

# Cross Agency Priority Goal

## Quarterly Progress Update

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### Lab to Market

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FY2015 Quarter 4

## Goal Statement

- Increase the economic impact of federally-funded research and development by accelerating and improving the transfer of new technologies from the laboratory to the commercial marketplace.

## Urgency

- There is significant potential to increase the return on public investment through innovation, job creation, societal impact, competitiveness, and economic prosperity

## Vision

- To significantly accelerate and improve technology transfer by streamlining administrative processes, facilitating partnerships with industry, evaluating impact, and opening federal research and development (R&D) assets as a platform for innovation and economic growth

# Progress Update

## Context

- The Federal Government will spend \$138 billion on R&D during FY 2015. This R&D is conducted primarily at universities and federal laboratories. This investment supports fundamental research that expands the frontiers of human knowledge, and yields extraordinary *long-term* economic impact through the creation of new knowledge and ultimately new industries – often in unexpected ways.
- The federal R&D enterprise must continue to support fundamental research that is motivated primarily by our interest in expanding the frontiers of human knowledge, and diffusing this knowledge through open data and publications.
- At the same time, some research discoveries show near-term potential for commercial products and services, and the purpose of this Cross Agency Priority (CAP) Goal is to accelerate these promising technologies from the laboratory to the marketplace.

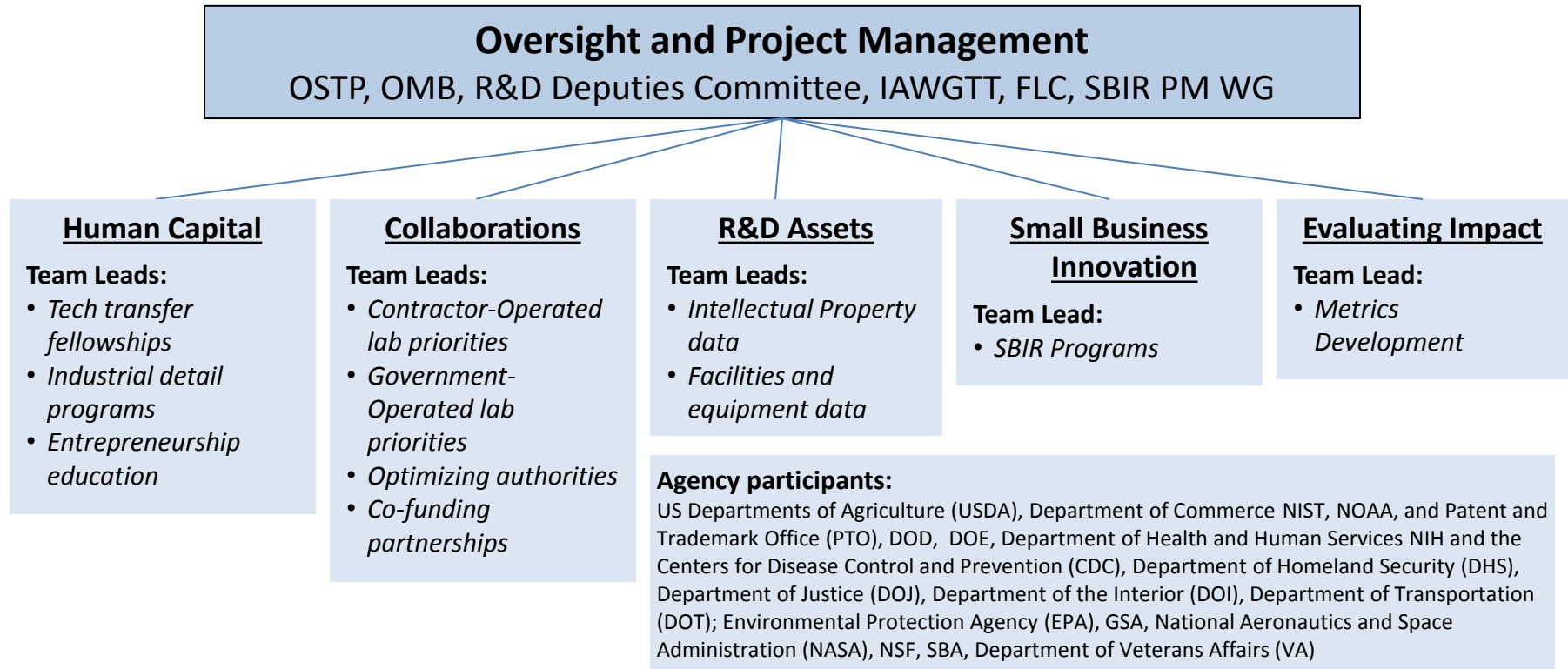
## Implementation framework

- This action plan is a flexible framework, calling on agencies to tailor and prioritize Lab-to-Market activities specific to their missions, capabilities, and authorities. Agencies are likely to have different levels of participation in the elements of this action plan, and may also identify other initiatives that are agency-specific.
- Implementation must be informed by engagement with relevant stakeholders, including small businesses, large companies, technology investors, state economic development organizations, universities, researchers, and federal laboratory contractors.

