotes knowledge spillovers, while thick factor markets allow firms to share access to specialized inputs, and thick labor markets allow for more efficient employer-employee matching. Importantly, government policy can support high-growth entrepreneurship in regional clusters by providing targeted coordination and financial support, though additional experimentation and evaluation is still needed. (see Chatterji, Aaron, Edward L. Glaeser, and William R. Kerr. "[Clusters of Entrepreneurship and Innovation](#)." National Bureau of Economic Research Working Paper Series, no. 19013 (2013).)
- EDA has also been collaborating with the National Science Foundation on ways to measure innovation in an eco-system and gathering information from a federal interagency group: Evaluating-Business Technical Assistance Programs (E-BTAP). EDA is assisting E-BTAP with the development of a best practices paper and looks forward to implementing improved metrics for its Trade Adjustment Assistance Program.
- The Patent Public Advisory Committee's (PPAC) FY 2014 report to the President provides input to and feedback on the USPTO's major objectives and initiatives related to this strategic objective.
- The USPTO relies on its Patent Production Model to carry out multi-year planning and budgeting in the Patent organization. The USPTO is still on target to meet the overall goal targets of 10 months average first action pendency and 20 months average total pendency in FY 2019, and to achieve a working level inventory of unexamined patent applications in FY 2018. The Patent organization continues to work with the PPAC and stakeholders to refine quality and pendency metrics.

- There are almost 82,000 minority-owned manufacturing firms in the U.S. According to the U.S. Census 2007 Survey of Business Owners, minority-owned manufacturers are heavily concentrated in food, fabricated metal and apparel subsectors; but two subsectors that generate more average employees per firm are plastics & rubber, and transportation & equipment. ESA's Office of the Chief Economist published several reports that added to the literature on manufacturing wages, including a [thorough review of the manufacturing wage premium across multiple federal datasets](#); [first-time estimates of data jobs in the U.S. economy](#); [trends in the use of temporary help workers](#); and [examination of a novel Census Bureau data set on manufacturing earnings and productivity across earnings quartile](#).
- The Census Bureau released new data on new Job-to-Job Flows statistics, which measure worker reallocation in the United States constructed from the [Longitudinal Employer-Household Dynamics data](#). These national data distinguish hires and separations associated with job change from hires from and separations to nonemployment. <http://researchmatters.blogs.census.gov/2015/10/16/where-did-all-the-construction-workers-go/>
- MBDA successfully implemented a memorandum of understanding with The White House Initiative on Asian Americans and Pacific Islanders (WHIAAPI) in support of Asian American Business, which led to a new and innovative program with significant impact:
 - In collaboration with International Trade Administration and Export -Import Bank, "Doing Business in Asia" helped create the Diaspora Export Strategy for the National Export Initiative.
 - In partnership with Department of Labor, MBDA Business Center, and National Asian Pacific Islander American Chamber of Commerce and Entrepreneurship, the Asian American construction Advocacy program provided the ground work for addressing issues facing AAPIs in construction and engineering federal contacts.

Conclusions, Recommendations and Next Steps:

The Department will continue its efforts to catalyze and encourage regional innovation ecosystems that help communities, regions, and business build the capacities to support innovators at every stage and size to drive regional economic prosperity. Communities, regions, and businesses will be better positioned to overcome vulnerabilities and leverage assets through the building or enhancement of capabilities that allow the private sector to flourish and create the "connective tissue" that will bind together vibrant regional economic ecosystems. These innovative ecosystems include robust and well-connected talent pools, sufficient physical/educational/financial infrastructure, integrated commercialization support systems, and strong spatial efficiencies that link workers to jobs. Specific upcoming actions include:

FY 2016

- Q1-4: In order increase the speed of technology transition, NIST will launch a new program to directly fund the acceleration of technology deployment and new business formation in conjunction with State government partners. NIST has formed a partnership with the Maryland Technology Development Corporation to make awards to candidates that will bring government inventions into the marketplace through supporting research in conjunction with entrepreneurial training.
- Q1-4: In order to increase minority participation in Lab to Market outcomes, NIST will partner with MBDA to engage MBDA's network. A jointly designed program will leverage the technology and technical support available from federal laboratories across the government to increase minority participation in the growth of high tech businesses based on federal technology transfer.
- Q1: Through partnerships between other organizations and the MEP network of centers, NIST will continue to work to improve the skills of today's manufacturing workforce as well as attracting the next generation of the manufacturing workforce. NIST will expand partners supporting national Manufacturing day in order to address the skilled labor shortage manufacturers face, connect with future generations, and improve the public image of manufacturers. Manufacturing Day 2015 took place on October 2, 2015 and included over 2,600 events in all 50 states with more than 400,000 participants. NIST will continue to support Manufacturing days in 2016 and beyond.
- Q1-4: In order to demonstrate an "All of Commerce" approach to supporting communities and businesses, EDA and NIST, in conjunction with MBDA, ITA, and USPTO, will develop a pilot program for the Innovation Ecosystem Leadership Team (IELT) initiative. EDA and NIST (and the National Network for

Manufacturing Innovation (NNMI)) will focus the IELT on the acceleration of advanced manufacturing competitiveness in the NE Ohio/Pittsburgh region. Pilot activities may focus on the provision of financial and technical assistance to specific projects and business needs identified by companies, public agencies, universities and not-for-profits who are contributing to the building of an advanced manufacturing supply chain in the NE Ohio/Pittsburgh region based on new discoveries and innovations produced by the America Makes NNMI and their commercialization through the Youngstown Business Incubator.

- Q1-4: EDA will continue to work with the Aspen Institute to help its seven selected communities establish a skills learning exchange to identify, disseminate, and facilitate best practices in public-private partnerships that can be used to build a regional pool of workers with the skills needed by regional businesses. In Q1 and Q2, the Aspen and Future Works teams will conduct site visits to the communities. In Q2 these site visits will be compiled into baseline reports to help inform team planning, develop curriculum, and focus technical assistance. Additionally in Q2, the Aspen Institute will host a second in-person learning exchange. This event will take place at one of the seven communities. In Q3 and Q4 ongoing technical assistance, virtual learning exchanges, and analysis will be done leading to the release in Q4 of the final project findings/report at an event held at Aspen's DC office.
- Q1-4: EDA, through the Office of Innovation and Entrepreneurship (OIE), will continue to work with the National Advisory Council on Innovation and Entrepreneurship, supporting its focus on 1) launching a pilot project, with help from the DOC Chief Data Office, to modernize labor market data and improve training programs and labor matching; 2) compiling existing innovation and entrepreneurship research into a "What Works Playbook"; and 3) conduct research and outreach to identify potential improvements to the Small Business Innovation Research program, to be completed by winter of 2016.
- Q2: As voted on by NACIE, The Department partnered with a private sector firm to conduct a pilot project using data analytics to help identify mismatches in the supply and demand for available jobs at the local and state levels.
- Q1: NACIE's subcommittee work on talent will explore the possibility of ESA conducting research on the 1099 Economy to define the global sharing/free agent economic "universe" and objectively identify implications for the health and competitiveness of American business.
- Q2: The Department will continue to engage with the Senate HELP Committee and other stakeholders to discuss the potential to revamp the 1995 Survey of Employer-Provided Training to more accurately represent today's economic climate and provide more insight into the training provided by employers across the country.
- Q1-4: EDA will prioritize, award and administer grants (including infrastructure, technical assistance, and planning) that help communities and regions build the capacity for innovation.
- Q1-4: The USPTO will maintain and improve quality measurement, and maximize its usage to improve the quality of patent examination. The USPTO will begin a renewed and enhanced focus on quality which centers on excellence in prosecution products and services, and customer service, as well as measurement.
- Q1-4: The USPTO will continue to reduce patent pendency and the backlog of unexamined patent applications, while working with stakeholders to refine long-term pendency goals that will meet the needs of both the USPTO and the Intellectual Property community.
- Q1-4: To adjust for a lower than planned growth rate in patent application filings in FY 2015, and the USPTO has modified its annual growth rates for FY 2016 and beyond to one percent (in FY 2016) to four percent (in FY 2020 and FY 2021). As a result, the Patent organization will modify its hiring plans for FY 2016 and beyond to focus mainly on hiring for the regional offices, with attrition replacements later in the year if necessary.
- Q3: MBDA will build upon the success of FY 2015 pilot programs for Advanced Manufacturing by initiating long-term investments within the minority business community through two new grant awards totaling \$1.25M over a five year period. These grants will establish focal points for the minority business community to fully participate in the growing opportunities with advanced manufacturing.

FY 2017

- Q1-4: EDA will prioritize, award and administer grants (including infrastructure, technical assistance, and planning) that help communities and regions build the capacity for innovation.
- Q1: In support of an effective cybersecurity workforce for the nation, NIST is funding the development of a visualization tool that will show the demand for and availability of critical cybersecurity jobs across the nation. The Heat Map will provide data to help employers, job seekers, policy makers, training providers, and guidance counselors in order to meet today's increasing demand for cybersecurity workers.

The USPTO will continue work to increase quality and timeliness of patents, supporting the innovation ecosystem. Some examples include:

- In order to enhance patent quality, The USPTO will maintain and improve quality measurement, and maximize its usage to improve the quality of patent examination. The USPTO will begin a renewed and enhanced focus on quality which centers on excellence in prosecution products and services, and customer service, as well as measurement.
- The USPTO will continue to reduce patent pendency and the backlog of unexamined patent applications, while working with stakeholders to refine long-term pendency goals that will meet the needs of both the USPTO and the Intellectual Property community.
- To adjust for a lower than planned growth rate in patent application filings in FY 2015, and the USPTO has modified its annual growth rates for FY 2016 and beyond to one percent (in FY 2016) to four percent (in FY 2020 and FY 2021). As a result, the Patent organization also modified its hiring plans for FY 2016 and beyond to focus mainly on hiring for the regional offices, with attrition replacements later in the year if necessary.

STRATEGIC GOAL 3: ENVIRONMENT

Help communities and businesses prepare for and prosper in a changing environment.

Significant Benefits:

The Department has a longstanding role in the protection of life and property from environmental hazards and in the stewardship of natural resources. This traditional role is now augmented by a robust agenda focused on providing communities and businesses with the information, products, and services they need to prepare for and prosper in a changing environment.

As social and economic systems evolve and grow more complex, it becomes ever more critical to have timely, actionable environmental intelligence. That intelligence can preserve and improve human and environmental health, help develop and maintain a viable national infrastructure, and promote growth while sustaining a healthy environment. Recent events, such as the Deepwater Horizon oil spill in 2010, the historic tornado outbreaks of 2011, and Superstorm Sandy in 2012, demonstrate the need for better environmental intelligence. Improved intelligence will provide communities and businesses with tools and information to address similar challenges.

The strategies that the Department has developed to support this goal area will positively impact the lives of all Americans, from coast-to-coast and everywhere in between, every day.

Significant Accomplishments/Milestones:

Objective 3.1 – Advance Understanding of Environmental Change:

- In 2015 NOAA NESDIS developed a polar observing system follow-on acquisition plan based on DOC/OMB direction which was submitted in the FY2016 President's Budget request to Congress.
- NOAA released its Arctic Action Plan to provide NOAA scientists, stakeholders and partners with a roadmap to make shared progress in monitoring, understanding, and protecting the region using an ecosystems approach.
- NOAA's National Weather Service transitioned the High Resolution Rapid Refresh (HRRR) model into operations from NOAA's Earth System Research Lab. This increases model spatial resolution four times and improves storm warning times and public safety.
- NIST, NOAA, university, and private sector collaborators published an assessment of the measurement uncertainty of an aircraft-based methodology quantifying urban greenhouse gas emissions, as part of the Indianapolis Flux Experiment.
- NOAA established a Great Lakes Health Early Warning System (i.e., a disease/toxin/pathogen surveillance system) to provide effective procedures for information dissemination and to alert public health officials and managers.
- Complete restoration of lost sites in global GHG reference network which allows more precise measurements, data, and credible models.
- Increase Aircraft and Ship Utilization for expanding observations in support of understanding and predicting Environmental Change.

Objective 3.2 – Build a Weather-Ready Nation:

- The [National Water Center \(NWC\)](#) reached Initial Operating Capability in May 2015 and will serve as a catalyst for revolutionizing water prediction.

- NOAA is transforming NWS services to provide timely and reliable dissemination of weather, water, and climate data, forecasts and warnings. NWS is delivering a scalable, robust, secure, and commonly shared IT dissemination infrastructure at the NOAA Center for Weather and Climate Prediction in College Park, MD (currently operational) and at David Skaggs Research Center in Boulder, CO (completion of equipment installation in Q4FY15). This will provide 100% backup dissemination capabilities with increased capacity to meet growing demands for NWS environmental products.
- The Advanced Weather Interactive Processing System (AWIPS) II deployment at 122 sites was completed on September 8, 2015. AWIPS ingests and integrates meteorological, hydrological, satellite, and radar data critical to NWS operations. The completion of AWIPS II deployment lays the foundation for the forecaster to prepare and issue more accurate and timely forecasts and warnings.
- NOAA and the U.S. Census Bureau held a kick-off meeting to begin collaboration on utilizing the Census Bureau's OnTheMap for Emergency Management tool and related Census data to assess the impact of weather-related events.

Objective 3.3 – Strengthen the resiliency of communities and regions

- In FY15, EDA invested approximately \$64M in 213 economic development projects to help communities and regions build the capacity for economic resilience, including infrastructure and resilience planning. In addition, EDA developed and disseminated information on its new Comprehensive Economic Development Strategy (CEDS) Content Guidelines. The Guidelines provide recommendations on how to integrate economic resiliency into the development of regional economic development plans.
- NIST grew its community resilience program through several actions, including a series of workshops, bringing in [Resilience Fellows](#) to inform the development of a draft Community Resilience Planning Guide for Buildings and Infrastructure Systems (per the President's Climate Action Plan) and NIST announced a \$20 million, 5-year cooperative agreement with Colorado State University and ten partner organizations to establish the [Community Resilience Center of Excellence](#) to develop modeling and simulation tools that can help communities be more resilient.
- NOAA provided a number of targeted tools, products and services to improved community resilience in FY2015 including two [Physical Oceanographic Real Time Systems \(PORTS®\)](#) went online in Louisiana shipping hubs in the port of Morgan City and Port Fourchon. PORTS® improve navigation safety and efficiency by providing mariners with reliable real-time information about the environmental conditions of seaports they are transiting. Port Fourchon is one of the nation's busiest energy ports, servicing 90% of the deep-water Gulf of Mexico oil and gas industry. NOAA increased the online availability and usability of climate information and tools. NOAA published narratives and data visualizations on its Climate.gov website that show how NOAA advances understanding of Earth's climate, and how those advances benefit society, including more than 15 articles and 15 videos. Working with agency partners, NOAA has also continued to build out the Climate Resilience Toolkit, including: the Climate Explorer interactive visualization tool; "Steps to Resilience," a five-step process that users can follow to initiate, plan, and implement community resilience projects; "Taking Action" stories with than 20 real-world community resilience case studies; Federal Resource Database with centralized access to federal sites for future climate projections, climate data, estimating hazards, and engaging stakeholders in resilience-building efforts.

Objective 3.4 – Foster sustainable marine resources:

- The 2014 Status of U.S. Fisheries report to Congress showed that as a result of the combined efforts of NOAA Fisheries, the regional fishery management councils, and all our partners, the number of stocks listed as subject to overfishing or overfished continued to decline and is at an all-time low. Only 8% of stocks were listed on the overfishing list down from a high of 17% in 2007, and 16% on the overfished list in 2014 from 24% in 2007. The report also showed that three stocks had been rebuilt to target levels. Since the report was issued, two additional stocks have been rebuilt, bringing the total to 39 stocks rebuilt since 2000.
- Recognizing that the majority of humpback whale populations are doing well and growing as a result of ESA protections, NOAA Fisheries proposed to reclassify the humpback whale into fourteen distinct population segments, with ten of the fourteen populations having recovered sufficiently that they no

longer require Endangered Species Act (ESA) listing. Two of the other four populations would be listed as endangered while the remaining two would be listed as threatened.

- NOAA increased the acreage of coastal, marine, and Great Lakes area designated for long-term protection by 4,239,646 acres with the finalization of three national marine sanctuary boundary expansions (i.e., Thunder Bay, Gulf of the Farallones, and Cordell Bank national marine sanctuaries). Additionally, the agency has determined it will move forward with the designation process for two areas that successfully met the criteria described in the sanctuary nomination process: Malloes Bay - Potomac River (Maryland, Potomac River) and Lake Michigan (Wisconsin).
- NOAA completed selection of ten new Habitat Blueprint Focus Areas. The [NOAA Habitat Blueprint](#) brings resources and partners together in priority areas improving habitat to benefit commercial and recreational fisheries, protected species, and coastal communities.
- NOAA Fisheries released its [Climate Science Strategy](#) which identifies seven key steps to increase production, delivery, and use of climate-related information to support the management of fisheries, and protected species. These steps focus on how a changing climate affects living marine resources, ecosystems, and the communities that depend on them, and how to respond to those changes. The strategy also identifies key risks in the U.S. from climate change, including millions of U.S. jobs, ocean fisheries worth billions, protected marine species, habitats that provide valuable services, and the health and enjoyment of our oceans and coasts from recreation and tourism.

STRATEGIC OBJECTIVE 3.1: Advance the understanding and prediction of changes in the environment

Contributing Bureaus: NIST, NOAA

Key Strategies:

- Deploy the next generation of satellites and observation and data gathering systems (NOAA).
- Advance holistic, integrative ecosystem research (NOAA).
- Develop the next-generation environmental modeling system and transition models (NOAA).
- Improve the understanding of greenhouse gas processes (NIST, NOAA).

Summary of Progress:

The following accomplishments were realized in FY 2015 to advance the understanding and prediction of changes in the environment:

- The [Joint Polar Satellite System \(JPSS\)](#) Integration Review was completed and new satellite instruments passed pre-ship reviews
- NOAA ships and aircraft saw increased utilization rates
- Hydrographic surveys were conducted in the Arctic updating charts from 1770
- NOAA released and completed its [Arctic Ecosystem Integrated Survey](#).
- The [High Resolution Rapid Refresh](#) (HRRR) model was transitioned into National Weather Service (NWS) operations, five global models were tested, and a forecast was released.
- Aircraft were used to quantify urban greenhouse gas emissions, the [Los Angeles \(LA\) Megacities Carbon Project](#) was established, and NIST and NOAA demonstrated greenhouse gas concentration standards.

Significant Accomplishments/Milestones:

- In 2015 NOAA NESDIS developed a polar observing system follow-on acquisition plan based on DOC/OMB direction which was submitted in the FY2016 President's Budget request to Congress.
- NOAA released its Arctic Action Plan to provide NOAA scientists, stakeholders and partners with a roadmap to make shared progress in monitoring, understanding, and protecting the region using an ecosystems approach.
- NOAA's National Weather Service transitioned the High Resolution Rapid Refresh (HRRR) model into operations from NOAA's Earth System Research Lab. This increases model spatial resolution four times and improves storm warning times and public safety.
- NIST, NOAA, university, and private sector collaborators published an assessment of the measurement uncertainty of an aircraft-based methodology quantifying urban greenhouse gas emissions, as part of the Indianapolis Flux Experiment.
- NOAA established a Great Lakes Health Early Warning System (i.e., a disease/toxin/pathogen surveillance system) to provide effective procedures for information dissemination and to alert public health officials and managers.
- Complete restoration of lost sites in global GHG reference network which allows more precise measurements, data, and credible models.
- Increased Aircraft and Ship Utilization for expanding observations in support of understanding and predicting Environmental Change.

