Cross Agency Priority Goal
Quarterly Progress Update

Lab to Market

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FY2015 Quarter 3

Overview

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 Q3 of FY 2015

- The National Security Agency (NSA) and the National Center for Advancing Translational Sciences (NCATS) have both established I-Corps@ extensions at their agencies. NSA is the first Department of Defense (DOD) agency to adopt the National Science Foundation (NSF) program, and plans to extend it to other members of the intelligence community.
- NSA created an open-source site on GitHub for cybersecurity software, making it easier to find and access.
- The National Oceanic and Atmospheric Administration (NOAA) extended a Cooperative Research and Development Agreement (CRADA) partnership with Google to allow NOAA employees to be detailed to Google to work on weather data projects.
- The National Institutes of Health (NIH) CRADA Builder tool has been launched and will be demoed to the federal tech transfer community in Q4. The Federal Laboratory Consortium will evaluate an expansion of the tool to all agencies.
- The Tech Transfer Playbook highlighting agency best practices is available online at http://playbook.federallabs.org.
- The Small Business Administration (SBA) launched new sbir.gov website and back-end data platform.
- The National Institute of Standards and Technology's (NIST) Technology Partnerships Office released a Federal Register Notice seeking information about online platforms to publicize federal user facilities.
- The Department of Energy's (DOE) Office of Technology Transitions released a Request for Information (RFI) seeking feedback from public and private sector stakeholders on how to better develop DOE's patent portfolio.
- DOE is progressing on two pilot programs: the Small Business Voucher pilot to increase access to DOE laboratory resources for clean energy projects, and the Technologist-In-Residence program to build relationships between clean energy companies and DOE laboratories. Both programs have been launched; performance metrics have been identified for the Small Business Voucher pilot and are being developed for the Technologist-In-Residence pilot.
- DOE announced at the White House Clean Energy Investment Summit that the Office of Technology Transitions will create a Clean Energy Investment Center to provide technical assistance and information on early-stage projects and companies. The center will create a single point-of-access platform which will allow the public and investors to make more informed decisions based on research and analysis produced by DOE and the National Labs.
- User facility data in FLCBusiness has been confirmed against the General Services Administration (GSA) property database and will be uploaded to data.gov in Q4 of FY 2015 to fulfil goal of having agency facility data available to the public in an open, machine-readable format.

Goal Team and Governance Plan

Oversight and Project Management
OSTP, OMB, R&D Deputies Committee, IAWGTT, FLC, SBIR PM WG

Human Capital

Team Leads:
- *Tech transfer fellowships*
- *Industrial detail programs*
- *Entrepreneurship education*

Collaborations

Team Leads:
- *Contractor-Operated lab priorities*
- *Government-Operated lab priorities*
- *Optimizing authorities*
- *Co-funding partnerships*

R&D Assets

Team Leads:
- *Intellectual Property data*
- *Facilities and equipment data*

Small Business Innovation

Team Lead:
- *SBIR Programs*

Evaluating Impact

Team Lead:
- *Metrics Development*

Agency participants:
US Departments of Agriculture (USDA), Department of Commerce NIST, NOAA, and Patent and Trademark Office (PTO), DOD, DOE, Department of Health and Human Services NIH and the Centers for Disease Control and Prevention (CDC), Department of Homeland Security (DHS), Department of Justice (DOJ), Department of the Interior (DOI), Department of Transportation (DOT); Environmental Protection Agency (EPA), GSA, National Aeronautics and Space Administration (NASA), NSF, SBA, Department of Veterans Affairs (VA)

