

Cross Agency Priority Goal

Quarterly Progress Update

Lab to Market

Goal leaders:

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Energy



Fiscal Year 2015 Quarter 1

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.

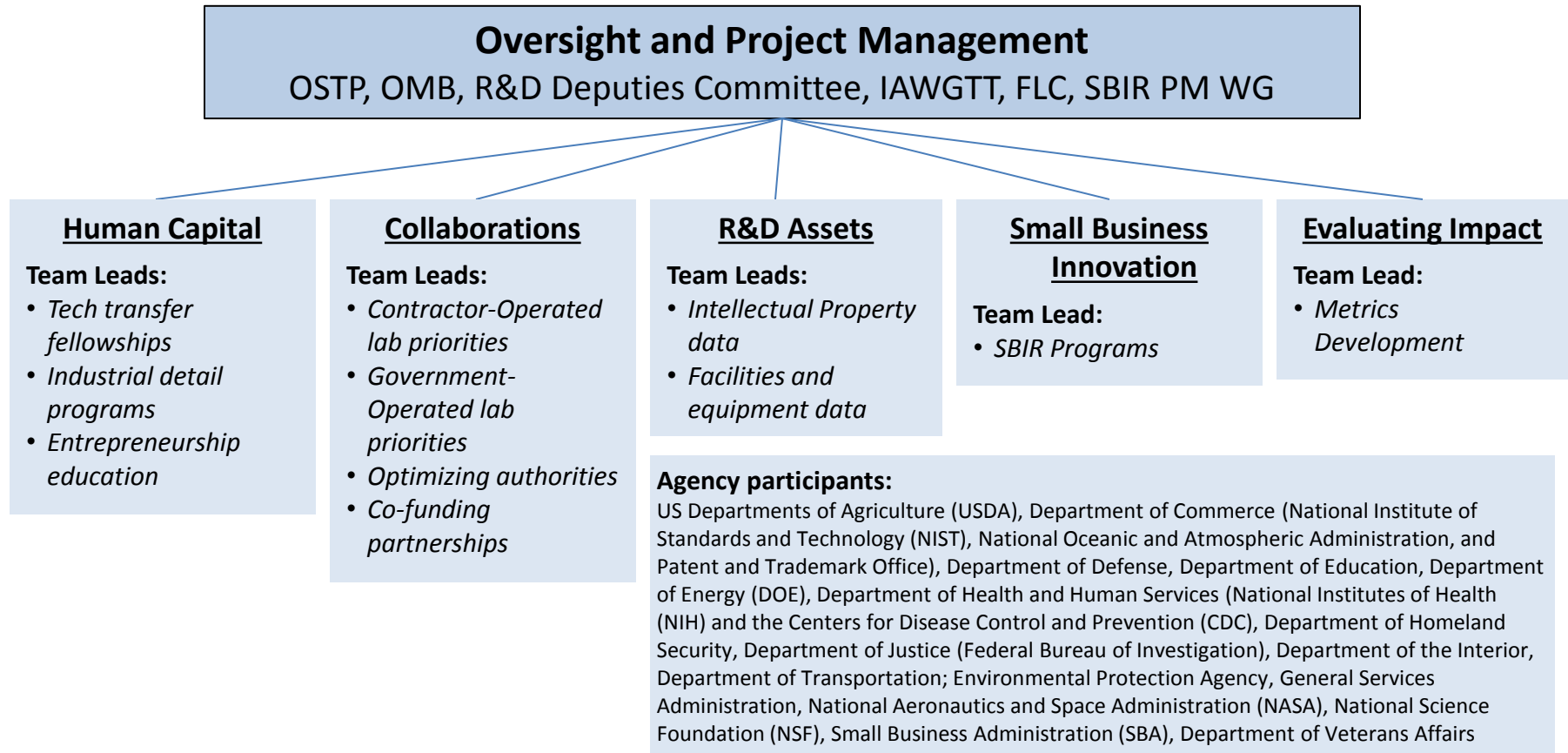
Urgency

- 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

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 (IAWTT), the Federal Laboratory Consortium for Technology Transfer (FLC), and the Small Business Innovation Research (SBIR) Program Managers Workgroup (SBIR PM WG).

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 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 Q1 of FY 2015

I-Corps™

- A total of 421 teams completed the NSF Innovation Corps (I-Corps™) immersion course through Q1 of FY 2015, with participation by 7 university “Nodes.”
- The CDC is participating in the Atlanta Science Festival to offer science, technology, engineering and math education and entrepreneurship training to K-12 students, and CDC is working to expand a strategic partnership with the VentureLab at Georgia Tech to host I-Corps™ training for SBIR grantees and CDC I-Fund awardees.
- The DOE national laboratories participating in the Lab-Corps Pilot completed their observation of the I-Corps™ winter cohorts this month, in order to gain exposure to the existing I-Corps™ model. Lab-Corps team recruitment is ongoing, with the first teams to be selected by April 30, 2015. Three Lab-Corps teams will participate in the existing I-Corps™ Energy and Transportation Regional Program at the University of Michigan in May-June, in order to gain additional insight into necessary modifications for the Lab-Corps curriculum and to train Lab-Corps instructors. The full, customized Lab-Corps training will begin in October 2015, including at least seven teams. Additional teams may also participate, supported by the Office of Energy Efficiency and Renewable Energy (EERE) Technology Offices and/or independent national lab funding.
- USDA is working with I-Corps™ to develop a new approach using a team composed of a USDA scientist, a post doc and a tech transfer professional to look at finding either a research partner or a licensee to a USDA technology, and expanding the Agricultural Research Partnerships network of networks to include more than 30 players in the innovation ecosystem, include venture capital firms, economic entities and manufacturing and extension programs to extend the reach of USDA tech transfer efforts.
- Two USDA institutes, the National Institute of Food and Agriculture and the Agriculture Research Service, are exploring I-Corps™ expansions within their offices.