Performance Indicators:

Indicator	Key milestones completed on time for ships and satellites							
Category	Key							
Type	Output							
Bureau	NOAA							
Description	Key activities for fleet modernization and products are identified and tracked using a project management system							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					Satellites – 6; Ships – 1	Satellites – 1 Ships - 1	Satellites - 2 Ships – 3	Satellites - 2 Ships - 2
Actual					Satellites – 6, Ships – 1	Satellites – 1 Ships - 1		
Status					Met	Met		

Indicator	Annual number of peer-reviewed publications related to environmental understanding and prediction							
Category	Key							
Type	Output							
Bureaus	NOAA, NIST							
Description	The annual number of peer reviewed publications is an indicator of productivity and relevance and is tracked using on-line resources. Peer review is one of the important procedures used to ensure that the quality of published information meets the standards of the scientific and technical community.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		1,200	1,200	1,200	1,200	1,500	1,500	1,500
Actual		1,210	1,800	1,676	1,759	1,860		
Status		Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Number of comparative greenhouse gas emissions studies completed
Category	Supporting

Type	Output							
Bureaus	NOAA, NIST							
Description	Scientific studies comparing top-down and bottom-up emission estimation methodologies provide the means to improve the quality of GHG emissions data.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					15	15	17	17
Actual					15	17		
Status					Met	Exceeded		

Indicator	Percentage of data processed and delivered to the user community (relative to all data transmitted to NOAA from NOAA-managed satellites)							
Category	Supporting							
Type	Output							
Bureau	NOAA							
Description	Ensures that NOAA provides real time (or near real time) availability of critical satellite data and products without gaps.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					98.5%	98.5%	98.5%	98.5%
Actual		99.73%	99.60%	99.50%	99.7%	99.35%		
Status						Exceeded		

Other Evidence and Evaluation:

This Strategic Objective is on track per current performance indicators, and based on the accomplishments cited above, considerable progress is being made. However, through logic model development, however, DOC leadership has found that the supporting indicators (particularly for outcomes) need improvement or development. The Department has also determined that the “strategies” are, as written, largely independent of one another and mostly at the same level of abstraction/generalizability as the objective itself. For these reasons, it is difficult to state progress toward the objective using current metrics and milestones as a key source of evidence, and the Department is working to improve both metrics and strategic language for the objective.

Numerous internal and external studies indicate the need for more coordinated planning and implementation with respect to linking data collection functions and integrating observation systems. Few evaluations (internal or external) exist for holistic research, environmental modeling, or transition from research to applications. Further evaluation is needed on this objective as a coherent whole, beyond the efficiency/effectiveness of observation systems, which, by itself would be more relevant to DOC Goal 4: Data.

- Per the National Research Council report, [An Assessment of the National Institute of Standards and Technology Material Measurement Laboratory: Fiscal Year 2014](#), chemical process studies in the climate science thrust “have provided critical reference data and standards that are widely disseminated

throughout the United States and internationally.” It found that NIST’s facilities for gas metrology “are highly advanced and allow them to study more greenhouse gases than any other facility of this type.”

- In 2014, NIST held an internal greenhouse gas measurements program review which focused on current status, research progress, and challenges in this high priority area. Project performance was evaluated resulting in modifications to ongoing research plans.
- The [NOAA Fleet Ship Composition: 2012-2027 report](#), recommended acquisition of an Ocean Survey Vessel. Re- validated NOAA requirements are driving fleet composition and capacity.
- According to the 2013 Federal Oceanographic Fleet Status Report, the federal fleet will experience a 50% decline between FY2016 and FY 2028 without modernization and investments.
- The 2014 NOAA/NIST framework of greenhouse gases highlighted the need for (1) monitoring the atmosphere through increased observing density over North America and (2) establishing regional and local reference networks.
- Per the GAO report, [NOAA’s Observing Systems: Additional Steps Needed to Achieve an Integrated, Cost- Effective Portfolio](#), “NOAA has not taken all of the steps it has identified as important to integrate and improve the cost-effectiveness of its observing systems portfolio. “ NOAA agreed with the recommendations to develop a plan to guide the integration of its observing systems, analyze whether unnecessary duplication exists, and develop a standardized methodology for the routine preparation and reporting of observing systems costs.
- Per the GAO report, [NOAA Aircraft: Aging Fleet and Future Challenges Underscore the Need for a Capital Asset Plan](#), “NOAA’s complex approach to creating a capital asset plan for aircraft may present challenges because it will comprise multiple stand-alone plans.” NOAA concurred with the GAO recommendation to ensure that the agency links and integrates its multiple planning efforts for aircraft.
- Per the GAO report, [Environmental Satellites: Improvements Needed in NOAA’s Mitigation Strategies as It Prepares for Potential Satellite Coverage Gaps](#), the “recent cost growth on key components [of JPSS] is likely unsustainable, and schedule delays could increase the potential for a near-term satellite data gap.” NOAA concurred with GAO’s recommendations and has taken steps to update its polar data gap assessment, address shortfalls in its polar and geostationary contingency plans, and prioritize mitigation projects most likely to address a gap in polar satellite coverage.

Conclusions, Recommendations and Next Steps:

Overall, DOC is making progress on this objective through world class science and observations. We are on track or ahead of schedule based on our metrics, but we have also learned (via logic model development and activities at the performance summit) that we need to improve our metrics. Outcome metrics, in particular, need to be developed. Moreover, the objective and strategy statements themselves are too broad and loosely connected to conduct a meaningful review of progress-to-plan. With new metrics and more coherent logic, we would need to reassess progress-to-plan and may need to alter course.

Recommendations:

- Revisit the entire objective through logic model development. Augment objective and strategy statements and indicators as necessary. Identify a target audience for "holistic understanding" and "understanding of greenhouse gasses" strategies. Incorporate predictive capabilities text as part of the objective.
- Restructure NOAA ground systems and space architecture to be managed holistically. Formulate frameworks for next generation space architecture and enterprise ground systems.
- Create a new strategy indicating how fleet will be recapitalized using new information based on external meetings with OSTP and the Navy.
- Create a Research Development Test & Evaluation budget account within NOAA.
- Integrate ecosystem research, being cognizant of competing societal goals for ecosystem components.
- Increase social science capacity to ensure stakeholder needs are being considered in product development and proper tools are used to evaluate success.

Next Steps:

FY 2016

- Approve a gap mitigation plan against potential near term delays in the JPSS program.

- Actively manage operational and administrative networks separately to mitigate future cyber security risks.
- Continue exploratory activities related to transitioning research to applications.
- Develop new strategy to mitigate the fleet composition
- Upgrade and enhancements of North American Greenhouse Gas Reference Network
- Evaluate impacts of spatial and temporal variability of surface-atmosphere exchanges on Arctic boundary layer climatology
- Establish new measures for societal outcomes (e.g. economic prosperity, increased value of ecosystem services) for long term success of the objective

FY 2017

- Develop public awareness of climate change to advance arctic and greenhouse gases research
- Invest in social science capacity to improve holistic understanding of ecosystems
- Continue activities related to transitioning research to applications.
- Deliver a report which presents a small set of next generation space-based observing architectures, that includes assessment and leveraging of all available data sources and technologies
- Major gate review (Preliminary Design Review) to kick off Polar Follow-on Program

STRATEGIC OBJECTIVE 3.2: Build a Weather-Ready Nation

Contributing Bureaus: ESA, NOAA

Key Strategies:

- Evolve NOAA's National Weather Service (NOAA).
- Improve the accuracy and usefulness of forecasts (NOAA).
- Enhance decision support services for emergency managers (ESA, NOAA).

Summary of Progress:

- Significant progress continues to be made to build a Weather Ready Nation (WRN). Phase I of the Operations and Workforce Analysis (OWA) contract, which began in May 2015, is complete. This phase includes site visits to determine the strengths of its operating models and workforce structures, and to understand opportunities for improvement. A comprehensive analysis of today's capacity and limitations for providing Impact-based Decision Support Services (IDSS) is the first step in the effort to ensure we have adequate, and equitable, capacity for provision of IDSS for the future.
- NWS added 167 new locations to Advanced Hydrologic Prediction Service (AHPS). The national implementation of AHPS is estimated to save \$240 million per year in flood losses, and contribute an additional \$520 million per year in economic benefits to water resource users. Sustained effort is needed to provide water resource managers the comprehensive information necessary to manage our water resources and mitigate the adverse impact of extreme weather events, including drought and flooding.
- NOAA is transforming NWS services to provide timely and reliable dissemination of weather, water, and climate data, forecasts and warnings. NWS is delivering a scalable, robust, secure, and commonly shared IT dissemination infrastructure at the NOAA Center for Weather and Climate Prediction in

College Park, MD (currently operational) and at David Skaggs Research Center in Boulder, CO (completion of equipment installation in Q4FY15). This will provide 100% backup dissemination capabilities with increased capacity to meet growing demands for NWS environmental products.

- In addition, NWS completed a nationwide network technical audit and mission critical ranking of NWS' network single point of failures for 164 NWS locations. This positions NWS to fix NWS' network single points of failure for the most mission critical NWS sites to help ensure operational continuity during severe weather events. Finally, NWS completed Internet upgrades for 121 Weather Forecast Offices. These sites were provided with critically needed Internet bandwidth for decision support activities, enabled training for Field staff, and prepared offices for workforce changes for an integrated field structure supporting Impact Decision Support Services (IDSS) and Weather Ready Nation (WRN).
- The Advanced Weather Interactive Processing System (AWIPS) II deployment at 122 sites was completed on September 8, 2015. AWIPS ingests and integrates meteorological, hydrological, satellite, and radar data critical to NWS operations. The completion of AWIPS II deployment lays the foundation for the forecaster to prepare and issue more accurate and timely forecasts and warnings.
- Additionally, we implemented the Weather-Ready Nation Ambassadors Initiative to unify efforts across the weather, water, and climate enterprise toward making the nation more ready, responsive, and resilient against extreme environmental hazards. As of November 2015, 2100 ambassadors have been recognized including Q4FY15 additions: US Census Bureau, Federal Protective Service (DHS), Booz Allen Hamilton, Children's Mercy Hospital in Missouri, Louisville Gas & Electric, Minnesota Dept. of Transportation, Allianz Life Insurance Company of North America.
- We recognized 12 new TsunamiReady Communities and 167 new StormReady Communities in FY15 (as of 9/30/15) to improve community preparedness for weather and water events. This is significantly above the targets of 10 and 100 communities, respectively.
- NWS and the Census Bureau had an initial kickoff meeting to explore the use of functional tools, including the newly-released Census Business Builder and Census OnTheMap Tool for Emergency Management, to disseminate information addressing the impact of weather-related events.

Performance Indicators:

Indicator	Agency Priority Goal: FY14-15: Number of days of forecast accuracy and warning lead time							
Category	Key							
Type	Output							
Bureau	NOAA							
Description	Measures time available to prepare for and mitigate the impact of severe weather. Longer lead time on forecasts is driven by improved forecast models and more accurate data.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					9	9	N/A	N/A
Actual					8.1	8.2*		
Status						TBD		
Notes	The measure for this Agency Priority Goal is based on the deterministic Global Forecast System (GFS) model. The APG is measured on a calendar year basis. * Estimated - the final APG information will be available in FY16Q2.							

Indicator	Agency Priority Goal: FY16-17: Number of days of forecast accuracy							
Category	Key							
Type	Output							
Bureau	NOAA							
Description	Our FY 14-15 Agency Priority Goal (APG), Improve Forecasting Accuracy and Lead Times for Severe Weather, used a deterministic approach based on the performance of a single model. The FY16-17 goal is based on an approach of using an ensemble system of the global model, which provides more robust model guidance including estimates of forecast uncertainty and reliability that enable forecasters in communicating the severity and likelihood of predicted weather impacts for decision support.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					N/A	N/A	N/A	9.5
Actual								
Status								
Notes	The CY 2016 – FY 2017 APG is based on the Global Ensemble Forecast System (GEFS). The goal is to reach 9.5 days by the end of CY 2017.							

Indicator	American Customer Satisfaction Index for NOAA's National Weather Service							
Category	Key							
Type	Customer service							
Bureau	NOAA							
Description	Weather information users are periodically surveyed using the American Customer Satisfaction Index. The survey rates customer satisfaction on a range of National Weather Service data and products							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		84	84	84	84	85	80**	80**
Actual		84	84	82	84	80**		
Status		Met	Met	Met	Met	Not Met		
Notes	** Beginning in Q2 FY2015, the methodology for collecting customer satisfaction data changed from an annual assessment format to a continuous pop-up survey format. Work is underway to determine a baseline target under this new methodology. This is due to transition to new customer satisfaction survey methodology. Based on the new methodology, the target for FY 16 is 80.							

Indicator	Number of trainings available and enhancements to the Census Bureau's OnTheMap for Emergency Management website							
Category	Supporting							
Type	Customer service							
Bureau	CENSUS							
Description	OnTheMap for Emergency Management (OTM-EM) is a public data tool that provides unique detail on the workforce, for U.S. areas affected by hurricanes, floods, and wildfires, in real time. To provide users with the latest information available, OnTheMap for Emergency Management automatically incorporates real time data updates from the National Weather Service, Departments of Interior and Agriculture, and other agencies for hurricanes, floods, and wildfires. This indicator supports the Department of Commerce's Environment goal to "Ensure communities and businesses have the necessary information, products, and services to prepare for and prosper in a changing environment." It specifically supports objective 3.2 to "Improve preparedness, response, and recovery from							

	weather and water events by building a Weather-Ready Nation."							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					Two webinars or training showing emergency and city planners how to navigate OTM-EM; and 2) Two enhancements to OTM-EM	Two webinars or training showing emergency and city planners how to navigate OTM-EM; and 2) Two reviews of user feedback on enhancements to OTM-EM	One webinar or training showing emergency and city planners how to navigate OTM-EM; and 2) Three enhancements to OTM-EM	TBD
Actual					Two webinars or training showing emergency and city planners how to navigate OTM-EM; and 2) Two enhancements to OTM-EM	Three webinars conducted on OTM-EM; and four enhancements to OTM-EM		
Status					Met	Exceeded		

Other Evidence and Evaluation:

Congress mandated two studies of NWS management and operations. The resulting reports are "[Weather Services for the Nation: Becoming Second to None](#)" ([National Academy of Sciences, August 2012](#)) and "[Forecast for the Future: Assuring the Capacity of the National Weather Service](#)" ([National Academy of Public Administration, May 2013](#)). The focus of the studies is to review current operations and advise NWS on how to evolve its operations to meet stakeholder's growing and complex needs. Based on the recommendations, NWS has begun an Operations and Workforce Analysis (OWA). Phase 1 of the OWA has already been completed. The OWA is an important step in providing options and recommendations for enhancing IDSS.

Conclusions, Recommendations and Next Steps:

Industries and communities are becoming more dependent on weather and water prediction capabilities in order to make informed business decisions to grow the Nation's economy and to improve community resilience. As a result, building a Weather Ready Nation (WRN) and applying environmental intelligence are critical components of DOC's "Open for Business" agenda.

However, more needs to be done. For example, a sustained effort is necessary for the NWC to provide water resource officials the comprehensive information necessary to manage our water resources and mitigate the adverse impact of extreme weather events, including severe droughts and flooding. Additionally, older systems such as Next Generation Weather Radar (NEXRAD) and Automated Surface Observing System (ASOS) are reaching their end of life and are in need of a service life extension program (SLEP). Additionally, NOAA lacks critical expertise in creating mid-range outlooks (greater than 9 days) for weather and water. Addressing this challenge will require sustained scientific research and research-to-operations efforts (R2O). This scientific research will also complement NWS efforts to increase forecast accuracy out to 9.5 days, which is a DOC Agency Priority Goal.

NWS is also making great progress in working with our Commerce partner the Census Bureau. The Census OnTheMap Tool for Emergency Management is promising to be a powerful tool at determining the socio-economic impacts of weather events. In the coming months, we plan to demonstrate this capability on recent weather events that caused major socio-economic impacts.

Next Steps:

FY 2016

- Develop Strategic Staffing Plan to address recommendations and gaps from OWA.

- Develop experimental products and distribute from NWC National Water Model (initial components for a first ever water intelligence framework to connect analyses and predictions to community impacts).
- Implement centralized water forecast modeling system v1.0 on Weather and Climate Operational Supercomputing System (WCOS).
- Implement National Blend of Models (Implement Version 1.0 and Version 2.0 of Phase 1.0) on Weather and Climate Operational Supercomputing System (WCOS).
- Build a 100% backup capability for dissemination services at DSRC Boulder, CO and NCWCP College Park, MD for NOMADS, MAG, FTPPRD, MRMS, MADIS, and www.weather.gov.

FY 2017

- Improve useful lead time of weather forecast model guidance to 9.5 days (i.e. upgrade Global Ensemble Forecast System, WCOS upgrade capacity, and implement assimilation upgrade)

STRATEGIC OBJECTIVE 3.3: Strengthen the resiliency of communities and regions

Contributing Bureaus: EDA, ESA, NIST, NOAA

Key Strategies:

- Build partnerships to produce and deliver climate, extreme event, and environmental information and services (NOAA).
- Enhance coastal intelligence (ESA, NOAA).
- Lead the development of a Disaster Resilience Framework (NIST).
- Help communities and regions leverage assets to build capacity for resilience (EDA, NOAA).

Summary of Progress:

The price tag for the impacts of Superstorm Sandy in 2012 was \$50B in federally-funded repairs and recovery actions alone, not including impact to the economies of the northeastern U.S. Through proactive action, DOC seeks to minimize the costs to our Nation for the next such emergency and return our economies and the lives of our citizens to a healthy state more quickly. Hence, fostering resilience is a major thrust under DOC's Environment goal. It has been [shown](#) that \$1 spent on resilience preparation and mitigation saves society \$4 in future costs. The Department's work in this arena draws on the assets and capacities of several Bureaus and is focused on providing the information, technical assistance, and grants that communities need to increase their social, economic and environmental resilience. Through the development of resources like the Community Resilience Planning Guide for Buildings and Infrastructure systems (formerly the Disaster Resilience Framework) and the U.S. Climate Resilience Toolkit, DOC is influencing the course of national policy on this increasingly important topic.

Substantial progress has been made toward Objective 3.3, in each of its four key strategies. During a DOC-wide Resilience Summit on January 26, 2015 bureaus discussed what is being done now and identified new opportunities to work together and strengthen the resiliency in communities around the country. This Objective met or exceeded its performance measure goals. Effort has been made to build partnerships to produce and deliver climate information and services.

The [Coastal Flood Exposure Mapper](#) provides coastal NY, NJ, DE, and PA with easy access to community-level flooding information. The Administration has developed the U.S. [Climate Resilience Toolkit](#) with an initial focus is helping the Nation address challenges in the areas of coastal flood risk and food resilience. Coastal intelligence has strengthened resilience through the completion of the 25th and 26th [PORTS® \(Physical Oceanographic Real-Time System\)](#) in Port Fourchon, LA and Morgan City, LA, which was made operational to improve navigation resilience. NOAA collected data from ME to NC for the Gravity for the Redefinition of the American Vertical Datum (GRAV-D) project which will allow for more accurate modeling of heights above sea level. The improved elevations from GRAV-D products will provide an estimated \$4.8B in cost savings to the nation.

NIST met its targets for developing a community resilience program, including the on-time delivery of a draft [Community Resilience Planning Guide for Buildings and Infrastructure Systems](#) as identified in the [President's Climate Action Plan](#). NIST also expanded other elements in its multi-faceted program through public-private partnerships. EDA and NOAA helped communities and regions leverage assets to build capacity for environmental and economic resilience. NOAA held training at [NOAA's Gulf of Mexico Disaster Response Center](#) (DRC) for over 4,500 participants. EDA awarded nearly \$64M in economic resilience grants to help communities and regions build the capacity for economic resilience, including infrastructure and resilience planning. EDA also published revised [Comprehensive Economic Development Strategy \(CEDS\) Content Guidelines](#) for help communities and regional integrate economic resiliency into the development of their regional economic development plans.