# Milestones met in Q4 of FY 2015

- The National Security Agency (NSA) reported that a spin-out software company founded by a NSA scientist in January 2015 was recently [acquired](#) by Hortonworks, who will use the software innovation for business analytics.
- The National Aeronautics and Space Administration (NASA) launched [Startup NASA](#) to streamline license access to NASA-funded technologies for entrepreneurs.
- The National Science Foundation (NSF) signed a Memorandum of Understanding with The Bill and Melinda Gates Foundation to include participation by the Foundation's non-profit grantees in the NSF I-Corps program.
- The National Oceanic and Atmospheric Administration (NOAA) completed their first employee detail under a Cooperative Research and Development Agreement (CRADA) partnership with Google for weather data projects.
- NOAA utilized a Rotational Assignment Program to increase commercialization activities by laboratory staff by helping them take a more active role in the discovery, evaluation and commercialization of technologies in their programs.
- The Small Business Administration (SBA) continued to build out the sbir.gov website and completed their 20-city road tour.
- The Department of Energy (DOE) finalized the curriculum for its Lab-Corps program and will begin training in Q1 of 2016.
- The DOE Small Business Voucher pilot, to increase access to DOE laboratory resources for clean energy projects, held its first competition in Q4. The DOE Technologist-In-Residence program, to build relationships between clean energy companies and DOE laboratories, announced seven technologists paired with industry organizations.
- DOE held a National Lab Hill Day on July 8<sup>th</sup> to highlight the National Lab's scientific contributions, and held a Make Energy Kick-off Meeting at the New York World Maker Faire on September 27<sup>th</sup>.
- User facility data in FLCBusiness was converted to a machine-readable format and uploaded to data.gov, in furtherance of the open data goal for all agencies' user facilities.

# Goal Team and Governance Plan



**Governance** – Oversight provided by the White House Office of Science and Technology Policy (OSTP) and the Office of Management and Budget (OMB). Working groups have been established in key areas that will meet monthly to report progress on actions until program is well underway, thereafter meeting quarterly. The workgroups will report to the Goal Leads who will coordinate with the R&D Deputies Committee. Area working groups will leverage existing government cross-agency bodies to coordinate and implement plans including the Interagency Workgroup for Technology Transfer (IAWGTT), the Federal Laboratory Consortium for Technology Transfer (FLC), and the Small Business Innovation Research (SBIR) Program Managers Workgroup (SBIR PM WG).

# Action Plan Summary

Sub-goal	Major Actions to Achieve Impact	Key Indicators
(1) Developing Human Capital	<ul style="list-style-type: none"> <li>Expand the number of individuals with private-sector experience serving in limited-term <b>technology transfer fellowships</b> within research agencies</li> <li>Establish clear ethical and policy guidelines that enable and encourage federal researchers to work outside government for limited periods on <b>industrial/entrepreneurial detail</b>, as appropriate</li> <li>Provide widespread opportunities for <b>experiential entrepreneurship education</b> among both students and investigators who work on federally funded R&amp;D projects</li> </ul>	<ul style="list-style-type: none"> <li>Number of researcher teams successfully completing a rigorous entrepreneurship education curriculum (e.g. NSF I-Corps)</li> </ul>
(2) Empowering Effective Collaborations	<ul style="list-style-type: none"> <li>Increase the <b>priority level of R&amp;D commercialization</b> activities and outcomes at federal laboratories, consistent with agency mission and commercialization strategy</li> <li>Optimize <b>technology transfer authorities</b> and best practices across federal laboratories to remove barriers to collaboration with external entities, as appropriate</li> <li>Fully utilize existing authority for research agencies to <b>co-fund projects</b> between agencies and leverage charitable gifts to advance R&amp;D commercialization.</li> </ul>	<ul style="list-style-type: none"> <li>Publication of Tech Transfer Playbook in Q3 of FY 2015</li> </ul>
(3) Opening R&D Assets	<ul style="list-style-type: none"> <li>Make all <b>relevant data</b> about both (a) federally funded intellectual property (IP) and (b) federal R&amp;D facilities open and machine-readable</li> <li>Reduce the time, cost, and complexity of <b>executing IP licenses</b></li> <li>Increase the <b>utilization of core facilities</b>, user facilities, and excess/surplus R&amp;D equipment by external innovators and entrepreneurs, where appropriate and consistent with agency mission</li> </ul>	<ul style="list-style-type: none"> <li>Number of comprehensive IP and R&amp;D facility data sets available in open and machine-readable format on Data.gov</li> </ul>
(4) Fueling Small Business Innovation	<ul style="list-style-type: none"> <li>Make data on all open SBIR/STTR <b>solicitations</b> available to third parties in real time</li> <li>Streamline the SBIR/STTR <b>application process</b></li> <li>Reduce <b>undue burdens</b> on small businesses during the award performance period, wherever appropriate</li> <li>Publish and share <b>best practices for Phase III commercialization</b> from all agencies on a regular basis</li> <li>Align SBIR/STTR solicitation topics with <b>multi-agency science and technology priorities</b></li> </ul>	<ul style="list-style-type: none"> <li>Launch of at least one unified and comprehensive federal search tool across all open solicitations</li> </ul>
(5) Evaluating Impact	<ul style="list-style-type: none"> <li>Report on metrics that capture R&amp;D commercialization inputs and outputs</li> <li>Develop outcome metrics that capture longer-term economic impact, in collaboration with the research community</li> </ul>	<ul style="list-style-type: none"> <li>Publication of additional new metrics in Q4 of FY 2015</li> </ul>