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	• Expand the number of individuals with private-sector experience serving in limited-term **technology transfer fellowships** within research agencies • Establish clear ethical and policy guidelines that enable and encourage federal researchers to work outside government for limited periods on **industrial/entrepreneurial detail**, as appropriate • Provide widespread opportunities for **experiential entrepreneurship education** among both students and investigators who work on federally funded R&D projects	• Number of researcher teams successfully completing a rigorous entrepreneurship education curriculum (e.g. NSF I-Corp™)
(2) Empowering Effective Collaborations	• Increase the **priority level of R&D commercialization** activities and outcomes at federal laboratories, consistent with agency mission and commercialization strategy • Optimize **technology transfer authorities** and best practices across federal laboratories to remove barriers to collaboration with external entities, as appropriate • Fully utilize existing authority for research agencies to **co-fund projects** between agencies and leverage charitable gifts to advance R&D commercialization.	• Publication of Tech Transfer Playbook in Q3 of FY 2015
(3) Opening R&D Assets	• Make all **relevant data** about both (a) federally funded intellectual property (IP) and (b) federal R&D facilities open and machine-readable • Reduce the time, cost, and complexity of **executing IP licenses** • Increase the **utilization of core facilities**, user facilities, and excess/surplus R&D equipment by external innovators and entrepreneurs, where appropriate and consistent with agency mission	• Number of comprehensive IP and R&D facility data sets available in open and machine-readable format on Data.gov
(4) Fueling Small Business Innovation	• Make data on all open SBIR/STTR **solicitations** available to third parties in real time • Streamline the SBIR/STTR **application process** • Reduce **undue burdens** on small businesses during the award performance period, wherever appropriate • Publish and share **best practices for Phase III commercialization** from all agencies on a regular basis • Align SBIR/STTR solicitation topics with **multi-agency science and technology priorities**	• Launch of at least one unified and comprehensive federal search tool across all open solicitations
(5) Evaluating Impact	• Report on metrics that capture R&D commercialization inputs and outputs • Develop outcome metrics that capture longer-term economic impact , in collaboration with the research community	• Publication of additional new metrics in Q4 of FY 2015

Work plan

Milestone Summary			
Key Milestones	**Milestone Due Date**	**Milestone status**	**Owner**
Developing human capital. 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
Empowering effective collaborations. 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
Opening R&D assets. 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	At Risk (IP)* On Track (Facilities)	Assets Team
Opening R&D assets. 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
Fueling small business innovation. Launch one or more unified and comprehensive federal search tools across all open SBIR/STTR solicitations.	Q4 of FY 2015	Completed	SBIR Program Managers
Fueling small business innovation. Determine status quo of time and process from application to award, including accounting and reporting requirements.	Q4 of FY 2015	Completed	SBIR Program Managers
Evaluating impact. Begin reporting with metrics developed in Q4 of FY 2012.	Q3 of FY 2014	Completed	IAWGTT
Evaluating impact. Develop framework for economic impact analysis in collaboration with the research community.	Q2 of FY 2015	Completed	IAWGTT

*While user facility data will be uploaded directly from the FLCBusiness database in Q4 of 2015, a similar tool for IP data will not be ready until Q4 of FY16. Agencies are 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**
Human Capital: Number of researcher teams successfully completing a rigorous entrepreneurship education curriculum (e.g. NSF I-Corp™)	NSF and other agencies	TBD	TBD	Quarterly	534 teams completed immersion course to date. Teams are continuing to form at other agencies and will be tracked in future reports	↗
Opening R&D Assets: Number of comprehensive IP and R&D facility data sets available in open and machine-readable format on Data.gov	Agencies	11	28+	Rolling	A total of seven agencies have made progress on opening IP data, and five have made progress on opening R&D facility data. **See full status tables on next two slides.**	→
Small Business: 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

Indicators in development: Economic Impact	
High Level Indicator	**Potential Target Areas**
Measures of economic impact	• Published literature on technology transfer economics • Comparisons with university efforts • Cross collaboration with other goal efforts • White paper challenge competition

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					
DOC (NIST)	★	★	★		
DOC (NOAA)	★	★	★		
DOD					
DOE	★	★			
DOI					
DOJ					
DOT	★	★			
EPA					
HHS (NIH)	★	★	★	★	★
NASA	★	★			
NSF					
USDA	★	★			
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 IP 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					
DOC (NIST)	★	★	★		
DOC (NOAA)	N/A	N/A	N/A	N/A	N/A
DOD					
DOE	★	★	★		
DOI					
DOJ					
DOT	★	★			
EPA					
HHS (NIH)	★	★			
NASA	★	★	★		
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 agency data sets are provided in the first column, when available. 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-Corp 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