Performance Indicators:

Indicator	Percentage of U.S. coastal states and territories demonstrating annual improvements in resilience capacity to weather and climate hazards							
Category	Key							
Type	Outcome							
Bureau	NOAA							
Description	An index of a range of activities to mitigate coastal community risk and vulnerability to coastal hazards. It measures improvement in the Nation's capacity for end to end preparedness, response, recovery and resilience to hazards							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		36%	34%	40%	46%	51%	60%	69%
Actual		43%	46%	57%	54%	60%		
Status		Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Number and dollar amount of grants that support resiliency in communities and regions							
Category	Supporting – (note * FY16 and FY17 targets will be adjusted based on FY15 and FY16 results, respectively)							
Type	Output							
Bureau	EDA							
Description	Reflects any EDA grant (all grant programs, planning and implementation) that helped a community or region become more economically resilient.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target				NA	12/\$14M	97/\$47.4M	192/\$57.4M	TBD
Actual				26/\$65.5M	108/\$52.7M	213/\$63.7M		
Status					Exceeded	Exceeded		

Indicator	Number of communities that utilize Digital Coast							
Category	Supporting							
Type	Output							

Bureau	NOAA							
Description	Digital Coast is a web-platform providing coastal geospatial information. The number of communities using Digital Coast is based on Census-designated places within coastal states, including all Census-defined cities, towns, townships, boroughs, and incorporated municipalities.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target		1,975	2,807	3,275	4,750	5,375	5,500	5,750
Actual		2,835	4,663	5,221	5,249	6,330		
Status		Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Cumulative number of coastal, marine, and Great Lakes issue-based forecasting capabilities developed and used for management							
Category	Supporting							
Type	Outcome							
Bureau	NOAA							
Description	Geographically specific forecasts will allow resource managers to make decisions based on predicted environmental and socioeconomic impacts, predict the impacts of ecosystem stressors, and evaluate the potential options to mitigate those stressors to better manage ecosystem use and condition.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	42	45	55	63	69	73	92	113
Actual	42	55	58	63	69	73		
Status	Met	Exceeded	Exceeded	Met	Met	Met		

Indicator	Number of Communities Working with NIST to Pilot the <i>Community Resilience Planning Guide</i>							
Category	Supporting							
Type	Intermediate Outcome							
Bureau	NIST							
Description	This indicator demonstrates that NIST consistently produces useful and relevant community resilience guidance and training materials that local governments can use to develop their long-term resilience plans.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	N/A	N/A	N/A	N/A	N/A	N/A	3	6
Actual	N/A	N/A	N/A	N/A	N/A	N/A		
Status	N/A	N/A	N/A	N/A	N/A	N/A		

Other Evidence and Evaluation:

CEQ published [recommendations](#) from the *President's State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience* on how the Federal Government can better support resilience-building efforts as called for in the [President's Climate Action Plan](#). They reflect the conclusions of 26 Governors, mayors, county officials and tribal leaders and note that the Federal Government has a critical role to play by 'establishing policies that promote climate preparedness, advancing science to inform local action and protecting critical infrastructure and public resources'. This includes Federal grant competitions that encourage investments in community resilience and making data resources available to the public.

A 2015 paper, [Future Coastal Population Growth and Exposure to Sea-Level Rise and Coastal Flooding - A Global Assessment](#) found that in North America, the number of people in the flood plain could increase from 4.2 million in 2000 to 8.0 million by 2060, the majority in the U.S. This figure calls for immediate action to build resilience capacity, when we consider the possible impacts to our coastal regions due to increased intensity and frequency of storms and coastal flooding.

The MITRE Corporation published a 2014 [report](#) stating “national and regional resilience should complement one another. The Federal Government has essential national interests that should be addressed within regions...to effectively manage critical infrastructure and emergency response risks.” These recommendations are in line with the strategic direction of the DOC Strategic Plan Objective 3.3, supporting the Disaster Resilience Framework, regionally based grant programs, and emergency response capabilities.

A 2009 cost-economic benefit study conducted by the DOT Volpe National Transportation Systems Center estimated the net benefit of nautical charts and tide and current information at \$1.2 billion, a \$24-to-\$1 gain on each government dollar invested. The PORTS® used MacFarland and Wolfe to do an economic benefit study in 2014 which found that a fully implemented National PORTS® would significantly reduce the number of vessel groundings, thereby decreasing the number of spills requiring response.

A National Research Council assessment of the [NIST Engineering Laboratory](#) Community Disaster Resilience Program discussed the program’s scientific expertise; facilities, equipment, and human resources; and dissemination of outputs. The report recommends NIST pursue external partnerships to accelerate science-based resilience performance standards. Further, the report recognizes the importance of R&D contracts and a center of excellence as “excellent ways to quickly access the global state of the art for methods and approaches in this area.” NIST’s advisory body, the [Visiting Committee on Advanced Technology \(VCAT\)](#), stated in their 2014 Annual Report that they were “pleased with the directions that NIST is taking in addressing disaster resilience and encourages NIST to continue with their plans and to champion the framework.”

Conclusions and Recommendations:

The Objective 3.3 team has been working to develop a Department of Commerce-wide approach to resilience. Contributing Bureaus recognized that there is a need to gain a shared understanding of the social, economic and ecological resilience activities currently underway, as well as to identify some potential opportunities for coordination across the department, thus a Resilience Summit was held on January 26, 2015. The first step of that process was to develop a messaging document, speaking to the whole of DOC’s resilience capacity; a 2-pager was created to that end. A more detailed work plan is under development that will encompass shared and/or integrated activities for to further this objective and the Environment Goal in FY16 and FY17, such as:

- Developing resilience criteria,
- Coordinating federal assistance,
- Developing and expanding public-private partnerships,
- Developing and disseminating data for understanding and managing risk,
- Leveraging department-wide outreach capabilities, and
- Working together on emergency preparedness.

Next Steps:

FY 2016

Collaborate across the Department of Commerce to help community’s better address resilience (NOAA)

- Improve performance metrics and develop integrated activities to support community resilience as part of the DOC-Performance Improvement Council Resilience Logic Model Project. (Q4)

Build partnerships to produce and deliver climate extreme event, and environmental information and services (NOAA)

- Enhance the Climate Resilience Toolkit (CRT) with a robust Regions Section of regional and locally focused information, tools, and case studies (NOAA and CRT partner agencies)
 - Establish regional virtual teams of climate science & services experts to develop a new Regions Section in the CRT, corresponding to the regions in the National Climate Assessment. (Q1)
 - Develop and deploy Climate Explorer v2.0 and Climate Widget v1.0 for browsing climate data (both historical observation data and future climate projections) in geospatial and graphical contexts. (Q2)
 - Conduct regional and local-scale engagements with stakeholders to help them identify their climate-related vulnerabilities, their options for building resilience to extreme events, and the tools and information available to assist them in developing and implementing adaptation plans. (Q1-Q4)
 - Publish narratives and data visualizations that show how NOAA advances scientific understanding of Earth's climate system, and how those advances benefit society. (Q1-Q4)

Enhance coastal intelligence (ESA, NOAA)

- By the end of 2016, NOAA will increase by nearly 20% the percent of U.S. States and territories enabled to benefit from a new national vertical reference system for improved inundation management. Accurate heights are critical to many scientific endeavors, but particularly to understanding and protecting low-lying coastal ecosystems. The benefits to the nation from completing GRAV-D are estimated to be \$4.8 billion over 15 years, including \$2.2 billion in avoidance costs from improved floodplain management. (Q4)
- NOAA will establish a new PORTS in Savannah, GA. (Q4)
- NOAA will complete airborne gravity collection over 60% of Alaska, excluding the Aleutians. (Q4)
- NOAA will increase from current 354 ENC charts (35% of total) to 616 charts (60% of total) by the end of FY16. (Q4)

Lead the development of a Disaster Resilience Framework (NIST)

- Form the Community Resilience Panel (CRP), consisting of stakeholders from various topic areas within resilience, including a governance board and other organizational constructs. The CRP will be a knowledgeable resource providing support to communities by developing guidelines, best practices, and other tools for resilience. Hold first meeting of the panel (Q1).

Help communities and regions leverage assets to build capacity for resilience (EDA, NOAA)

- EDA will prioritize, emphasize, and award capacity building grants that bolster economic resiliency. (Q1- Q4)
- Continue education of approximately 250 people on the CEDS Content Guidelines to increase awareness of the importance of including resilience in regional economic development planning. (Q1-Q4)
- NOAA will increase the percentage of tools, technologies, and information services that are used by NOAA partners/customers to improve ecosystem-based management. (Q4)
- NOAA will deliver 118 place-based trainings and workshops, technical assistance and in technical assistance, and fellowships to achieve resilience planning and implementation actions in coastal communities. (Q4)
- NOAA will train 2,000 responders (federal, state, local) in technical and scientific elements of incident response (including SCAT, SOS, ERMA, etc.). (Q4)
- In partnership with FEMA and other interagency partners, NOAA will complete outcomes-based resilience indicators that establish a baseline and provide a common structure to measure national progress over time. (Q4)

FY 2017

Build partnerships to produce and deliver climate extreme event, and environmental information and services (NOAA)

- Enhance the Climate Resilience Toolkit (CRT) with focused information, tools, and case studies (NOAA and CRT partner agencies)
 - Expand the CRT's offering of map layers showing climate-related stressors, people and assets impacted, and climate projections (Q1)
 - Publish narratives and data visualizations that show how NOAA advances scientific understanding of Earth's climate system, and how those advances benefit society. (Q1-Q4)

- o Develop and publish case studies in the CRT highlighting businesses, communities, and resource managers taking action to build resilience to climate-related impacts. (Q4)

Enhance coastal intelligence (ESA, NOAA)

- Establish new Cape Cod PORTS, working jointly with U.S. IOOS and NERACOOS. (Q4)

Lead the development of a Disaster Resilience Framework (NIST)

- Publish Implementation Guideline Version 1.0 (Q4)
- Continued meetings of the Community Resilience Panel (Q4)

Help communities and regions leverage assets to build capacity for resilience (EDA, NOAA)

EDA will prioritize, emphasize, and award capacity building grants that bolster economic resiliency. (Q1- Q4)

STRATEGIC OBJECTIVE 3.4: Foster healthy and sustainable marine resources, habitats, and ecosystems

Contributing Bureaus: NOAA

Key Strategies:

- Strengthen capabilities to assess and monitor fish and protected resources (NOAA).
- Improve recovery of listed species through innovative partnerships (NOAA).
- Enhance place-based conservation (NOAA).

Summary of Progress:

The Department of Commerce, in consultation with the Office of Management and Budget, has highlighted this as an objective demonstrating noteworthy progress during FY 2015.

The Department is making solid progress in fostering healthy and sustainable marine resources, habitats and ecosystems, and in supporting the communities and businesses that rely on them. Activities in the past year have led to significant improvements. The [2014 Status of U.S. Fisheries Report to Congress](#) found that, the number of domestic fish stocks listed as overfished (i.e. population is too small) or subject to overfishing (i.e. rate of catch is too high) has dropped to an all-time low since 1997, when NOAA began tracking stock status. The percentage of stocks listed as subject to overfishing has decreased to 8% from 17% in 2007, when the use of annual catch limits began. Similarly, the percentage of stocks listed as overfished decreased to 16%, from 24% in 2007.

Successful humpback whale conservation efforts have also been recognized in a proposed rule to reclassify 14 populations of humpback whales, with 10 of these populations no longer requiring ESA listing because their status is improving as a result of protection measures. Additionally we have selected ten habitat focus areas under NOAA's Habitat Blueprint and begun implementing restoration activities. The [Blueprint is a framework](#) for NOAA's work with partners to

concentrate efforts and resources to address the growing challenge of coastal and marine habitat loss and degradation. The newly approved National Marine Sanctuary Nomination Process has resulted in the review of [new sanctuary designations](#), as well as consideration of [expanding existing sanctuary boundaries](#) and scope of protection. The ambitious performance measures, including the Agency Priority Goal (APG), which achieved over 90% of its target, have made significant progress. NOAA faces many challenges including dated infrastructure and operational limits (e.g. available ship time). To achieve this objective, NOAA must have the necessary resources, partners and process improvements to advance key strategies as well as to address emerging issues such as climate change, sanctuary designations, and implementing the recommendations from the Presidential Task Force on Illegal, Unreported, and Unregulated (IUU) Fishing and Seafood Fraud.

Performance Indicators:

Indicator	APG: Number of domestic stocks, as of June 30, 2013, listed as subject to overfishing for which the annual catch does not exceed the overfishing limit							
Category	Key							
Type	Outcome							
Bureau	NOAA							
Description	The purpose of this measure is to show that by implementing rigorous limits on annual catch, the U.S. can end and prevent overfishing. A stock that is subject to overfishing has a fishing mortality (harvest) rate higher than the rate that produces maximum sustainable yield. The amount of catch equivalent to this harvest rate is the overfishing limit (OFL). Magnuson-Stevens Act mandates annual catch limits (ACLs) for most federally managed domestic fish stocks. ACLs are set below the OFL to reduce the risk of overfishing and should keep catch below the OFL and prevent overfishing on these stocks. This measure seeks to show that ACL's have eliminated overfishing of the stocks that were subject to overfishing prior to implementation of the ACL's. NMFS compares annual catch estimates to OFL for the 21 domestic stocks that were subject to overfishing as of June 30, 2013, and any stock for which catch is below the OFL in any year is deemed free from overfishing.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					11	21	NA	NA
Actual					11	19		
Status					Met	Met		
Notes	This is a DOC Agency Priority Goal (APG) measure that is being discontinued at the end of FY 2015 upon the conclusion of its associated APG. For that reason, there are no targets for FY 2016 or FY 2017.							

Indicator	Number of protected species designated as threatened, endangered, or depleted with stable or increasing population levels							
Category	Key							
Type	Outcome							
Bureau	NOAA							
Description	This measure tracks progress toward the recovery of endangered, threatened, or depleted protected species under NMFS' jurisdiction. These species are listed as threatened or endangered under the Endangered Species Act (ESA) or as depleted under the Marine Mammal Protection Act (MMPA). Recovery of threatened, endangered, or depleted species can take decades. It may not be possible to recover or de-list a species in the near term, but progress can be made to stabilize or increase the species population. For some species, this means trying to stop steep population declines, while for others it means trying to increase their numbers.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	25 (74)	28 (74)	28 (78)	27 (78)	28 (84)	34 (74)	31(90)	26 (90)
Actual	29 (74)	29 (78)	29 (78)	30 (78)	37 (84)	31 (73)		

Status	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded	Met		
Notes	The numbers in parentheses denote the total number of species that are listed as threatened, endangered, or depleted. This number increases when new species are listed or when existing listed species are split into separate stocks, and decreases when species are de-listed or when separate stocks of a listed species are merged. The FY 2015 target of 34 out of 74 species represents no change from the FY 2014 actual of 37 out of 84 species due primarily to the consolidation of 17 whale stocks into five species. The FY 2015 actual is out of 73 stocks rather than 74 because the eastern distinct population segment of Steller sea lions, which was de-listed in FY 2014, had inadvertently not been removed from the FY 2015 target.							

Indicator	Fish Stock Sustainability Index (FSSI)							
Category	Supporting							
Type	Outcome							
Bureau	NOAA							
Description	NMFS measures the performance of U.S. federal fisheries through the Fish Stock Sustainability Index (FSSI). The FSSI is an index of sustainability for domestic commercial and recreational fish stocks in the United States. The index is comprised of 199 stocks, representing 85% of the total catch of all stocks. These 199 stocks were selected for their importance to commercial and recreational fisheries, including considerations of economic, ecological and social value. The index is scored on a 1,000-point scale, with each stock given a score between 0 and 4 (0=status unknown; 4=meets all sustainable fishing criteria). The FSSI increases when NMFS determines that the status of a stock has improved: it is either no longer subject to overfishing, is no longer overfished, its biomass has increased to at least 80 percent of target, or it is rebuilt. These are all factors that contribute to sustainably managed fisheries. For more information: http://www.nmfs.noaa.gov/sfa/fisheries_eco/status_of_fisheries/fssi.html							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target (FSSI 1)*	580.0	586.0	603.5	617.0	NA	NA	NA	NA
Actual (FSSI 1)*	582.5	587.0	606.0	618.5	640.5	NA	NA	NA
Target (FSSI 2)*	NA	NA	NA	NA	756 (602/796)	749.0 (596.5/796)	758 (603.5/796)	768.5 (612/796)
Actual (FSSI 2)*	646 (514.5/796)	658.5 (524.5/796)	689 (548.5/796)	719 (572.5/796)	746.0 (594/796)	761.5 (606.5/796)		
Status	Exceeded	Exceeded	Exceeded	Exceeded	Met	Exceeded		
Notes	In FY 2014, NOAA revised the number and make-up of stocks in the index, as well as the score calculation methodology, to allow more flexibility regarding the number of stocks in the index. Although these changes resulted in a general increase in scores (since the maximum score increased from 920 to 1,000), the trend in scores remains the same. However, scores under FSSI 1 are not directly comparable to scores under FSSI 2. The numbers in parentheses are the raw scores used to derive the index score. The numerator is the total of all individual stock scores (each is between 0 and 4). The denominator is the maximum possible raw score (199 x 4 = 796). These numbers are not provided for FSSI 1 because those scores are simply the total of individual stock scores.							

Indicator	Number and percentage of actions ongoing or completed to recover endangered and threatened species							
Category	Key							
Type	Output							
Bureau	NOAA							
Description	This measure tracks the progress of ongoing or completed recovery actions included in NMFS approved recovery plans for species listed as threatened or endangered under the Endangered Species Act (ESA). The ESA requires NMFS to prepare recovery plans for each endangered or threatened species. The plans include a list of actions necessary to remove species from the ESA. These recovery actions may include items that can be completed in a year; or other actions, including monitoring, that may take many years to complete are ongoing. Recovery of threatened or endangered species is a gradual process that can take decades, and completed recovery actions can show incremental progress made in achieving recovery. Denominators are shown for reference.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	NA	NA	NA	44.6%	44.4%	46.2%	49.1%	24.0%

				(1,875/4,202)	(1,979/4,457)	(2,070/4,482)	(2,229/4,542)	(2,278/9,476)
Actual	NA	NA	44.3% (1,862/4,202)	45.1% (1,897/4,202)	45.2% (2,013/4,457)	48.1% (2,157/4,482)		
Status				Exceeded	Exceeded	Exceeded		
Notes	The numbers in parentheses are the raw numbers used to derive the percentages. The numerator is the total number of actions targeted or accomplished. The denominator is the total number of actions in all recovery plans during that fiscal year. The denominators illustrate the increasing number of total actions across all recovery plans, resulting mostly from an increasing number of plans. The total number of actions increased from 4,542 in 2016 to 9,476 in 2017 due to a number of new salmon recovery plans that added thousands of new actions to the total that need to be completed.							