# Work plan

2014-2015 Milestone Summary			
Key Milestones	Milestone Due Date	Milestone status	Owner
<i>Developing human capital.</i> Collect best practices on entrepreneurial exchange, detail, and training programs; identify relevant new programs to pilot or adopt at member Agencies.	Q4 of FY 2014	Completed	Human Capital Team
<i>Empowering effective collaborations.</i> Collect best practices on partnership models in tech transfer; identify relevant new programs to pilot or adopt at member Agencies.	Q4 of FY 2014	Completed	Collaborations Team
<i>Opening R&amp;D assets.</i> Each agency will make comprehensive IP and R&D user facility data sets available in open and machine-readable format on data.gov.	Q4 of FY 2015	Missed (IP)* Completed (Facilities)	Assets Team
<i>Opening R&amp;D assets.</i> Collect best practices on IP licensing programs and R&D facility and equipment use policies; each agency will identify relevant new programs to pilot or adopt.	Q4 of FY 2014	Completed	Assets Team
<i>Fueling small business innovation.</i> Launch one or more unified and comprehensive federal search tools across all open SBIR/STTR solicitations.	Q4 of FY 2015	Completed	SBIR Program Managers
<i>Fueling small business innovation.</i> Determine status quo of time and process from application to award, including accounting and reporting requirements.	Q4 of FY 2015	Completed	SBIR Program Managers
<i>Evaluating impact.</i> Begin reporting with metrics developed in Q4 of FY 2012.	Q3 of FY 2014	Completed	IAWGTT
<i>Evaluating impact.</i> Develop framework for economic impact analysis in collaboration with the research community.	Q2 of FY 2015	Completed	IAWGTT

\*User facility data was uploaded directly from the FLCBusiness database in Q4 of 2015. A similar tool for IP data will not be ready until FY16. Agencies are currently still responsible for their individual IP data uploads and a number have not uploaded datasets at this time.

# Key indicators

## Key Implementation Data

Indicator	Source	Baseline	Target	Frequency	Latest data	Trend
<i>Human Capital:</i> Number of researcher teams successfully completing a rigorous entrepreneurship education curriculum (e.g. NSF I-Corps)	NSF and other agencies	594 teams to date	TBD	Quarterly	Teams are continuing to form at other agencies and will be tracked in future reports	↗
<i>Opening R&amp;D Assets:</i> Number of comprehensive IP and R&D facility data sets available in open and machine-readable format on Data.gov	Agencies	11	28+	Rolling	Facilities data was provided to data.gov for all agencies. <b>See full status tables on next two slides.</b>	↗
<i>Small Business:</i> Launch of at least one unified and comprehensive Federal search tool across all open solicitations	SBIR PM workgroup	0	1 or more	Annual	SBA launched online tool in June 2015 that is currently in use.	n/a

## FY16 Milestones under development – to be finalized in Q1 FY16

*(additional details will be provided in the next quarterly report)*

Further expansion of I-Corps training program for entrepreneurial scientist teams.

Regulatory clarity and increased adoption of tech transfer personnel exchanges among government, industry, and academia.

Increased R&D collaborations between small businesses and Federal laboratories.