Indicator	Habitat acres conserved: Annual number of coastal, marine, and Great Lakes acres acquired or designated for long-term protection.							
Category	Supporting							
Type	Output							
Bureau	NOAA							
Description	NOAA protects and restores key habitats that provide critical ecosystem functions through and in support of the statutory responsibilities enhance coastal and marine resource conservation through place based management. These habitats support the health of endangered or threatened species and essential fish habitat, reduce coastal pollution, buffer the impacts of coastal storms and flooding, and provide the public with recreational access to the coast among other societal or economic benefits. NOAA maintains the health of coastal, marine and Great Lakes habitats by designating and managing important areas for long-term conservation and by providing support to state and local governments to protect additional key habitats by purchasing land from willing sellers. This long-term protection measure tracks the number of acres acquired with NOAA funds by state or local government agencies from willing sellers particularly through the Coastal and Estuarine Land Conservation Program (CELCP) and Coastal Zone Management Program (CZMP), and the number of acres designated for long-term protection by NOAA or by state partners, such as through the Office of National Marine Sanctuaries Program (ONMS) and National Estuarine Research Reserve System (NERRS).							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	2,000	19,219	69,550	2,500 (CELCP)	1,300 (CELCP)	250	1,650	800
Actual	21,341 total (21,170 for CELCP and 171 for GLRI through CELCP)	17,274	8,694,070	2,772	5,673	4,250,256		
Status	Exceeded	Not met	Exceeded	Exceeded	Exceeded	Exceeded		
Notes	This measure is used to show one of the many ways in which NOAA provides protection to important habitats. NOAA is investigating ways in which to improve it. In 2012, a pilot effort was initiated to include acres protected via the Coastal Zone Management (CZM) Program. NOAA is evaluating the recent history of acres captured by the pilot to help determine appropriate targets. In some years, designations of monuments and expansion of sanctuaries have been much larger than other contributions of acreage and difficult to predict. NOAA is working on new business rules that will describe improved methodology for developing better targets							

	for these large increases.							
Indicator	Habitat acres conserved: Habitat acres restored							
Category	Supporting							
Type	Output							
Bureau	NOAA							
Description	NOAA restores habitat areas lost or degraded as a result of development and other human activities, as well as specific pollution incidents and sources. Activities are geared toward NOAA trust resources found across the marine environment, including the Great Lakes region, and supportive of anadromous fish species (i.e., species that migrate from the sea to freshwater to spawn). The intent of this measure is to summarize or project the geographic area over which ecosystem function has been or will be improved as the direct result of habitat restoration efforts. This measure does not include restoration conducted through Species Recovery Grants. Examples of projects to this measure include hydrologic reconnection of wetlands, shellfish and coral reef restoration, and dam removal and fish passage.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	8,875 (RC)	8,888 (RC)	80,007 (6,007 RC + 74,000 PCSRF)	60,228 (8,228 RC + 52,000 PCSRF)	40,820 (11,820 RC + 29,000 PCSRF)	32,460 (9,460 RC + 23,000 PCSRF)	23,922 (8,522 RC + 15,400 PCSRF)	47,300 (6,300 RC + 41,000 PCSRF)
Actual	6,907 (RC)	79,381 (15,420 RC + 63,961 PCSRF)	58,120 (8,242 RC + 49,878 PCSRF)	46,656 (9,005 RC + 37,712 PCSRF – 61 joint)	31,311 (9,354 RC + 22,007 PCSRF – 50 joint)	22,975 (10,363 RC + 12,688 PCSRF – 76 joint)		
Status	Not Met	Exceeded	Not Met	Not Met	Not Met	Not Met		
Notes	<p>Acres reported for this measure are restored under two programs, the NMFS Habitat Program Restoration Center (RC) and the Pacific Coastal Salmon Recovery Fund (PCSRF). The numbers in parentheses report the individual total acres targeted or restored for these programs. In some cases, there were acres restored by both programs together, which have been reported as joint acres in order to eliminate double counting. Prior to FY 2011, PCSRF acres were not comparable to RC acres and so were not reported together.</p> <p>The FY 2013 actual was revised from 46,857 to 46,656 due to corrections to individual project acreage totals. The FY 2014 actual was revised from 29,407 to 31,311 due to projects that were completed in FY 2014 but not reported in time to be included in the original FY 2014 total.</p>							

Other Evidence and Evaluation:

- **Strengthen capabilities to assess and monitor fish and protected resources (NOAA)**
 - o A GAO review of Fish Stock Assessment Prioritization and Funding did not recommend any changes to the NOAA prioritization protocol (Sept 2014).
 - o NOAA Fisheries worked with partners to conduct comprehensive [program evaluations](#) including the National Stock Assessment Data Collection and Stock Assessment Process Program Reviews for its stock assessment programs in 2014. Programs were praised by experts from multiple NOAA line offices, academia, Fishery Commissions and others for their high quality science, high scientific standards and high quality staff performance.
 - o The [2014 Status of U.S. Fisheries report](#) to Congress, produced annually since 1997, highlights the United States' continued progress towards sustainably managing fish stocks. This progress is a result of the combined efforts of NOAA, the regional fishery management councils, the fishing industry, and other partners.
- **Improve recovery of listed species through innovative partnerships (NOAA)**
 - o NOAA published [the 2014 Marine Mammal Stock Assessment Reports](#) on August 20, 2015. NOAA annually prepares marine mammal stock

assessment reports (SARs). The reports are prepared in consultation with one or more of three regional Scientific Review Groups (SRGs) and are also available for public review and comment.

- o NOAA published a [final recovery plan for elkhorn and staghorn corals](#). Elkhorn and staghorn coral populations have declined more than 90 percent since the 1970s. The recovery plan outlines actions to improve research and monitoring efforts, reduce threats, and raise corals in nurseries for reef enhancement.

- ***Enhance place-based conservation (NOAA)***

- o The Integrated Water Resources Science and Services cited the Habitat Blueprint operations in the Russian River as key to improving reservoir operations beyond considerations of only human water supply needs.
- o The Director of the Florida Department of Environmental Protection's Coastal Office stated on January 12, 2015 that the Biscayne Bay Habitat Focus Area will lead to increased partnerships and coordination to protect the bay for both present and future generations.
- o The place based conservation key strategy in DOC Strategic Objective 3.4 delivers the positive effects highlighted in the book Marine Reserves; A Guide to Science, Design, and Use.

Conclusions, Recommendations and Next Steps:

DOC/NOAA is committed to fostering healthy and sustainable marine resources, habitats, and ecosystems. Much progress has been achieved and emerging efforts will expand on these successes. For example, NOAA is in the process of designating the Hawaii National Estuarine Research Reserve in FY 2015-17 and will begin the process in Connecticut in FY2017. We continue to improve monitoring and assessments for fish and protected resources; this includes innovations and process improvements that increase efficiency. For example: using electronic monitoring in conjunction with traditional monitoring techniques which will create efficiencies in the long-term; and implementing the stock assessment prioritization plan which ensures that limited resources are used to assess the highest priority stocks. However, adequate resources and support are essential to continue these efforts in the face of climate change, and overcome the risks and challenges to achieving this objective.

Recommendations:

- Identify facilities and fleet investment strategies that provide the infrastructure needed to support science, in order to maintain a science-based approach that informs living marine resource management decisions.
- Support steps in the [Action Plan](#) for implementing the Presidential Task Force Recommendation on Combating IUU Fishing/ Seafood fraud, in order to strengthen management of sustainable fisheries.
- Continue to support activities that will contribute to species recovery, including consultations with Federal agencies and recovery actions with partners.
- Habitat Blueprint Implementation Teams need to identify specific conservation targets for each Focus Area in order to monitor and assess progress toward desired outcomes.
- Improve protected resources and fish stock assessment performance metrics to better track and communicate progress in recovering protected species and achieving fish stock assessment targets.

Next Steps:

FY 2016

- Publish Final Rules with FWS regulating critical habitat under the ESA to improve conservation effectiveness, reduce administrative burden, and encourage partnerships, innovation, and cooperation (Q2).
- Produce a Release Mortality Science Action Plan that will identify steps to address data gaps regarding fishing discard and release (Q2).
- Publish 5-Year Action Plans for the eight species in NOAA's Species in the Spotlight: Survive to Thrive Initiative to highlight the necessary actions needed to reverse the decline of critically endangered species (Q2).
- Finalize guidelines for assessing the effects of anthropogenic sound on marine mammals to improve conservation and recovery decisions related to

ocean noise (Q2).

- Publish notice of intent to designate an area of Wisconsin's Lake Michigan as a national marine sanctuary (Q1).
- Publish NOAA Fisheries Ecosystem-Based Fisheries Management Policy (Q2).
- Publish a Final Rule to reclassify the listing of green sea turtles under the ESA to recognize improvements in some populations (Q2).
- Complete the Deepwater Horizon Final Programmatic Damage Assessment and Restoration Plan for the \$8.8 billion Natural Resource Damage Assessment proposed Consent Decree to support restoration of the Gulf of Mexico ecosystem (Q2).
- Completion of 1st Phase of Ocean Noise Reference Station in order to establish a long-term listening capacity in the US EEZ to monitor ocean sound levels and acoustically active marine species (Q3).
- Conduct a joint operation to identify and investigate illegal import/export and fraudulent mislabeling of seafood product in Alaska (Q3).
- Publish the National Guidelines for Marine Mammal Oil Spill Response and implement with partners to advance species recovery (Q3).
- Publish a Final Rule to reclassify the listing of humpback whales under the ESA to recognize recovery of several populations (Q3).
- Publish notice of intent to designate Malloes Bay-Potomac River as a national marine sanctuary (Q3).
- Publish notice of intent for the proposed expansion of Monitor National Marine Sanctuary (Q3).
- Complete Fish Stock Climate Vulnerability Assessments for the West Coast and Alaska (Q4).
- Complete an Ecosystem Based Fishery Management (EBFM) Road Map to define the core components of EBFM and provide a suite of recommendations to implement the EBFM policy in NOAA (Q4).
- Implement Stock Assessment Prioritization for one Region using a new nationally-standardized protocol (Q4).
- Publish a Final Rule to Implement the Initial Phase of a Seafood Traceability Program (Q4).
- Adopt a binding international agreement to prevent IUU fishing in the high seas area of the central Arctic Ocean (Q4).
- Support the conclusion and implementation of 2 priority Recommendations of the Presidential Task Force on IUU and Seafood Fraud (Q4).
- Complete Protected Resources Recovery Review to improve NOAA's ESA recovery program and enhance recovery of ESA-listed species (Q4).
- Publish a Final Rule to implement the Marine Mammal Protection Act Import Provisions enabling NOAA to work with other nations to assess the magnitude of marine mammal mortalities and reduce marine mammal bycatch (Q4).
- Complete development of the last six (of 10) Implementation Plans for the Habitat Blueprint Focus Areas (Q4).
- Complete priority restoration of over 1,500 acres of wetland floodplains on the west coast that will provide critical rearing habitats to advance salmon recovery and provide important community benefits (Q4).
- Plant 100 acres of oyster reefs in the Choptank Blueprint Focus area to support the interagency goal of restoring oysters in 10 Chesapeake Bay tributaries by 2025 (Q4).
- Complete draft environmental impact statement for the proposed expansion of Flower Garden Banks National Marine Sanctuary (Q4).
- Complete final environmental impact statement and final management plan for the Hawaii NERR designation process (Q4).

FY 2017

- Evaluate and update the NOAA seafood traceability program.
- Continue development and implementation of Take Reduction Teams (TRTs) to achieve increased compliance monitoring and bycatch assessments.
- Continue to implement recovery actions identified in recovery plans to improve the status of Endangered Species Act - listed species.
- Strengthen capabilities to assess and monitor fisheries, and conduct and expand fishery- independent surveys.
- Develop advanced sampling technologies to enhance data collection for stock assessments, and further the implementation of the next-generation stock assessment.
- Improve timely delivery of fish stock assessments to fishery managers.
- Implement electric monitoring and electronic reporting options in key fisheries.
- Work with coastal and marine Fish Habitat Partnerships to develop and implement strategic plans.
- Develop management options for protecting deep-sea corals in partnership with the Regional Fishery Management Councils and National Marine Sanctuaries

- Complete final environmental impact statement for the proposed expansion of Flower Garden Banks National Marine Sanctuary.
- Complete an environmental impact statement for the proposed Wisconsin's Lake Michigan national marine sanctuary.
- Complete environmental impact statement for the proposed designation of Malloes Bay-Potomac River national marine sanctuary.

STRATEGIC OBJECTIVE 3.5: Enable U.S. businesses to adapt and prosper by developing environmental and climate informed solutions

Contributing Bureaus: ESA, ITA, NIST, NOAA

Key Strategies:

- Boost exports of environmental and clean energy technologies (ITA).
- Develop standards and tools to assess green building technologies (NIST).
- Engage targeted business sectors to integrate natural capital values into their business models (ESA, NOAA).

Summary of Progress:

To survive and flourish in the 21st century, businesses must balance environmental, social, and economic considerations. However, environmental responsibility can also be good business. When businesses adopt processes and solutions that recognize the importance of the environment and climate, cost savings and new commercial products and services may result.

Commerce bureaus are uniquely equipped to provide new environmental and climate informed services that both help businesses and support broader social goals; even so, collaboration toward this objective has proven to be a significant and evolving challenge for the Department. Throughout FY 2015, contributing bureaus have worked together in aligning and refining supporting strategies, developing intermediate outcomes and defining and measuring performance for this nascent Departmental objective. Progress has also been made on specific initiatives and in connecting and leveraging knowledge and initial strategies across multiple bureaus. Moreover, consensus has been built around a success statement for this objective: U.S. businesses leverage natural capital and green solutions to enhance their competitiveness by reducing risks and costs while improving image and revenue.

During FY 2015, NIST conducted beta testing with stakeholders to improve [Building Industry Reporting and Design for Sustainability \(BIRDS\)](#) v2.0; this software tool is available for architects and businesses to use in assessing sustainable building designs. NOAA and ESA successfully executed three regional Natural Capital Business Roundtables in FY 2015, with the [fourth taking place in Silicon Valley in December 2015](#), and a final, national summit scheduled for February 2016 in Washington, DC to distill information gathered at the regional roundtables and identify the path forward. These roundtables engaged over 100 individuals from natural capital or industry-relevant NGOs, academic institutions, and local governments, and over 37 different private sector companies. Development commenced on a Department of Commerce Natural Capital website to engage targeted sectors, to be launched in Spring 2016.

The Department implemented several trade policy missions in FY 2015 that highlighted new opportunities for U.S. businesses in the environmental sector. Additionally, ITA completed four [Top Markets Reports](#) (environmental technologies; renewable energy; smart grid; green building products) for internal U.S. government use and distinct public versions of the document that provide additional data to U.S. firms seeking information on foreign markets for export.

Performance Indicators:

Indicator	Number of visits to information portals focusing on environmental and clean energy exports							
Category	Key							
Type	Output							
Bureau	ITA							
Description	Tracks growth in the number of visits to select websites that are used as central sources of environmental and clean energy export information.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	NA	NA	NA		30,000	36,000	TBD	TBD
Actual	NA	NA	NA	17600	30,300	TBD		
Status					Exceeded			

Indicator	Number of trade promotion (A) and trade policy (B) missions that support U.S. environmental and clean energy businesses							
Category	Key							
Type	Output							
Bureau	ITA							
Description	Standard definitions will be used to define “environmental and clean energy businesses” to assure data integrity.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target	NA	NA	NA		A: 14 B: 4	A:10 B: 1	A: 4 B: 1	TBD
Actual	NA	NA	NA	A: 7 B: 5	A: 14 B: 3	A: 6 B: 1		
Status					A: Met; B: Not Met	A: Not Met; B: Met		

Other Evidence and Evaluation:

Boost exports of environmental and clean energy technologies (ITA)

The U.S. Trade and Development Agency and Department of Energy have indicated they rely on Top Markets Reports to develop their workplans.

Develop standards and tools to assess green building technologies (NIST)

In FY 2014, the National Research Council of the National Academies conducted an assessment of the NIST Engineering Laboratory⁹. In the final consensus report, the expert panel identified BIRDS as a “highlight of the [Net-Zero Energy, High-Performance Buildings] program.”

Engage targeted business sectors to integrate natural capital values into their business models (NOAA, ESA, EDA, NIST)

⁹ http://www.nist.gov/director/nrc/upload/Assessment_NIST_EL_FY2014_final_011315.pdf

The Nature Conservancy's Corporate Eco-Forum report¹⁰ demonstrates that some of the largest U.S. companies are committed to or already engaged in valuing natural capital in their business models. Their motivation is not driven by philanthropy, but by recognition that valuing natural capital reduces risk, enhances their image, cuts costs and fuels growth.

According to feedback surveys, roundtable participants:

- Have gained a positive impression of other companies' efforts to incorporate natural capital into business planning;
- Consider the Commerce Department a resource or partner in their company's natural capital-related efforts; and
- Feel that their leadership in the natural capital field has been recognized and positively reinforced by DOC as a result of the roundtable events.
- One participant said, "Your presentations were some of the most powerful I've ever heard. I wish every corporate CEO in town could hear [them]."

Regarding the Natural Capital website under development, one participant said, "I think the website planned by the Commerce Department will be extremely beneficial." A Business for Social Responsibility (BSR) report¹¹ assesses the landscape of tools available to businesses for assessing business impacts and dependencies upon ecosystem services and natural capital. Among other things, the report found that the ecosystem services tool landscape is complex and difficult to navigate. These findings provide evidence to support the approach for the Department's Natural Capital website. DOC is in a conversation with this group to gain insight into how their findings can help inform development of the website.

Conclusions, Recommendations and Next Steps:

The Department is making steady progress on the specific strategies in the strategic plan and is on track to meet performance targets. To ensure success at the objective level, contributors to this strategic objective will continue to build strong partnerships across the Department, the federal government, and with external partners to develop more robust strategies. For example, NOAA and ESA will strengthen connections between the natural capital website and data-based initiatives around the department such as the Commerce Data Service and the NOAA Big Data Partnership.

The Department needs to clearly define and evaluate potential performance measures that track progress toward immediate, intermediate and end outcomes. In particular, the Department needs to measure and link activities to increased profitability and economic resilience of U.S. businesses in the face of environmental change. In addition, the Department will continue to improve upon the linkages between Objective 3.3 (strengthen community resilience) and Objective 3.5 (improve environmental and climate resilience of U.S. businesses).

Next Steps:

FY 2016

- Organize U.S. Industry roundtable and trade mission to the International Atomic Energy Agency in Vienna, Austria. (ITA)
- Organize Smart Cities Infrastructure Trade Mission to India. (ITA)
- Organize Renewable Energy Trade Mission to Mexico. (ITA)
- Organize Water Infrastructure Trade Mission to South East Asia. (ITA)
- Organize Nuclear Remediation Trade Mission to Japan. (ITA)
- Develop strategy for National Natural Capital Summit. (ESA, NOAA, EDA, NIST)
- Execute Silicon Valley roundtable. (ESA, NOAA, EDA, NIST)
- Incorporate internal and external stakeholder feedback into DOC natural capital website content and upload content to DOC website platform. (ESA, NOAA, EDA, NIST)
- Execute National Natural Capital Summit. (ESA, NOAA, EDA, NIST)
- Announce next steps for this effort, likely to include joining the Natural Capital Coalition and serving on the advisory board of the Natural Capital Protocol. (ESA, NOAA, EDA, NIST)

¹⁰ <http://www.corporateecoforum.com/valuingnaturalcapital/>

¹¹ <http://www.bsr.org/en/our-insights/report-view/update-making-the-invisible-visible-analytical-tools-for-ecosystem-services>

STRATEGIC GOAL 4: DATA

Maximize the positive impacts of Commerce data on society

Significant Benefits:

Data drives decisions: 7 million U.S. businesses; 93,000 tribal, state, and local governments; 320 million American people; and the federal government itself use data to make informed decisions every day. The Department provides huge quantities of this data. People use the Department's data to gain insight into their weather and climate, their communities, and how the economy is faring. Businesses use Commerce data to make investment and hiring decisions. State and local governments mine the Department's data to warn of coming danger, position first-responders, and construct high-tech classrooms. And the federal government uses Commerce data to allocate funds and to make critical decisions on fiscal and monetary policy. Yet more can be done—much more.

The world is at the forefront of a data revolution. The explosion of Big Data and the increasing prevalence of Open Data present enormous opportunities and challenges. There is also an increasing responsibility to protect privacy and personal information. Realizing these opportunities and overcoming the challenges is feasible only if data agencies work together to complement each other's efforts.

The Department of Commerce is America's data agency. Its data—government data—is comprehensive, consistent, confidential, credible, and accessible. These characteristics make government data unique, but the federal government cannot and should not be the sole producer of valuable data. Finding effective ways to meld Commerce data together with data from other sources will serve society better and maximize the returns on the Nation's data investments.

The Department will lead the federal government in revolutionizing the approach to data. The Department has hired a Chief Data Officer to centralize its data strategy and improve data operations throughout the Department. The Department has also formed a Data Advisory Council to tap into the growing field of data experts: technical experts from businesses, academia, consulting firms, and government will consider the vast range of issues and provide advice on how to maximize the value of existing Commerce data. These new Commerce resources will help the Department ensure its customers can:

- Easily find and consume Commerce data;
- Use the data to inform decisions;
- Leverage the data to help people and organizations accomplish their goals; and
- Trust that the Department is protecting privacy, confidentiality, and security

By focusing on its customers and the strategic objectives supporting this goal, the Department will transform its systems into 21st century data powerhouses—powerhouses that can help fuel the data revolution and bolster American job growth and global competitiveness.

STRATEGIC OBJECTIVE 4.1: Deliver increasing amounts of data to governments, businesses, and the public in formats that are easier to access and use

Contributing Bureaus: DM / OS, All Bureaus

Key Strategies:

- Increase capacity to make data accessible, discoverable, and usable by the public (DM / OS, All Bureaus).
- Empower entrepreneurs and innovators with Commerce data (DM / OS, ESA).

Summary of Progress:

In FY 2015, NOAA signed Cooperative Research and Development Agreements (CRADAs) with five infrastructure-as-a-service (IaaS, or cloud) providers. Under these agreements, the IaaS providers will work with NOAA to provide access to NOAA data in the cloud, where it can be co-located with computing, storage, analytic, and other value-added services. This research and development project hopes to show that the cost of providing this cloud-based access to NOAA data can be subsidized by the revenue generated by making it available – specifically, that the cloud providers will recoup their costs by the increased computation and other services that new and existing users of the data will purchase in order to work with the data. In addition to helping to subsidize the cost of providing access, these arrangements will allow NOAA to make data available that it has not previously been able to distribute, for technical or economic reasons. NOAA assessed the feasibility of this model prior to signing the CRADAs through a series of interactions with industry, including two requests for information (RFIs), an Industry Day, and multiple workshops.

Since announcement of the CRADAs in April of 2015, NOAA has been working with the cloud providers to deliver data, and they in turn have started to make these data available to industry. They have received a great deal of positive feedback, including over 20 companies who signed up for an initial beta program with Amazon Web Services around NEXRAD Level 2 radar data.

Performance Indicators:

Indicator	Number of archival datasets to which permanent, citable Digital Object Identifiers (DOI) have been assigned							
Category	Key							
Type	Output							
Bureau	NOAA							
Description	NOAA will assign identifiers to datasets stored in its archives. These identifiers are persistent, which means they do not change even if the actual storage location of the data changes (i.e., NOAA can reorganize the web server but the ID stays the same). The identifiers are also citable, which means that if someone uses the data for research or a derived product they can provide a reference to the data so that other people can see it for themselves (this is equivalent to an article citing another paper or book). NOAA will use the international standard Digital Object Identifier scheme which is in wide use by both scientific publishers and other science data agencies worldwide.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						40	40	
Actual						183		
Status						Exceeded		

Other Evidence and Evaluation:

Market Research and Analysis

- NOAA released the initial [Big Data Request for Information \(RFI\)](#), coordinated the Big Data RFI documents with the White House Deputy Chief Technology Officer for Open Government to ensure Federal awareness, and received responses from 70 companies.
- NOAA staff met on a one-to-one basis with dozens of companies who responded to the RFI to discuss the Big Data Partnership.
- NOAA released a draft Statement of Objectives framing the partnership model, and conducted a [Big Data Industry Day](#) with more than 375 attendees representing 200 organizations. These activities provided NOAA with valuable feedback about the feasibility of implementing the project, including technical approaches and high-value datasets. Based on industry's feedback that more research into the feasibility of the model was needed, NOAA decided to insert a period of research and prototyping into the project, through the vehicle of a Cooperative Research and Development Agreement (CRADA), rather than proceeding directly to the previously planned immediate release of an RFP.
- NOAA engaged five infrastructure as a service (cloud) providers (e.g. Amazon Web Services, Google, IBM, Microsoft, and the Open Cloud Consortium) to join with them in these research and development agreements. These cloud providers will redistribute NOAA data to the rest of industry and the general public, at no cost to NOAA.
- NOAA devised a structure of "data alliances" that each of the cloud providers will anchor. These data alliances are made up of industry organizations that are interested in working with NOAA data, and will help to serve as a representative ecosystem for the market as a whole, so that the cloud providers can try out different business models in order to find a self-sustainable model.

Stakeholder, Agency, and Industry Outreach

- NOAA brought on two Presidential Innovation Fellows (PIFs) to assist with the NOAA Big Data initiative, enabling greater opportunity to collaborate across federal agencies as well as design, data, management, and development expertise from the private sector.
- NOAA participated in the [Open Data 500 Roundtable](#), where it committed to developing and releasing the Big Data initiative's statement of objectives.
- NOAA participated in a Big Data workshop co-hosted by the White House Office of Science and Technology Policy and Georgetown University to increase public awareness of the initiative.
- NOAA Data Archiving and Access Requirements Working Group (DAARWG) held a productive discussion with team members of the Big Data Partnership to learn more about the Big Data initiative. DAARWG advises the NOAA Science Advisory Board (SAB) on the condition and capabilities of NOAA's data archive and access activities.
- NOAA collaborated with OSTP, NIH, and the GovLab to organize a workshop on Data Collaboratives and public-private partnerships.
- NOAA met with the Federal Highway Administration, NIH, USGS, FAA, and other government agencies to discuss ways in which the NOAA CRADAs can help inform future government efforts to work with cloud providers and distribute data at reduced cost to the government.
- NOAA held a webinar with the insurance/reinsurance industry to introduce them to the cloud providers who are participating in the CRADA.
- NOAA provided introductions to the cloud providers for more than 10 companies who expressed interest in becoming involved with the CRADA, in order to help the cloud providers assemble their data alliances.

Conclusions, Recommendations and Next Steps:

Next Steps

- FY 2016 Q1 and Q2: NOAA will work with CRADA collaborators to develop a pilot program that provides two or three initial datasets via the cloud, in order to demonstrate an initial return on investment and ensure continued momentum.

- FY 2016 and FY 2017: NOAA will work with CRADA collaborators on engaging industry and other interested data users in the program, through the collaborators' data alliances, in order to ensure that the data users are engaged and involved with the program.
- FY 2016 Q1 and Q2: NOAA will set up a dedicated program team, who will define research objectives and processes for expanding the program beyond the initial datasets, in order to ensure a long-term, consistent, sustainable process for data distribution via the cloud.
- FY 2016 and FY 2017: NOAA will continue to work with CRADA collaborators to deliver NOAA data via the cloud, in order to determine whether the cloud is an efficient and effective way of improving and increasing access and impact of NOAA data.

STRATEGIC OBJECTIVE 4.2: Position the Department of Commerce to meet society's future data needs

Contributing Bureaus: ESA

Key Strategies:

- Drive the development of new Commerce economic datasets that can be combined with other data (federal and non-federal) to enhance entrepreneurial activities, regional, state, and local decision-making, and personal and family decisions (ESA).
- Explore alternative means, methods, and techniques for collecting economic information (ESA).

Summary of Progress:

The Department of Commerce continues to make progress in addressing society's future data needs. The BEA and the Census Bureau are working together to develop ideas for producing economic indicators that are more timely, accurate, specific to users' needs (such as additional regional and industry/sector indicators), and capable of being combined with other datasets from non-federal sources. BEA and Census plan to take advantage of the expertise on the Federal Economic Statistics Advisory Committee (FESAC) to assist them in discussing alternatives and vetting ideas. One idea that is already under exploration is working with the Defense Advance Research Products Agency (DARPA) to hold hackathons with the goal of combining federal datasets from various agencies to provide improved data to customers. In an alternative to surveys, ESA is partnering with two different private-sector organizations to collect economic data that can be incorporated into existing BEA and Census statistical products. If successful, these partnering arrangements could lead to more timely and accurate collection of raw economic information that could, in turn, increase the accuracy and timeliness of economic statistical products.

Performance Indicators:

Indicator	Milestones met to explore and examine future economic products and datasets							
Category	Key							
Type	Process							
Bureau	ESA							
Description	Completion of milestones set out in plan of action and milestones (POA&M) for exploring and examining new economic products and datasets							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					Identify staff from BEA and Census to	Develop a	Execute	Execute

					participate in the exploration and examination of future economic products and datasets	POA&M	POA&M	POA&M
Actual					Staff identified			
Status					Met			

Indicator	Milestones met to explore and examine future economic data sources							
Category	Key							
Type	Process							
Bureau	ESA							
Description	Completion of milestones set out in plan of action and milestones (POA&M) for exploring and examining new economic data sources							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					Meet with producers of economic data and discuss possible use by Commerce	Explore agreements with one or more producers of economic data	Execute and monitor agreements	Evaluate effectiveness of agreements and extend/modify/cancel as appropriate
Actual					Meetings occurred	Two agreements under negotiation		
Status					Met	Met		

Other Evidence and Evaluation;

Analysis of survey response rates shows that those rates are declining, leading to the conclusion that other avenues must be developed to obtain the underlying economic data needed to support the production of economic statistics.

Conclusions, Recommendations and Next Steps:

ESA will continue to update and execute its POA&Ms to ensure Commerce achieves the results of this strategic objective while simultaneously validating its efforts through outreach to data providers and data users, to include data experts such as the FESAC.

- FY 2016 Q1 and Q2: ESA will approve and begin to execute its POA&M to explore and examine future economic products and datasets
- FY 2016 Q3 and Q4: ESA will assess the effectiveness of its initial execution of the POA&M and refine and revise the POA&M appropriately to ensure the resulting activities are specific, measurable, actionable, results-oriented and time-bound.
- FY 2016 Q1 and Q2: Finalize agreements with economic data producers
- FY 2016 Q3 and Q4: Begin executing agreements with economic data producers
- FY 2017 Q1 and Q2: Compare the data received through agreements to data received from surveys
- FY 2017 Q3 and Q4: Evaluate the effectiveness of the agreements with data producers and extend/modify/cancel as appropriate
- FY 2017: Explore agreements with other economic data producers

STRATEGIC OBJECTIVE 4.3: Create a data-driven government

Contributing Bureaus: EDA, ESA, ITA, MBDA

Key Strategies:

- Increase the use of existing federal databases to help analyze business assistance and economic growth programs throughout the government (EDA, ESA, ITA, MBDA).
- Execute high profile statistical programs well (ESA).
- Increase data sharing among federal agencies (ESA).

Summary of Progress:

The Department of Commerce continues to make progress in driving the Federal Government to use data more effectively. The Census Bureau continues its ramp up for the 2020 Census. Census recently completed two field tests, one in the Savannah, Georgia media market and the other in Maricopa County, Arizona. The Savannah test was designed to further test methods of encouraging householders to respond online. The test included an advertising and promotional campaign, an early engagement campaign, and allowed householders to respond without a Census identification number. The Maricopa test looked at ways to improve the efficiency and effectiveness of “nonresponse follow-up.” In recent censuses, about one-third of households didn't complete their census without an in-person visit. Follow-up operations are the most costly part of the census, and improving the efficiency of follow-up operations is critical to a cost-effective census. Additionally, the Census Bureau recently began the 2015 National Content Test. The test is being conducted to test census questionnaire content and to obtain nationwide measurements of response rates for Internet and self-response. The test census will be sent to a statistically representative sample of approximately 1.2 million households in the United States and Puerto Rico.

The Department's Office of the Chief Economist (OCE) undertook three initiatives of particular relevance in FY 2015: (1) assessing the value of EB-5 Visa Program by analyzing existing Department of Homeland Security (DHS) data; (2) working with NOAA and the EDA data to create a webpage that will enable U.S. businesses to assess the value of natural capital in their decisions; and (3) using BEA data to develop a calculator that can be used to determine the upstream impacts of retiring coal-fired electric power plants. BEA and the Census are continuing their efforts to use existing data to enhance the timeliness of their statistical products and to reduce the burden for survey respondents.

Significant Accomplishments/Milestones

- The Census Bureau continues testing to ensure the efficiency of the 2020 Census.
 - The 2015 National Content Test began on August 24, 2015.
 - Census continued its efforts to provide the most current, accurate, and complete address, feature, and boundary data to the Census Bureau's customers and data users through the Geographic Support System Initiative
 - Census completed several steps toward ensuring the efficiency of the 2020 Census. These steps included:
 - Completing data collection operations for the 2015 Census Tests in the Savannah, Georgia media market and Maricopa County, Arizona.

- Completing systems readiness testing for the 2015 National Content Test.
- Issuing the *2020 Census Research and Testing: 2015 Census Address Validation Test* report. The 2015 Address Validation Test was in the field from September 2014 through January 2015. The test was conducted to assess the performance of methods and models that will help staff develop the 2020 Census address list, and to estimate the in-field address canvassing workloads for the 2020 Census.
- The Census Bureau released the [2020 Census Operational Plan](#) in early October 2015. The Operational Plan contains the concept of operations for the 2020 Census, supporting documentation (e.g., a description of the 34 census operations, IT capabilities, and cost estimates), and tools to support communications with internal and external stakeholders.
- OCE has entered into an MOU with the DHS and has begun to assess the value of the EB-5 Visa Program.
- OCE has partnered with NOAA and EDA to develop a Natural Capital website.
- OCE is using BEA data and working with both BEA and the Energy Information Administration to assess the impacts of retiring coal-fired electric power plants
- The ESA continues to hold monthly meetings with all Commerce bureaus and operating units, including the ITA, and the MBDA, to discuss ways to make better use of existing federal data, to share best practices, and to discuss initiatives.
- ESA is working with OMB and the Department of Treasury to increase the use of federal tax data, consistent with tax data protection requirements

Performance Indicators:

Indicator	Milestones met in increasing the cost efficiency of 2020 Decennial Census							
Category	Key							
Type	Efficiency							
Bureau	Census							
Description	Due to the nature of this program, it is important to track long-term quality, cost, and delivery schedule goals. The Census Bureau has embarked on a multi-year research and testing program focused on major innovations to the design of the census and oriented around major cost drivers.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target					Two field tests that will inform cost and quality goals for the 2020 Census	Preliminary design for key components of the 2020 Census to achieve cost and quality goals	1) Conduct testing of self-response strategies. 2) Conduct one field test: (field staff management and operations control). 3) Prove in approach to field management processes and systems. 4) Select approaches for supporting non-English languages for the 2020 Census 5) Conduct feasibility test of field operations 6) Conduct testing of	1) Conduct two field tests: (canvassing methods and field operations) 2) Build a partnership database in FY 2017 and begin planning of 2020 Census Integrated Communications

							Group Quarters design	
Actual					Two field tests that will inform cost and quality goals for the 2020 Census			
Status					Met			
Indicator	Milestones met in developing Census information technology (IT) enterprise to enhance collection, processing, and dissemination of data							
Category	Key							
Type	Process							
Bureau	Census							
Description	The Census Bureau has initiated two enterprise programs focused on establishing shared services, minimizing redundancy, lowering complexity, and identifying cost savings for data collection, processing, and dissemination.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target								1) Complete development of production data dissemination platform to modernize and streamline dissemination tools and processes across Census through a shared service operating model 2) MOCS, iCADE, Centurion, UTS, CaRDS and CoMeT integrated into Decennial FY16 Test environment 3) Enterprise Paradata Repository in development 4) Development of the 2020 Census Operational control capabilities 5) Dashboard capability developed for 2020 Census
Actual								
Status								

Other Evidence and Evaluation:

The Census Bureau is making key investments in research and testing needed to make major design decisions about the 2020 Census. These innovations have the potential to save \$5 billion when compared to the cost of conducting the 2020 Census using the 2010 Census design. The innovations include reengineering the ways we update the master address list so as to minimize expensive on-the-ground canvassing; optimizing self-response (through use of internet reporting and other response options) to decrease the amount of expensive in-person follow-up; utilizing administrative records to further reduce this in-person follow-up workload; reengineering field operations to maximize the use of technology and other tools (such as case management) to make operations more efficient; and many other areas of emphasis. Below is a sample of some of the other Evidence and Evaluation efforts underway at the Census Bureau.

Commercial off-the-Shelf Acquisition

The Census Bureau will issue a Request for Quotes (RFQ) during Q4 2015 for a COTS product that exists in the market space for a unified platform that provides all tools needed to deliver end-to-end customer experiences by integrating, automating and improving complex front- and back-office business operations. This acquisition will help the Census Enterprise Data Collection and Processing (CEDCaP) program provide deliverables that will not only enhance data collection capabilities, but ultimately enhance the Enterprise as a result.

Carnegie Mellon Independent Assessment

The Census Bureau is also entering into an agreement with the System Engineering Institute at Carnegie Mellon to provide feedback on the Bureau's processes and criteria for making decisions on alternatives and to perform an independent assessment on MOJO (new enhanced operational control system) and alternatives to make recommendations to the Census Bureau. This assessment will help to improve MOJO and the capabilities it will provide as a part of CEDCaP.

ACS Content Review

Evidence is also being developed on how to reduce respondent burden for the American Community Survey (ACS). In 2013, the Census Bureau initiated the first comprehensive examination of every question to identify ACS questions that are "Low Use and Low Burden" and "Low Use and High Burden." Content Review data collection began in January and ended in August 2014. To facilitate this review, 19 decision criteria (13 benefits and six costs) were identified in advance of the analysis, which revealed five questions for potential removal from the ACS in 2016. After weighing nearly 1,700 public comments concerning these changes, the Census Bureau ultimately obtained approval in June 2015 from OMB to remove the question concerning a business or medical office on the property. As part of its decision, OMB also granted approval to permit implementation of three additional changes resulting from late-breaking developments in Census research to further reduce respondent burden: 1) removal of the question about flush toilets; 2) rewording of the questions on computer and internet usage; and, 3) streamlining survey mailing procedures.

Building on this foundation of the content review process, Census has developed additional research plans to further reduce respondent burden. Research projects either underway now or planned for the near future include focusing on improving question wording; examining the potential use of administrative records; reducing follow-up attempts to contact ACS respondents; testing new messaging on ACS mail materials; evaluating methods to ask questions less frequently or of fewer respondents; integrating the Census Bureau's Respondent Advocate more fully into survey operations; and pursuing several other research avenues to examine ways to reduce respondent burden.

National Academy of Sciences Committee

The National Academy of Sciences (NAS) provides scientific and research expertise to the 2020 Census Program. Specifically, NAS has assembled a standing committee of experts to conduct a -comprehensive evaluation of the statistical methods and operational procedures tested during the 2020 Research and Testing Program. As part of this evaluation, smaller working groups have been established to provide expert advice about ongoing research in four of the 2020 Census research themes (geographic resources, self-response options, field reengineering, and use of administrative records). The full standing committee meets quarterly with Census Bureau staff and other invited guests, while the working groups meet more frequently with Census Bureau subject-matter experts. Because of these collaborative exchanges, the standing committee and work groups have helped define priority directions for implementing a program that will lead to a successful and more cost-effective 2020 Census.

Census Advisory Committees

The two Census Advisory Committees are the National Advisory Committee on Racial, Ethnic and Other Populations (NAC) and the Census Scientific Advisory Committee (CSAC). For more than 50 years, Census advisory committees have been an active and effective resource for the Census Bureau. They provide valuable feedback for the Census Bureau to improve its programs and data products.