# Data.gov Status – Available Intellectual Property

Agency	Any machine-readable data	Baseline IP data	Technology summary data	Agency plan for regular updates	Dynamic data updates
	RSS, csv, json, or other format	Technology name and POC	Lay-person description	Plan for manual or automatic updates	Data is always current
DHS					
<a href="#">DOC (NIST)</a>	★	★	★		
<a href="#">DOC (NOAA)</a>	★	★	★		
DOD					
<a href="#">DOE</a>	★	★			
DOI					
DOJ					
<a href="#">DOT</a>	★	★			
EPA					
<a href="#">HHS (NIH)</a>	★	★	★	★	★
<a href="#">NASA</a>	★	★			
NSF					
<a href="#">USDA</a>	★	★			
VA					

Stars indicate agency progress on uploading IP data to Data.gov and show completion of a particular activity in each column. Links to agency data sets are provided in the first column, when available.

# Data.gov Status – Available User Facilities

Agency	Any machine-readable data	Baseline Facilities data	Technology summary data	Agency plan for regular updates	Dynamic data updates
	RSS, csv, json, or other format	Name, POC, location, description, use policy	Equipment name and model	Plan for manual or automatic updates	Data is always current
DHS	★	★		★	
<a href="#">DOC (NIST)</a>	★	★	★	★	
DOC (NOAA)	N/A	N/A	N/A	N/A	N/A
DOD	★	★		★	
<a href="#">DOE</a>	★	★	★	★	
DOI	★	★		★	
DOJ	N/A	N/A	N/A	N/A	N/A
<a href="#">DOT</a>	★	★		★	
EPA	★	★		★	
<a href="#">HHS (NIH)</a>	★	★		★	
<a href="#">NASA</a>	★	★	★	★	
NSF	★	★		★	
USDA	★	★		★	
VA	★	★		★	

Stars indicate agency progress on uploading User Facilities data to Data.gov and show completion of a particular activity in each column. Links to individual agency data sets are provided in the first column, when available. The compiled agency facility data set extracted from FLCBusiness is available [here](#). N/A indicates that an agency does not have user facilities.

# Contributing Programs

## **Agencies supporting this effort include:**

- Department of Homeland Security
- Department of Commerce (National Institute of Standards and Technology, National Oceanic and Atmospheric Administration, US Patent and Trademark Office)
- Department of Defense
- Department of Energy
- Department of Interior
- Department of Justice (Federal Bureau of Investigation)
- Department of Transportation
- Environmental Protection Agency
- Department of Health and Human Services (National Institutes of Health, Centers for Disease Control)
- National Aeronautics and Space Administration
- National Science Foundation
- Department of Agriculture
- Department of Veterans Affairs

## **Regulations impacting this effort include:**

- 37 CFR 401: Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts, and Cooperative Agreements
- 37 CFR 404: Licensing of Government-Owned Inventions
- Regulations under 15 USC 3712 for personnel exchanges

## **Other partners and agency programs include:**

- Agency-specific university partners, NASA Agency Technology and Innovation Program, NSF I-Corps Program, DOE LabCorp Program, agency SBIR Programs.

# Acronyms

- API: Application Programming Interface
- CAP: Cross Agency Priority
- CDC: Centers for Disease Control and Prevention
- CFR: Code of Federal Regulations
- CRADA: Cooperative Research and Development Agreement
- DHS: Department of Homeland Security
- DOC: Department of Commerce
- DOD: Department of Defense
- DOE: Department of Energy
- DOI: Department of the Interior
- DOJ: Department of Justice
- DOT: Department of Transportation
- EPA: Environmental Protection Agency
- FLC: Federal Laboratory Consortium
- FY: Fiscal Year
- GSA: General Services Administration
- HHS: Health and Human Services
- IAWGTT: Interagency Working Group for Tech Transfer
- IP: Intellectual Property
- NASA: National Aeronautics and Space Administration
- NCATS: National Center for Advancing Translational Sciences
- NIH: National Institutes of Health
- NIST: National Institute of Standards and Technology
- NOAA: National Oceanic and Atmospheric Administration
- NSA: National Security Agency
- NSF: National Science Foundation
- OMB: Office of Management and Budget
- OSTP: Office of Science and Technology Policy
- R&D: Research and Development
- RFI: Request for Information
- SBA: Small Business Administration
- SBIR: Small Business Innovation Research
- SBIR PM WG: Small Business Innovation Research Program Managers Working Group
- STTR: Small Business Tech Transfer Research
- USC: United States Code
- USDA: United States Department of Agriculture
- USPTO: United States Patent and Trademark Office
- VA: Veterans Affairs