The primary objective of both advisory committees is to advise the Director of the Census Bureau. In their charters, both committees "will address census policies, research and methodology, tests, operations, communications/messaging and other activities to ascertain needs and best practices to improve censuses, surveys, operations and programs." Both committees "will provide formal review and feedback on working papers, reports, and other documents related to design and implementation of census programs and surveys." Committees also help identify cost-efficient ways to increase participation in censuses, surveys and programs.

NAC considers topics such as hard to reach populations, race and ethnicity, language, aging populations, American Indian and Alaska Native tribal considerations, new immigrant populations, populations affected by natural disasters, highly mobile and migrant populations, complex households, rural populations, and population segments with limited access to technology. The Committee also advises on data privacy and confidentiality, among other issues. By charter, the Committee meets at least twice per year.

CSAC addresses emerging census challenges including adaptive design, cyber infrastructure, demographic research, economic and statistical research, and technical and operational priorities. The members advise the Census Bureau director on the uses of scientific developments in statistical data collection, survey methodology, geospatial and statistical analysis, econometrics, cognitive psychology, business operations and computer science as they pertain to the full range of Census Bureau programs and activities, including census tests, policies and operations.

Oversight Review

Across all the recent GAO and OIG audits, the most common and persistent findings and recommendations are about program management efforts:

- Establishing, maintaining, and using detailed integrated schedules to plan and monitor all work related to the 2020 Census.
- Developing, documenting, and updating lifecycle cost estimates and estimates of cost savings.
- Documenting and using test and research results in a timely fashion to develop and revise future plans and decisions.

Completing specific action plan targets is important, but many of these recommendations require sustained activities over time. Below is a summary of major efforts Census has completed, or are in progress, for these three areas:

- **Scheduling** – Over the last two years Census has made significant progress on its schedule, including hiring additional managers and staff for these efforts.
- **Cost Estimation** – After GAO issued its guide for cost estimation in 2009, Census began working on incorporating their best practices into its efforts to estimate potential savings from the innovations Census is studying, build cost models, and produce lifecycle cost estimates for the 2020 Census.
- **Using Test and Research Results** – A number of findings and recommendations from GAO and OIG have focused on the need to ensure test results and research findings are quickly documented and shared with those planning additional work, documenting requirements, testing systems, and so forth. Although the formal documentation and public release of results sometimes lags due to resource constraints/priorities, results are shared quickly and informally via its operational teams and through inter-divisional teams (like the Decennial Leadership Group). Census also built a knowledge management database that houses findings and recommendations from all the 2010 Census Evaluation and Experiments Program (CPEX), and ensured this information was routed to relevant planners and operational team.

Measuring “Factoryless” Manufacturing

Existing statistics are unable to capture the complexity of manufacturing arrangements that are becoming increasingly common. In joint work with BEA staff, Census analyzed the responses to the special inquiries in two surveys, to document the characteristics associated with factoryless goods producers (FGPs) and manufacturing service providers (MSPs), which are a growing phenomenon and an increasing measurement challenge. Both surveys included detailed questions about purchasing or providing contract manufacturing services (CMS). This analysis coupled with outreach conducted by the Census Bureau, suggests that respondents appear to understand the concept of CMS and the need for U.S. statistical agencies to collect the data. An inter-agency effort between Census, BEA, Bureau of Labor Statistics, and the Federal Reserve Board of Governors is underway to analyze microdata to estimate the number of establishments, total value of shipments, and total employment that will be reallocated across various sectors due to the new classification to be found in the 2017 North American Industrial Classification System. This effort will provide some of the first statistics reflecting the complex production arrangements in the global economy.

New Productivity Statistics

Productivity measures are critical for understanding economic growth and business survival. The Bureau of Labor Statistics (BLS) produces the official U.S. productivity statistics using aggregate industry-level data, and these statistics provide important insights at the sector and industry levels. Unfortunately, BLS statistics cannot provide insight on the within-industry variation in productivity, limiting its understanding of the rich productivity dynamics in the U.S. economy. To address this gap, the BLS and the Census Bureau are collaborating to create new measures of the within-industry dispersion of productivity. The goals of this project are to produce both public-use and restricted-use data on productivity dispersion. The public-use data will include within-industry measures of the distribution of productivity for industries in the manufacturing sector and will be published jointly by the BLS and the Census Bureau. The restricted-use data will consist of microdata files containing input, output, and productivity measures to be made available to researchers through the secure Federal Statistical Research Data Centers (FSRDCs). These data will provide a unique view into the dynamics of productivity.

Increase Data Sharing Among Federal Agencies

The Census Bureau has joint statistical projects with seven federal agencies to increase data sharing. These include the Centers for Medicare and Medicaid Services, Social Security Administration, Internal Revenue Service, Bureau of Justice Statistics, Veterans Affairs, Economic Research Service of the US Department of Agriculture, and the Office of Child Care at the Department of Health and Human Services. Through these projects, staff from these agencies assist the Census Bureau in microdata analysis and the production of statistical analyses to improve program evaluation and administration.

Office of Survey and Census Analytics

In order to increase survey efficiency and improve survey quality, the Field Directorate has formed the new Office of Survey and Census Analytics (OSCA). This office researches, designs, and builds tools and methods that enable the use of empirical data to facilitate intelligent business decisions prior to and during data collection. One example of OSCA's early work was the use of paradata to help identify the 10 poorest performing Field Areas (out of 48) for the National Health Interview Survey and the Current Population Survey. OSCA then provided the regional offices with a large set of paradata to facilitate the development of action plans for improving performance in these areas. Upon implementing the action plans, Census has seen improvements in survey response rates in these ten areas over the remaining 38, helping to improve the overall response rates for the nation. OSCA continues to look for meaningful ways to harness paradata in order to improve survey efficiency and quality.

Center for Economic Studies (CES)

Recent mandates for evidence-based policy choices from both the Executive and Legislative branches of the federal government underscore the importance of understanding the relationship between program participation and outcomes. CES researchers have been part of this work for many years having provided the National Institute for Science and Technology results on the outcomes of their client firms. More recently, ITA's Global Markets (GM) program approached CES to help it evaluate the effectiveness of its export counseling services. CES staff matched data provided by GM to Census micro-data and conducted an econometric analysis of the performance of the counseled firms. The study, released as a September 2015 CES working paper, found some evidence that receiving counseling from GM is positively correlated with export growth. The working paper also features a "Lessons Learned" section that highlights areas where measurement and data collection could be improved to facilitate future program evaluation work. Additionally, CES staff have been detailed to the Department's Office of the Chief Economist to provide expert advice on Census Bureau data and methodologies to Commerce Department agencies (including ITA, EDA, and MBDA among others) striving to enhance their ability to make evidence-based decisions.

Job-to-Job Flows

Movements of workers between jobs are the principal mechanism by which labor markets allocate workers more efficiently. While these flows are large and economically important, there has been a significant gap in available statistics. In 2014, the Census Bureau unveiled Job-to-Job Flows (J2J), a new set of statistics on the movements of workers between jobs. This initial, beta release contains national data on worker flows, distinguishing hires and separations associated with job change from hires from and separations to nonemployment. Future releases will publish data with more detail and will tabulate the characteristics of the origin and destination jobs of workers changing jobs. These new public-use data are the culmination of research and development by CES staff.

Conclusions, Recommendations and Next Steps:

The following milestones describe the work being conducted in FY 2016 and FY 2017 for each of the four major cost-saving innovations for the 2020 Census:

Key deliverables for FY 2016:

- Conducting a 2016 Census Test that focuses on optimizing self-response, utilizing administrative records and third-party data to reduce the nonresponse follow-up (NRFU) workload, and reengineering field operations in support of the NRFU operation.
- Planning the 2020 Communications and Partnership Program. Defining, developing, and implementing capabilities related to advertising, communicating with the public, and partnering with external stakeholders, in support of the 2020 Census.
- Designing and planning the 2020 Census Address Canvassing operation.

- Refining the prototype, continuing analysis, and testing statistical models for use in understanding the ongoing quality of the Master Address File (MAF).
- Continuing research and testing of various administrative record and third-party data sources to determine their fitness for use in the 2020 Census, including testing the coverage and quality of the records for obtaining information from non-responding housing units.

Key deliverables for FY 2017:

- Delivering 2020 Census topics to Congress by April 1, 2017.
- Conducting a 2017 Census Test, designed with an April 1, 2017 Census Day.
- Opening six regional census centers. Office space will be identified and lease agreements will be negotiated. Both the physical and IT infrastructure will be designed and built, including the floor plans, furniture, hardware, software, and security systems.
- Planning the 2020 Communications and Partnership Programs and determining how best to test those programs during the 2018 end-to-end test.
- Conducting in-office address canvassing using administrative records, third-party data, and satellite imagery to detect change in the address list and conducting in-field canvassing.
- Continuing evaluating and updating various administrative record and third-party data sources to determine their fitness for use in the 2020 Census, including testing the coverage and quality of the records for obtaining information from non-responding housing units.

Additionally, the Census Bureau will work towards a series of detailed milestones in FY 2016 and FY 2017 relating to 1) provision of infrastructure and testing environments for CEDCaP projects, and 2) to the release into production of capabilities in support of self-response, field recruiting, mailing and electronic correspondence and Decennial Address Canvassing,

STRATEGIC GOAL 5: OPERATIONAL EXCELLENCE

Strengthen the Department's capacity to achieve its objectives, maximize return on program investments, and deliver quality, timely service.

Significant Benefits:

The principal benefit of Operational Excellence is accomplishing the Department's mission cost-effectively through people and processes that respond to changing needs and expectations. New approaches to employee engagement and customer service, up-to-date space and technology, and systems that align Commerce's diverse yet interconnected efforts are required to accomplish performance targets in all mission areas. These changes will also help the Department attract and retain the talents needed to sustain high performance well into the 21st century.

In addition to cost-effective mission delivery, short- and long-term, Operational Excellence will strengthen and maintain cybersecurity needed to protect business and personal information. It will also provide the data and research needed for evidence-based decision-making that continuously increases return-on-investment in DOC programs.

Significant Accomplishments/Milestones:

- The FY 2014-2018 Department Strategic Plan has been revised to further capitalize on synergy from bureau collaboration and refine strategies. A new Strategic Plan governance structure has been created to manage progress toward the many Strategic Objectives that involve multiple bureaus.
- A current state study was completed on the quality of mission support across all bureaus. Stakeholder input was gathered through surveys and focus groups. Based on study findings, a decision was made to move some Human Resources, Acquisition, Financial Management, and IT functions to a shared service model. A task force is developing an implementation plan for actions that will begin in FY 2016.
- An IT Transformation Road Map for the Department has been adopted. It provides a description of the future state of DOC IT, performance measures, a schedule, and defined roles and responsibilities. Much of the plan has been implemented and includes: cloud-based email; improved security of international travel devices; modernization of workplace technology; an Enterprise Security Operation Center; and Enterprise Continuous Monitoring Operations through the Department of Homeland Security.
- In conjunction with GSA, the Department began a 21st Century Workplace Initiative that changed the initial HCHB (main Commerce) renovation plan to a modern workspace design. A 21st Century Pilot Project to test concepts has been completed.
- All bureaus have developed Employee Engagement Action Plans, tailored to their needs based on bureau data in the Federal Employee View Point Survey. A DOC People and Culture Team was created to accelerate progress on department -wide initiatives to increase employee engagement.
- The Commerce Data Service was established in the Office of the Secretary in October 2015. This expert team of application developers will work on priority projects to enhance the end-user experience for external and internal customers of Commerce data and services.
- Since its inception in 2010, the Census Bureau "Innovation and Operational Efficiency" (IOE) program has resulted in more than \$44 million dollars in cost avoidance and savings through employee submitted ideas. This successful program and the on-line Census Solution Box (CSB) are the benchmark for the new Department of Commerce Ideas Tool and similar programs at multiple agencies.

STRATEGIC OBJECTIVE 5.1: Empower and engage Commerce employees

Contributing Bureaus: DM / OS, All Bureaus

Key Strategies:

- Cultivate leadership and organizational development skills and a values-based culture to increase employee engagement and empowerment (OS, All Bureaus).
- Promote and reward employee collaboration, innovation, and engagement at all levels of the organization (OS, All Bureaus).
- Attract and retain an exceptional and diverse workforce (OS, All Bureaus).

Summary of Progress:

The Department of Commerce, in consultation with the Office of Management and Budget, highlighted this objective as a focus area for improvement during FY 2015.

Although DOC ranked #2 among large agencies in the 2014 Federal EVS “Best Places to Work” scores, some individual bureaus did not rank well and all DOC bureaus have dimensions that need improvement. Success in this area is critical to success in the other DOC Strategic Objectives. Several bureaus have mature and successful approaches to employee engagement. DOC-wide efforts will be following these bureaus’ best practices.

The most significant action taken on Strategic Objective 5.1 was the development of bureau action plans based on Employee View Point survey results. Quarterly reviews of progress on these plans are conducted with the Deputy Secretary.

Another important development has been the formation of DOC’s People and Culture Team (PACT). The PACT met regularly throughout FY 2015 to affect the Department-level strategies for this objective. To establish a foundation for the leadership skills needed to empower and engage Commerce employees, the PACT has initially focused its attention on strengthening DOC’s SES corps. The PACT organized SES Summits in 2014 and late 2015. The 2014 summit developed Commerce-wide core values and SES member agreement on executive core competencies. The 2015 SES Summit was an avenue for input on the shared series initiative and workforce engagement and retention. In FY 2015 the Department worked closely with the U.S. Office of Personnel Management to develop a SES on-boarding pilot program, scheduled for launch in early FY 2016. GS-level employee on-boarding has already been expanded to include a briefing on the DOC Strategic Plan and approach to performance management. Further enhancements are planned for FY 2016.

The Office of Public Affairs (OPA) has collaborated with the performance management staff on a new Internal Communications Plan, with a focus on engaging staff with the FY 2014-18 Strategic Plan. OPA has launched Commerce Connection, an intranet that provides a platform for dialogue and collaboration across bureaus. It was used to collect staff ideas on key challenges in the goal areas of the DOC Strategic Plan. It will also be the home of a new Skills Marketplace that provides employees with the opportunity to work 20% of the time on projects with other units. Leadership and Innovation Network at Commerce (LINC) is a newly established affinity group created for those interested in new approaches to accomplishing the Commerce mission. LINC uses Commerce Connection to organize “Hackathons” and “Un-Conferences” held in pursuit of innovation and organizational improvement.

Actions to attract and retain diverse talent are supported by a multi-bureau council which is jointly led by the Office of Human Capital Strategy and Diversity and the Office of Civil Rights. The Census Bureau has developed a new capability for strategic workforce planning. In FY 2013, over 3,500 Census Bureau headquarters employees and their supervisors participated in a competency assessment. The data from the assessment was used to identify enterprise and directorate priorities for closing competency gaps. The initiative produced an enterprise action plan, a decennial action plan, and an IT action plan. Plans include targets through December 2015. In June 2015, the Census Bureau created an office dedicated to performing workforce planning activities.

Performance Indicators:

Indicator	Score on the Employee Engagement Index of the Federal Employee Viewpoint Survey							
Category	Key							
Type	Customer Service							
Bureaus	DM / OS, All Bureaus							
Description	The Employee Engagement Index defines an engaged employee as "...one who is immersed in the content of the job and energized to spend extra effort in job performance." The Index comprises FEVS questions that cover most, if not all, of the conditions likely to build employee engagement (e.g., leadership, opportunity to use skills, supportive supervisors).							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						67%	67%	69%
Actual	69%	70%	70%	70%	70%	68%		
Status						Met		
Notes	While DM has actual information for this indicator dating back to FY 2010, it did not use this as a GPRA indicator until FY 2015 and thus does not have targets until then.							

Indicator	Score on the New Inclusion Quotient (New IQ) of the Federal Employee Viewpoint Survey							
Category	Key							
Type	Customer Service							
Bureaus	DM / OS, All Bureaus							
Description	The New Inclusion Quotient (New IQ) consists of 20 FEVS questions with the highest correlation to inclusive environments. The New IQ is built on the concept that individual behaviors, repeated over time, form the habits that create the essential building blocks of an inclusive environment. Workplace inclusion is a contributing factor to employee engagement and organizational performance.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						66%	64%	65%
Actual			64%	64%	64%	63%		
Status						Met		
Notes	While DM has actual information for this indicator dating back to FY 2012, it did not use this as a GPRA indicator until FY 2015 and thus does not have targets until then.							

Other Evidence and Evaluation:

- A study of 23,910 business units compared top quartile and bottom quartile engagement scores and found that those in the top quartile averaged 12% higher profitability. ([Source: Gallup Q12 Meta-Analysis, Gallup](#))
- Study of 89 companies compared top quartile and bottom quartile engagement scores and found that those in the top quartile had 2.6 times higher earnings per share (EPS) than that of the below-average scores. ([Source: Investors, Take Note: Engagement Boosts Earnings, Gallup](#))

- Employees' customer service productivity scores and their employee engagement scores had a correlation of .51. ([Source: Linking People Measures to Strategy. The Conference Board](#))
- Employees with lower engagement are four times more likely to leave their jobs than those who are highly engaged. ([Source: Driving performance and retention through employee engagement. Corporate Leadership Council](#))
- Employees are engaged when they feel the work is important and that progress is being made - *The Progress Principle*, Teresa Amabile and Steven Kramer, Harvard Business Review Press, 2011.

Conclusions, Recommendations and Next Steps:

Additional resources are needed to advance this objective faster and more effectively. Teams and individuals from the current Executive Leadership Development class will be assigned actions by the People and Culture Team.

FY 2015

- 2nd Annual Commerce SES Summit Sept 21, 2015 - *Completed*

FY 2016

- Revised Bureau Engagement Action Plans November 2015
- Executive Offsite (to address Engagement, Retention & Succession Planning) February 2016
- Launch SES Onboarding Program March 2016

FY 2017

- Launch of Comprehensive DOC On-boarding Program January 2017

STRATEGIC OBJECTIVE 5.2: Support a service-oriented culture that responds to the needs of external and internal customers

Contributing Bureaus: DM / OS, All Bureaus

Key Strategies:

- Improve customer feedback mechanisms for major processes and services (OS, All Bureaus).
- Simplify access to Department services and data across all channels (OS, All Bureaus).
- Recruit, reward, and advance those who epitomize excellent service (OS, All Bureaus).

Summary of Progress:

Customer feedback mechanisms have been improved for two mission goal areas during FY 2015: "Trade and Investment" and "Data." In Trade and Investment, ITA has refined and expanded its client survey to develop more actionable data, increase response rate, and increase the number of services covered by the survey. Survey design and sampling have benefited from collaboration with the Census Bureau. The Data goal area established an Advisory Committee of

business technology leaders that is making recommendations on how DOC data can better serve the business community. Their input will include ideas on how private sector data can improve government statistics or make them less costly to produce.

[The BusinessUSA website](#) provides one door to US Government on-line services for businesses. It has been evolving for four years and is now recognized as a best practice in the business assistance space. It puts the voice of the customer at the center of continuous improvement. Customer feedback from multiple channels (surveys, system generated data, focus groups, observation of users) is used to refine site design, content, and features. The site makes it easier for customers to access and understand the services of 24 federal agencies, many with dozens of sub-units. From 2012 to 2015, BusinessUSA grew from 250 linked resources to over 57,000 that include state, local and non-profit services. In December 2015, BusinessUSA was [awarded the 2015 President's Award for Customer Service to America's veterans](#). The Department of Commerce is employing best practices from BusinessUSA, other exceptional government websites, and the private sector to improve other Department websites.

ITA is implementing a state-of-the-art Customer Relations Management System. The system will facilitate quality service by providing a complete history of services provided to a client by any unit of ITA. It will also provide data needed to evaluate the quality of service, e.g., cycle time for responding to requests, success in helping a client achieve their objective, baseline data on revenue and employment level (needed to assess if ITA assistance resulted in growth). A standard CRM system will be expanded to other Department business assistance programs over the next few years. Staff will be able to track assistance provided by any agent of DOC, so data will be available for analytics on critical success factors.

The Census Bureau stood up a centralized customer experience data base that supports dashboards and self-service analytics. The Customer Experience Management (CEM) project team built the data base from five exiting data sources and created four enterprise dashboards. These dashboards provide insight into customer experience with Census' products, and allow analysts to look across data sources on one Business Intelligence (BI) platform. The team deployed the data base and dashboards as a pilot and is moving it to the production environment.

The Department continues its flagship recognition program, giving gold, silver, and bronze awards for exceptional work, particularly exceptional customer service. Recipients of the annual awards can be recognized either for improving a customer service process or for their extraordinary service on a personal level. Winners for Customer Service are nominated for the new Federal government award. A multi-bureau team of employees have designed a new program to provide three cycles of awards during the year. This new Strategic Innovation Award would recognize creativity and initiative in support of achieving Strategic Objectives, including this Customer Service objective. The program proposal is being reviewed by leadership with the target of implementation in December of FY 2016.

Performance Indicators:

Indicator	Percentage of high-volume processes with customer feedback elements*							
Category	Key							
Type	Customer Service							
Bureaus	DM / OS, All Bureaus							
Description	Complete and effective customer feedback loops will be identified for the Department's 20 highest volume externally facing processes. Process owners must demonstrate how customer feedback is used to inform operational improvements and decisions before the loop will be counted as complete.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						n/a	TBD	TBD
Actual						100%		
Status								

*This is a new indicator and baseline data and targets will be developed in FY 2016. In FY 2015, the Federal Digital Strategy Team identified four DOC processes with very high-volume customer transactions (patents, trademarks, weather information and the 2020 Census). All four get feedback from advisory groups and two get on-going feedback from customers. The universe for this indicator will be expanded in FY 2016 to include a more complete range of high-volume customer facing processes of DOC.

Indicator	Customer contacts (BusinessUSA)							
Category	Key							
Type	Outcome							
Bureaus	DM							
Description	BusinessUSA continues to implement three external performance indicators that focus on promotion of services, customer satisfaction, and customer impact. These indicators incorporate the multi-channel approach of BusinessUSA. The goals for each of these indicators were based on historical data, analysis, and lessons learned.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						935,510	5,668,976 <i>function moved to SBA</i>	6,235,873 <i>function moved to SBA</i>
Actual						4,222,145		
Status						Exceeded		

Indicator	Customer satisfaction (BusinessUSA)							
Category	Key							
Type	Customer Service							
Bureaus	DM / OS, All Bureaus							
Description	BusinessUSA continues to implement three external performance indicators that focus on promotion of services, customer satisfaction, and customer impact. These indicators incorporate the multi-channel approach of BusinessUSA. The goals for each of these indicators were based on historical data, analysis, and lessons learned. Customer satisfaction based on customer rating in on-line survey.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						70%	70% <i>function moved to SBA</i>	70% <i>function moved to SBA</i>
Actual						68%		
Status						Met		

Indicator	Customer impact (BusinessUSA)							
Category	Key							
Type	Customer Service							
Bureaus	DM / OS, All Bureaus							
Description	BusinessUSA continues to implement three external performance indicators that focus on promotion of services, customer satisfaction, and customer impact. These indicators incorporate the multi-channel approach of BusinessUSA. The goals for each of these indicators were based on historical data, analysis, and lessons learned. Based on survey question "Did you find what you were looking for?"							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						70%	70% <i>function moved to SBA</i>	70% <i>function moved to SBA</i>

Actual						68%		
Status						Met		

Other Evidence and Evaluation:

- In the July 2014 GAO Report to Congress, *Managing for Results*, BusinessUSA was named as an example of an agency that uses review processes consistent with leading practices.
- In December of 2014, BusinessUSA conducted a thorough self-review, benchmarking the organization using the Digital Services Playbook published by the White House on August 11, 2014. The results of the review showed that BusinessUSA is mission oriented and is able to “reach customers through digital analytics, usability testing sessions, and existing Federal Government structures to obtain feedback from those communities.”¹² The report also found that BusinessUSA uses analytics from multiple sources to drive management decisions which “allows for the BusinessUSA’s platform to evolve the right solution for its end-user customers, small businesses, and exporters.”
- A study conducted by Accenture Federal Services and the Government Business Council stated, “BusinessUSA helps customers to identify and quickly access information on programs that best meet their needs for such things as starting and growing a business, accessing financing, exporting, promoting investment in the United States, hiring employees, resources for veterans, disaster assistance, and learning about taxes and credits and the new healthcare changes.”¹³
- In late FY 2014, BusinessUSA partnered with the Veterans Administration in setting the ambitious goal of making it easier for the over 21 million U.S. military veterans to find the right government resources to start or grow a business.
- In under 90 days, BusinessUSA collaborated with VA OSDBU on transforming its Veteran Entrepreneur website and streamlining its internal veteran business customer-facing processes—while revamping BusinessUSA’s own website, contact center, mobile app, and marketing—to create a simple, unified customer experience (CX) across both agencies for future and current veteran business owners searching for assistance.
- In the first nine months since the relaunch in July 2014, the VA website saw a 78% increase in veterans coming to its VA Veteran Entrepreneur Portal. This in turn drove 8,838% more veteran visits overall and 9,576% more new veteran users to the revamped BusinessUSA website and Veterans Resources tool. In just the first year of operation, over a quarter of a million veteran entrepreneurs have been serviced by the combined BusinessUSA and VA veteran entrepreneur portals.

Conclusions, Recommendations and Next Steps:

Customer Relations Management (CRM) System

- Develop data standards and requirements for tracking and analyzing customer service
- Develop a training program on the use of the CRM to monitor and support customer service
- Develop reports to monitor cycle time and quality of customer service
- Develop an action plan for employing the CRM in all DOC business assistance programs

Customer Feedback

- Assess the existing feedback processes in high volume customer contact processes (Departmental data call will be issued in January 2016).
- Establish priorities for improvement and assuring follow up on feedback

¹² U.S. Digital Services Playbook Audit of BusinessUSA, REI Systems, December 1, 2014, p.70.

¹³ New Accenture Study Identifies Ways to Improve Federal Innovation, BusinessWire News, January 20, 2015

STRATEGIC OBJECTIVE 5.3: Manage for results

Contributing Bureaus: DM / OS, All Bureaus

Key Strategies:

- Develop evidence-based decision frameworks to integrate strategic planning, budgeting, execution, and program evaluation (OS, All Bureaus).
- Implement an approach to monitoring the Strategic Plan that is comprehensive and responsive to the needs of leadership (OS, All Bureaus).

Summary of Progress:

In March 2014, the Department of Commerce adopted a new department wide Strategic Plan that is more accessible and actionable and is organized around Strategic Goals supported by multiple bureaus. A process was put in place to continuously evolve the FY 2014-2018 Strategic Plan, in order that learning can be regularly incorporated into strategies. In FY 2015, Goal teams reviewed and revised the plan and a new *Strategic Plan 1.1* became available in the summer. The governance approach and executive monitoring approach also evolved. The Department's Goal Leads meet as a team to discuss progress, issues and barriers, and to collaborate on planning next steps. The full leadership team (the Administration's principals of Commerce bureaus) meets once a month for an in-depth briefing on progress in a specific Goal area and related Strategic Objectives and Agency Priority Goals (APG). These meetings are supplemented by meetings between individual Goal Leads and the Deputy Secretary.

The performance management system was also revised to incorporate risk assessment of Strategic Objectives in the Department's FY 2015 Annual Strategic Review (ASR). Additionally, the Department conducted a first-ever Performance and Evaluation Summit which provided training on a systems-approach to performance management and on the use of logic models to upgrade performance indicators and develop an evidence agenda. Over 100 employees attended the summit. DOC is increasing internal communications on the strategic plan. Opportunities for employees to offer input on the plan have been created through the Department's new intranet system "Commerce Connection."

Other Significant Accomplishments/Milestones:

- DOC Annual Strategic Review has a new, more robust approach for assessing the status of Department Strategic Objectives.
 - The Department's Annual Strategic Review (ASR) process employs a standardized review template and engages over 100 key staff in evidence-based assessment.
 - A procedure for Strategic Objective Risk Assessments is now part of the Annual Strategic Review process.
 - The approach and format of this Annual Performance Plan/Report (submitted to OMB and Congress) now parallels the approach and format of the Strategic Plan and ASR. This provides in-depth assessment of progress four times a year using a common format and metrics.
- Bureau Data Driven Reviews are maturing as a device for managing for results.
 - The CFO/ASA launched an updated performance indicator dashboard for mission support services. Meetings are held every quarter for the CFO/ASA to review the data with office directors.
 - In FY 15, ITA began ITA Stat for leadership review of data on the progress of key initiatives.

- The Census Bureau's Quarterly Progress Reviews include the most critical indicators of program performance; these indicators are incorporated into the performance plans for the Senior Executive Service members responsible for the performance targets. Census' Operating Committee conducts Program Management Reviews of: the 2020 Census, the American Community Survey, the 2017 Economic Census, the 2017 Census of Governments, and the Geography Systems Support Initiative.
- "Evidence based decision making" is being promoted through an annual "Evidence Agenda" and by making statistical data available for program evaluation.
 - The ITA/Census pilot program evaluation has been completed. It used a quasi-experimental methodology and Census data to compare the export level of businesses that received ITA assistance to a control group that did not. Census began collaborations with MBDA and EDA on analysis of their program impact.
 - EDA collaborated with University of North Carolina on measures and methodologies to assess the impact of community assistance programs.
 - The Census Bureau invested in research and testing needed to make major design decisions for the 2020 Census. Evidence is also being developed on how to reduce respondent burden for the American Community Survey (ACS).
 - NIST employed a broad array of research and reports to shape the direction of their Manufacturing Extension Partnership (MEP). These include client surveys, Federal Advisory Committee reports, and National Academy of Sciences reports. Since 1996, NIST MEP has used an independent third-party organization to conduct an annual national survey of center clients.
 - NOAA's Program Management Council reviewed the cost, schedule, technical performance, and risk of high profile projects: satellites, ground systems, Integrated Dissemination Program, ship recapitalization, facilities, and Disaster Relief Act projects. Performance metrics have been established for consistent reporting and evaluation of acquisition program performance to ensure that once the implementation phase has begun, the programs are proceeding as planned and within budget.
 - Offices reporting to the CFO/ASA developed benchmark data on mission support services. The data has been used by the benchmarking initiative of the President's Management Council.
 - SelectUSA (ITA), EDA, NOAA (Resilience), and MBDA developed logic models as a tool to improve performance indicators and build the FY 16/17 Evidence Agenda.

Performance Indicators:

Indicator	Score on the Results-Oriented Performance Culture Index of the Federal Employee Viewpoint Survey							
Category	Key							
Type	Customer Service							
Bureaus	DM / OS, All Bureaus							
Description	The Results-Oriented Performance Culture Index is made up of 13 FEVS questions, which taken together indicate the extent to which employees believe their organizational culture promotes improvement in processes, products and services, and organizational outcomes.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						65%	67%	70%
Actual	60%	61%	61%	61%	61%			
Status								
Notes	While DM has actual information for this indicator dating back to FY 2010, it did not use this as a GPRA indicator until FY 2015 and thus does not have targets in previous years.							

Other Evidence and Evaluation:

- The Department's performance community of practice completed the Baldrige *Are We Making Progress* survey as part of the March 2015 Performance and Evaluation Summit. The data is a baseline for a maturity analysis of the DOC performance management approach.
- In March-April 2015 the Department participated in a GAO review of the Government Performance and Results Modernization Act (GPRAMA) required quarterly reviews; the assessment reported full compliance.
- In December 2014, the Department collaborated with the Partnership for Public Service by participating in focus group sessions on implementation of GPRAMA. This effort informed a paper published during 2015 and reported progress in creating a results driven culture.
- The Department has leveraged recent studies and reports by external sources including: GAO-14-747, *Managing for Results: Agencies' Trends in the Use of Performance Information to Make Decisions*, 451061 - <http://www.gao.gov/products/GAO-14-747> and the Center for The Business of Government's [Six Trends Driving Change in Government](#) and [Four Actions to Integrate Performance Information with Budget Formulation](#)
- In FY 2014, ESA published *Fostering Innovation, Creating Jobs, Driving Better Decisions: The Value of Government Data* <http://www.esa.doc.gov/reports/fostering-innovation-creating-jobs-driving-better-decisions-value-government-data>. This is one of the first studies of the impact of the availability of demographic and economic statistics on the economy.

Conclusions, Recommendations and Next Steps:

- Performance Indicator Data Base – A DOC wide performance indicator data base is under development. It will reduce the number of data calls to bureaus and make data more available for decisions and budget deliberations. The data base will be used to create additional dashboards for monitoring progress.
- ASR/APPR Workshops – The DOC Performance Excellence Council meetings (twice a month) will review and critique sections of the ASR/APPR to collaborate on ideas for improvement and identification of best practices.
- Internal Performance Calendar – DOC staff will collaborate with bureau performance staff on improving the internal calendar for performance deliverables required by OMB Circular A-11. The intention is to better coordinate major deliverables with bureau strategic planning and the budget process.
- Performance Culture – The Strategic Plan and performance management briefings will be incorporated into a new on-boarding program for employees. News about the Strategic Plan will be on pages of the DOC intranet, as will opportunities to serve on teams that are executing strategies. A new recognition program for Innovation in plan implementation is under development.
- Evidence Agenda – A new process is being used to identify priorities for developing additional evidence of program performance. The agenda includes research projects as well as assessments of program delivery systems. More information about this process can be found in Appendix A of this document: FY 2017 Evidence Submission (per OMB Memorandum-15-11).

STRATEGIC OBJECTIVE 5.4: Improve facilities, support services, and information technology products and services to drive mission success

Contributing Bureaus: DM / OS, All Bureaus

Key Strategies:

- Improve the quality and consistency of mission-enabling services by establishing a customer-focused business model for shared services (OS, All Bureaus).
- Modernize DOC's headquarters facility to improve the work environment, facilitate better outcomes, and demonstrate the Department is current and able (OS, All Bureaus).
- Transform the Department's IT infrastructure to be conducive to collaboration and sharing of data and information over a world-class network (OCIO, All Bureaus).
- Improve situational awareness, cybersecurity, and risk management through implementation of advanced cyber programs and initiatives (OCIO).

Summary of Progress:

The Department of Commerce (DOC), in consultation with the Office of Management and Budget, highlighted this objective as a focus area for improvement in FY 2015.

Shared Services – Under the leadership of the Deputy Secretary (DS) and the CFO/ASA, and with contract support, teams of principals assessed the feasibility of providing HR, Acquisition, Financial and IT services through a shared service model. Improved responsiveness to customer needs was the primary criterion for assessing alternative service delivery approaches. In FY 2015 DOC completed the feasibility study, developed an implementation plan, established a shared services center (SSC), and prioritized six (6) IT shared services for deployment in the FY2016-17 timeframe, with the first (printing services) to be deployed by March 2016.

Facilities – In January 2007, the Department and the General Services Administration entered into an agreement to renovate the Herbert C. Hoover Building (HCHB) in eight phases. The goal of the HCHB Renovation Project is to create a safe, mobile, cooperative, and more energy efficient office environment for staff. The complete project will replace all of the major building systems, create a more open work environment, reduce the square footage needed by DOC, and preserve significant historic spaces. Three phases of the renovation have been completed to date. As a pilot test, an area has been renovated with more “huddle space” and fewer private offices. Staff currently using the space provided feedback on this design, which will affect future renovations.

IT and Cyber Security – Beginning in June 2014, the Department embarked on a series of initiatives focused on updating IT infrastructure and improving IT service delivery:

- Journey to Excellence – fix operational IT problems within the HCHB headquarters campus.
- Bring DOC into the 21st Century with regard to information delivery and technology
- Implement IT Shared Services (part of DOC Shared Services) across the Department

These technology initiatives encapsulate the Department's efforts to replace aging equipment and provide a more robust network to support core IT services and cybersecurity. DOC's move to an IT shared services model will improve reliability and cost efficiencies and facilitate communication and collaboration.

Significant Accomplishments/Milestones:

Shared Services –

- Executive Management Team Retreat: identified challenges; assessed the impact of support services on the mission; developed the outline of a governance system for shared services.
- Secretary's Action Memo: established the DS as the initiative owner; established Departmental Management Council (senior career executives) as the shared services governance board; gave DS final decision making authority.
- Governance Board Actions: researched industry best practices; identified NASA as the benchmark; initiated project to define the current and target state.
- Project Development: current state assessed; consensus achieved on services that can effectively be shared; developed a roadmap for operationalizing shared services; hired shared service executive director and team directors (for IT, HR, Finance, Acquisitions shared services); established a Shared Services Center (SCC); began development of SSC Concept of Operations (ConOps).

Facilities –

- The initial project design was to renovate and modernize the 1.8 million sq. ft. Herbert C Hoover Building (HCHB). Construction began in January 2008 with rehabilitation of the Courtyard six infill area and replacement of the aging cooling towers. To date, three phases of the shell and mechanical rehabilitation are complete.
- In August 2013, the Department, in conjunction with GSA, began a 21st Century Workplace Initiative that changed the initial renovation plan to a modern workspace design. In July 2015, the 21st Century Pilot Project and a new blocking and stacking plan were completed. The new plan will enable the Department to return operating units to the HCHB as well as return approximately 123,000 rentable square feet to GSA.
- The next phase of the 21st Century Workplace Initiative is underway. The Department in conjunction with GSA is constructing an open work environment with common support areas that include conference rooms, café/social centers, casual meeting areas and short stay focus rooms. The new space creates a brighter atmosphere and collaborative work area. A wireless environment has been created to allow employees to be more mobile.

IT and Cyber Security -

- Fix operational IT problems within HCHB / Bring DOC into the 21st Century with regard to information delivery and technology:
 - Implemented cloud-based email with additional upgrades pending;
 - Implemented technical and procedural options for improved security and reliability of International travel devices;
 - Implemented audio/visual, wireless, and enterprise-wide printing infrastructure and support services, including equipment and installation services for Phase three of the HCHB renovation;
 - Established a 24x7 Enterprise Security Operations Center (ESOC) in Fairmont, WV; and
 - Enterprise Continuous Monitoring Operations (ECMO) through a renewed licensing program with the Department of Homeland Security.
- Implement IT shared services across the Department:
 - Identified six services for Wave 1 IT shared services implementation in FY2016;
 - Completed requirements gathering across all DOC bureaus for all six IT services and approved implementation timeline and milestones;
 - Initiated development of RFPs for all six IT services identified;
 - Awarded first IT shared service contract. Deployment scheduled for March, 2016; and
 - Identified additional IT services for Wave 2 implementation scheduled to begin in FY2017.

Performance Indicators:

Indicator	Cybersecurity Cross Agency Priority (CAP) Goal average for the Department*							
Category	Key							
Type	Contextual							
Bureaus	DM / OS, All Bureaus							
Description	The Cybersecurity CAP Goal uses the Federal Information Security Management Act (FISMA) of 2002 performance metrics to measure agency progress in implementing the Administration's priority cybersecurity capabilities. The index tracked for this objective will average the following scores: percentage of hardware assets covered by Information Security Continuous Monitoring (ISCM); percentage of external network traffic consolidated through a Trusted Internet Connection (TIC); percentage of TIC Reference Architecture v2.0 critical capabilities implemented; and percentage use of Personal Identity Verification (PIV) cards for local access.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target						80%	80%	90%
Actual						ISCM = 81% ICAM = 83% APMD = 84%*		
Status						Met		

* ISCM = Information Security Continuous Monitoring; ICAM = Identity, Credentialing, and Access Management; APMD = Anti-Phishing and Malware Defense

DOC is reviewing the measure above and plans to replace or supplement it in FY 2016 with other measures that more accurately reflect the progress of IT and cybersecurity improvement initiatives currently underway.

New Measures Planned for 2016

Indicator	Planned Measure Beginning in FY2016 -- Percentage of enterprise applications shared by three or more DOC bureaus.							
Category								
Type	Intermediate Outcome							
Bureaus	DM / OS, All Bureaus							
Description	This indicator will provides insight into OCIO's efforts to reduce redundant procurements of commodity IT services/applications and to increasingly provide and utilize shared IT applications across the Department.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target								
Actual								
Status								

Indicator	Planned Measure Beginning in FY2016 -- Percentage of customers generally satisfied with accessibility, service & support of mobile communications.							
Category								
Type	Customer Service							
Bureaus	DM / OS, All Bureaus							
Description	This indicator will provides insight into OCIO's efforts to improve customer service and support of mission critical mobile communications services							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017

Target								
Actual								
Status								

Indicator	Planned Measure Beginning in FY2016 -- Percentage of customers generally satisfied with accessibility, service & support of facilities (i.e., meeting rooms, VTC, Wi-Fi, printing).							
Category								
Type	Customer Service							
Bureaus	DM / OS, All Bureaus							
Description	Planned Measure Beginning in FY2016 -- Percentage of customers generally satisfied with accessibility, service & support of facilities (i.e., meeting rooms, VTC, Wi-Fi, printing). This indicator will provides insight into OCIO's efforts to improve customer service and support of mission critical mobile communications services							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target								
Actual								
Status								

Indicator	Percentage of internal customers satisfied with core mission support processes*							
Category	Key							
Type	Customer Service,							
Bureaus	DM / OS, All Bureaus							
Description	Customer satisfaction will be monitored for core mission support services in the Department's Human Resources, IT, Acquisitions, and Financial Management portfolios. Data will be gathered continuously through transactional feedback as well as periodic, targeted pulse surveys. This measure is expected to come online in FY 2016.							
	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017
Target							TBD	TBD
Actual								
Status								

In FY 2016 / 2017 DOC will be standing up a shared service model for many mission support services. As services are launched, baseline data will be collected on internal customer satisfaction. That data will be used to establish targets for FY 2016 and FY 2017.

Other Evidence and Evaluation:

Shared Services

The Department of Commerce Shared Services Project Current State Assessment of February 2015 provides an in-depth analysis of customer input on mission support services and the feasibility of providing the respective services through a shared services mode.

Facilities

GSA assessed the HVAC, electrical, and plumbing systems to identify deficiencies that affect tenant comfort, building operations, energy efficiency, and maintenance costs requiring frequent temporary repairs and replacement. The 2008 HVAC system is plagued with poor distribution, ductwork problems, and insufficient inflow of fresh air, inadequate zoning, and obsolete or non-existent temperature controls. The electrical service, distribution, and branch wiring systems

have exceeded their life expectancy. Much of the plumbing can no longer be maintained and needs to be replaced. The building currently has over 120 restrooms, many of which do not meet accessibility regulations.

Existing sprinkler and fire alarm systems cover only a small percentage of the occupied space. These existing systems cannot be expanded and do not meet updated code requirements.

Refurbishment of existing windows and the additional installation of thermal blast windows will enhance energy conservation, reduce outside air seepage, and improve security of the building.

The HCHB renovation will meet the Guiding Principles for High Performance and Sustainable Buildings.

IT and Cyber Security

Assessments/studies have been conducted that identified performance deficiencies in IT services. Two key studies included the Network Operations Center (NOC) and Security Operations Center (SOC) Self-Assessment Report (November 8, 2013) and the Rapid Peer Assessment (RPA) Report (November 22, 2013). Both reports were based on significant staff input and included specific recommendations and a timeline for implementing those recommendations. As a result, targeted initiatives have begun, including the formation of a DOC Rapid Response Team and an associated action plan.

Conclusions, Recommendations and Next Steps:

Shared Services – Teams of full time professionals are refining and implementing the action plan.

Facilities budget risk mitigation plan – Because of uncertainties around funding, tenant improvement requirements are being prioritized. Building features, systems, equipment, and material selections are being assessed to retain essential functions at a lower cost consistent with required performance, quality, reliability, and safety.

21st Century Workplace support – There is on-going communications and feedback between employees and management to on users' expectations operationally and technically and how the implemented workplace design and IT services measure up.

Information Technology – The Department is currently developing six RFPs for the six identified IT shared services scheduled to be implemented in FY2016-2017: wired/wireless networks, printing services, Video-teleconferencing (VTC) services, Customer Relationship Management (CRM), and Identity Management. The RFPs have been prioritized and the first two (printing services and CRM) have been completed as of 12/15/2015, with the remaining RFPs to be completed in FY 2016. Additional IT shared services have been identified and plans/schedules for deployment are underway.

Cybersecurity – Improving the Department's cybersecurity posture, incident response capability, and situational awareness is a top priority for the Department. DOC recently completed the hire of a new departmental Chief Information Security Officer (CISO) and is continuing to fill key cyber positions. DOC is updating its Cyber Strategic Plan to meet the challenges of the current and anticipated threat environment.

Strategic Objective 5.4 is a "Focus Area for Management Attention" because of the risks associated with this ambitious effort, the volatility of funding, and the many activities and functions that need to be coordinated for success. The Secretary receives weekly reports on shared services, the HCHB renovation, and IT improvement and security.

Resources

The following table shows the Department's resources (obligations) and Full-Time Equivalent Employees (FTEs) by Strategic Goal and within each goal by bureau, for FY 2015 – FY 2017.

		FY 2015		FY 2016 Estimate		FY 2017 Estimate	
		Obligations	FTE	Obligations	FTE	Obligations	FTE
Goal 1: Trade and Investment							
	EDA	64.6	51	65.6	56	64.4	56
	ITA	512.8	1,661	528.6	1,778	548.9	1,828
	BIS	102.5	353	112.5	416	126.9	443
	NTIA	3.0	12	5.0	16	7.3	21
Subtotal, Trade and Investment		682.9	2,077	711.7	2,266	747.5	2,348
	% of Total	5.2	5.1	5.1	5.1	5.2	5.2
Goal 2: Innovation							
	EDA	156.5	123	158.6	134	157.4	134
	MBDA	30.0	54	30.0	70	35.4	73
	USPTO	3,178.1	12,469	3,233.2	12,757	3,245.9	12,835
	NIST	1,028.3	3,162	1,087.6	3,333	1,252.6	3,374
	NTIA	72.0	248	97.6	304	87.7	326
Subtotal, Innovation		4,464.9	16,056	4,607.0	16,598	4,779.0	16,742
	% of Total	33.7	39.7	33.1	37.6	33.3	36.8
Goal 3: Environment							
	EDA	35.2	31	37.2	34	36.9	34
	CENSUS	0.4	1	0.4	2	0.4	1
	NOAA	6,215.1	11,769	6,357.0	12,965	6,344.8	12,971
	NIST	22.3	40	34.3	50	34.3	54
Subtotal, Environment		6,273.0	11,841	6,428.9	13,050	6,416.4	13,060
	% of Total	47.4	29.2	46.1	29.6	44.7	28.7
Goal 4: Data							
	CENSUS	1,453.6	9,012	1,795.7	10,579	2,019.5	11,691
	ESA	100.0	506	122.9	533	122.8	546
	NTIS	169.6	150	170.0	150	145.5	150
Subtotal: Data		1,723.2	9,668	2,088.6	11,262	2,287.8	12,387
	% of Total	13.0	23.91	15.0	25.5	15.9	27.2

		FY 2015		FY 2016 Estimate		FY 2017 Estimate	
		Obligations	FTE	Obligations	FTE	Obligations	FTE
Goal 5: Operational Excellence							
	DM ¹	56.0	699	58.0	739	74.5	752
	OIG	39.9	155	43.0	183	47.1	210
Subtotal, Operational Excellence		95.9	854	101.0	9221	121.6	962
	% of Total	0.7	2.1	0.7	2.1	0.8	2.1
TOTAL, DoC		13,239.9	41,835	13,937.2	44,496	14,352.3	44,869

1. DM FTE includes Working Capital Fund

FY 2017 Resources and FTE by Bureau

Bureau	Obligations	% of Tot		Bureau	FTE	% of Tot
NOAA	6,344.8	44.2		NOAA	12,971	28.5
USPTO	3,245.9	22.6		USPTO	12,835	28.2
CENSUS	2,019.9	14.1		CENSUS	11,692	25.7
NIST	1,286.9	9.0		NIST	3,428	7.5
ITA	548.9	3.8		ITA	1,828	4.0
EDA	258.7	1.8		DM	752	1.7
NTIS	145.5	1.0		ESA	546	1.2
BIS	126.9	0.9		BIS	443	1.0
ESA	122.8	0.9		NTIA	347	0.8
NTIA	95.0	0.7		EDA	224	0.5
DM	74.5	0.5		OIG	210	0.5
OIG	47.1	0.3		NTIS	150	0.3
MBDA	35.4	0.2		MBDA	73	0.2
TOTAL	14,352.3			TOTAL	44,869	

Management Challenges

In addition, the Office of the Inspector General (OIG) within the Department has identified the following management challenges within the Department as noted in its FY 2016 Top Management Challenges report, located at <https://www.oig.doc.gov/OIGPublications/TMC-FY16-OIG-16-002.pdf>

Departmental Strategic Goal 1: TRADE AND INVESTMENT

1. Promptly addressing remaining issues from ITA's consolidation.
 - a. Developing revised performance plans and providing appropriate training for affected employees.
 - b. Developing an employee engagement plan.
 - c. Assessing the level of resources throughout ITA headquarters.
2. Migrating export licensing functions to USEXPORTS
3. Executing Departmental and bureau oversight of grant recipients

Departmental Strategic Goal 2: INNOVATION

1. Improving process time and quality of patent application examinations.
2. Improving decision timeliness and quality at the Patent Trial and Appeal Board.
3. Advocating for protection and enforcement of IP rights
4. Implementing a nationwide public safety broadband network.
 - a. Adequacy of funding
 - b. Effective consulting
 - c. Internal control
 - d. Staffing and other organizational issues
5. Addressing the increasing demand for radio frequency spectrum

Departmental Strategic Goal 3: ENVIRONMENT

1. Keeping satellite acquisition programs on schedule.
 - a. Preparing the JPSS-I satellite for launch
 - b. Building a fail-safe polar satellite constellation under the Polar Follow-On program.
 - c. Completing integration and test activities for GOES-R launch
2. Preparing to process observational data from new satellite missions
3. Prioritizing national goals for more cost-effective collection of fishing data

Departmental Strategic Goal 4: DATA

1. Delivering a timely 2020 Census that maintains or improves data quality but costs less than the 2010 Census.
2. Effectively recording, collecting, and using financial data to guide programmatic decisions
3. Developing, testing, and implementing a cost-effective, secure 2020 Census IT infrastructure
4. Overcoming public resistance to the American Community Survey
5. Achieving the mandate for government-wide data standards of the DATA Act

Departmental Strategic Goal 5: OPERATIONAL EXCELLENCE

1. Improving IT controls for financial data processed on the Department's systems
2. Identifying a long-term solution to replace Commerce Business Solutions (CBS)
3. Addressing persistent IT security issues.
 - a. Implementing basic security measures
 - b. Remediating critical and high-risk vulnerabilities
4. Improving the quality and thoroughness of system security control assessments
5. Continuing to strengthen its incident detection and response capabilities.
6. Managing high-risk contracts
7. Needing a sufficiently staffed and qualified acquisition workforce
8. Accuracy of reported Federal Procurement Data System-Next Generation procurement data
9. Improving premium-class travel compliance with Federal Travel Regulation
10. Creating a Department-wide culture of accountability

In addition, the following challenges associated with the Department of Commerce appear on the GAO High-Risk list. Further description of these challenges can be found at: <http://www.gao.gov/highrisk/overview>.

- Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks; and,
- Mitigating Gaps in Weather Satellite Data.

APPENDIX A: FY 2017 Evidence Submission (per M-15-11)

Section 1. Agency Context

Agency Strategy to Advance the Use of Evidence in Decision-Making

The Department of Commerce is implementing four strategies to increase the use of evidence in decision making:

1) Make More Data Available and Accessible.

- ITA and EDA have pilot tested using Census statistical data for analysis of their programs. ITA compared export levels of treated (ITA assisted businesses) with businesses that did not receive assistance but have similar profiles. Lessons learned from these pilots are being distilled and shared across the department both to improve the approach and use it more widely. The Census Bureau has proposed to strengthen this effort through an Administrative Records Clearing House to enable the strategic reuse of administrative data collected by government programs.
- A new Performance Indicator Data Base is under development. Leveraging the OMBMAX portal, it will provide enhanced enterprise-level capability deployed across headquarters and all bureaus to collect, warehouse, and visualize performance data. This system will streamline the creation of annual performance and budget reports; as well as, improve the timeliness and usability of performance data by all levels of management.
- The Department had appointed its first-ever Chief Data Officer (CDO) and is expanding data science capacity within the CDO's new Data Corps team. This team is directly gathering customer input via the recently established Commerce Data Advisory Council (CDAC) and is conducting monthly data working groups which should identify data sets which could provide untapped value and share best practices related to data delivery at 21st century speeds.

2) Develop and Execute an Annual Evidence Agenda.

- Across each of the Department's five Strategic Goal areas, key contributing bureaus have focused attention on identifying areas to strengthen the use of evidence. To this end, bureaus have developed their own evidence agendas which inform the Departments' overall evidence agenda.
- The Department is encouraging this use of Logic Models by bureaus as part of their evidence agendas to improve measures and identify program evaluation priorities. Logic Model training was provided during the Commerce Performance and Evaluation Summit and the Performance Improvement Council (PIC) is partnering with the Department on logic model development projects with three of the bureaus: MBDA, NOAA, and ITA.
- During the Department's FY 2017 budget formulation and Annual Strategic Review (ASR) processes, evidence reviews were incorporated as a vehicle for identifying evidence gaps and tying evidence to operations. This more integrated approach has been well received by Department leadership and bureau stakeholders alike. This approach will continue through the development of the Department's consolidated Annual Performance Plan and Report (APPR) and will continue to encourage new research and more fully employing existing evidence.

3) Foster Increased Cross-Bureau Collaboration.

- ESA and Census Bureau's Center for Economic Analysis (CEA) house world class statisticians, methodologists, economists, and survey research experts. Bureaus have been encouraged to leverage ESA and CEA expertise to strengthen their program analyses and use of evidence. Lessons learned and best practices are being shared through the Evaluation of Business Technical Assistance Programs (E-BTAP) Working Group and the Departments Performance Excellence Council (PEC).

- One of the most promising examples of this type of cross-bureau collaboration is ITA's Global Markets Program quasi-experimental design research conducted with the Census Bureau. This effort is being expanded in the coming fiscal years to include enhancements to the Global Markets Program's customer survey and survey results analyses.

4) **Leverage Regular Forums to Review Evidence.**

- The Department is incorporating evidence reviews within multiple management forums. Evidence is reviewed within the Department's core performance governance meetings including: leadership team reviews of progress in goal areas; individual Goal Lead meetings with the Deputy Secretary; an IT Review Board; a Working Capital Review Board; HR Stat conducted by the team of DOC and bureau HR managers; and CFO/ASA Stat. Additionally, multiple bureaus have implemented "Stat"-style review meetings such as Census Quarterly Reviews, NOAA Stat and ITA Stat.

Recent Progress and Advances in Capacity

Discussion of Strategy (above) provides a summary of progress on each of the strategies. Other advances include:

- The Census Bureau is conducting critical research and testing to support new methodologies and projected savings for the 2020 Census. Examples include: Address Validation Tests, Optimizing Self-Response Tests, Nonresponse Follow Up Test, and National Content Test.
- NIST is using extensive evidence and data to analyze the Manufacturing Extension Partnership (MEP) Program. This began with the initiation of a systematic, multi-year approach to re-compete the national MEP Centers. This also includes an ongoing pilot assessment of whether the re-competition is meeting its objectives.
- EDA is strengthening its evidence agenda based on a logic model for economic development ecosystems. The next phase of this effort will include partnering with outside experts to develop and test new metrics; test the theory of change embedded in the logic model; and develop guidance for operations based on evidence findings.
- In addition to the Global Markets study, ITA has planned multiple initiatives within their evidence agenda including: the ITA Vision 2020 organizational review and benchmarking, a Fee Study to examine their current fee-for-service structure, and conducting a post-consolidation review of administrative staff.
- Commerce Departmental Management (DM) has engaged third-party experts to assist with the study, design, and implementation of a Mission-Enabling "Shared" Services business model for core operational functions. This effort should deliver improved efficiency and effectiveness across the Department's provision of IT, Acquisitions, HR, and Finance services.
- NOAA is continuing to expand its evidence capacity to use formal peer reviews to improve the quality, and relevance (i.e. impact) of its research and development (R&D). NOAA's Oceanic and Atmospheric Research (OAR) has conducted formal peer reviews of its 10 laboratories on a five year cycle. This year, the process has been expanded to start conducting similar peer reviews of its seven R&D programs. NOAA is also transitioning R&D through new or improved observing, modeling and information technologies. The results of field- and laboratory-based process studies will be refined to the point that they can ultimately be transitioned into operations, applications, or commercialization.
- The Department's CDO is expanding his team. As the number of employees within the new Commerce Data Corps increases, the Department will have increased capacity to deliver consultative services to the bureaus, implement new data solutions, and scale-up successful initiatives.
- The implementation of Customer Relationship Management (CRM) systems within bureaus, particularly within ITA, is expected to provide more granular and accurate data to support future program evaluation efforts.
- Performance and evaluation training was provided to several hundred Commerce employees across all twelve bureaus during the 2015 Performance and Evaluation Summit, the 2015 Big A Conference, and a pilot onboarding training program.

Current Barriers

The Department is working to overcome various barriers that could impede progress towards implementing the evidence agenda. Some specific barriers include:

- No common data standards and definitions to assess business technical assistance programs. Implementation of unique identifiers to link data would support better impact measurement.
- Evidence regarding need for increased capital investment in infrastructure and facilities has not gained sufficient traction in operating budgets. The Department and its bureaus operate numerous programs that require long-term capital planning and investment such as ships, laboratories, buildings, etc. As this infrastructure ages, adequate reinvestment is needed to maintain capabilities.
- Uncertainty around Census 2020 funding for testing. Upfront investment in Census 2020 research and testing is expected to have a high return-on-investment by significantly decreasing future costs.

Section 2. Top-Priority Requests

- Census Bureau scale-up of 2020 Census field testing activities. Program increase would strengthen evidence supporting reengineering address canvassing, optimizing self-response, using administrative records, and reengineering field operations. These efforts are expected to result in billions of dollars of savings when conducting the 2020 Census.
- NIST scale-up of Building 1 Renovation and Building 245 Modernization. Program increase will improve the condition and capabilities of two key facilities. Many of these buildings' systems and equipment are beyond their service life and need to be upgraded to meet the bureau's operational missions.
- ITA Expansion. Program increase will support export expansion through assistance and information provided to businesses and through compliance programs. This expansion will increase ITA's capacity and footprint to better serve clients and position the United States and American companies to compete in overseas markets.
- NOAA Observing System Decision Support Tools. Planned observing system investments are essential to achieving NOAA's strategic objectives. Program increase will improve Observing System Integrated Analysis (NOSIA II) Decision Support Tool capabilities through targeted R&D.