Start-Ups & Challenges:

- USDA is working on developing an agricultural commercialization and entrepreneurship challenge for middle and high school students and continues to work with the Agricultural Technologies Innovation Partners Foundation on two long term projects with industry partners along.
- 11 startups were created in the NIH Breast Cancer Startup Challenge, and NIH launched its second challenge, the Neuro Startup Challenge.

Milestones met in Q1 of FY 2015

Data Calls:

- User Facility Data-Call - In late 2014 the Office of Science announced its intention to create an annual collection of user facility users/projects information, with a subset of that information being posted on the Office of Science website, starting with FY 2015 projects. In addition the Office of Science solicited summary information regarding the number of users per institution for FY 2013 and FY 2014. The Office of Science received that information in mid-January and is working to analyze it with a goal of posting information on its website in 2Q of FY 2015.
- Technology Transfer Working Group (TTWG) Data Call - DOE launched their annual laboratory data call on October 20, 2014. Data collection is 90% completed. Laboratory data and success stories will be submitted to NIST, Technology Partnership Office and published in the annual Federal Laboratory Technology Transfer (TT) Report to the President and Congress. This report fulfills the requirement of Title 15 of the United States Code, Section 3710(g)(2), for an annual report summarizing the use of technology transfer authorities by federal agencies.
- Contracts Data Call - DOE launched a data call on December 1, 2014 to collect data related to Cooperative Research and Development Agreements, Work for Other (WFO), and Agreement for Commercializing Technology (ACT) contracts from national laboratories. Data has been received from all laboratories and is currently being reviewed. There were two requests combined in this data call. The purpose of one request is to address DOE's Energy Policy Act 2005 reporting requirements for 2013 and 2014, and to support EERE and DOE headquarters planning. The purpose of the other request is to pilot a new set of metrics regarding contract work, specifically addressing technology type and regional location (zip-code) for Cooperative Research and Development Agreements (CRADAs), non-federal WFOs and ACT contracts. The results will be used as input to the TTWG metrics team in developing the 2015 data call, and may also be included in the 2014 TT report to Congress.
- In June 2014, the I-Corps at NIH funding opportunity announcement was released. After a competitive internal review, \$25,000 was awarded to each of 19 SBIR/STTR Phase I grantees (via the Administrative Supplement funding mechanism) from the following four NIH Institutes: the National Cancer Institute; the National Heart, Lung, and Blood Institute; the National Institute of Neurological Disorders and Stroke; and, the National Center for Advancing Translational Sciences.

Milestones met in Q1 of FY 2015

Reports:

- Technology Transitions in Quadrennial Technology Review (QTR) – DOE is preparing its second QTR and its first Science and Energy Plan (SEP). Ellen Williams, Advanced Research Projects Agency-Energy Director and Senior Advisor to the Office of the Secretary of Energy, commissioned the TTWG Subcommittee on Essential Practices in Managing Laboratory Technology Transfer Programs to provide input to the DOE's QTR Coordination Group for the 2015 QTR and to DOE's Science and Energy Plan (SEP) Coordination Group for consideration in its development of the 2015 SEP. The committee's goal is to provide actionable recommendations to the department, the Office of Technology Transitions (OTT), and the national laboratories that will result in increased impact from the nation's investment in national laboratory research and development.

Resources:

- The NIH CRADA Builder tool is in beta testing. This tool could simplify the process of building agreements between labs and entrepreneurs.
- A Tech Transfer Playbook highlighting successful ideas and actions of the federal tech transfer community was drafted and revised through various agency groups.
- Long Term project for the development of DOE Tech Transitions Website: goals are effective communication of DOE's activities, customer service, data and application sharing from Lab TT sites, represent wider strategic/regional economic activities of Labs and all of DOE's programs, and increase customer relationship management and reporting.
- The Office of the Under Secretary for Science and Energy has established the OTT, to provide the necessary central definition of vision, goals, and accountability management in technology transitions activities from across DOE. Office is due to launch in Q2 of FY 2015 in tandem with the launching of a new DOE Central TT website at Energy.gov.

Small Business Partnerships:

- Five Interagency Policy Committee Reports on the state of the SBIR program were completed and submitted to US Congress September/October 2014: <https://www.sbir.gov/about/about-sbir#ten>
- SBA jumpstarted discussions with the European Union Science and Technology Council on Cross-Collaborative Opportunities. Initial Symposium held at the Embassy of Italy in November 2014.
- The fall National SBIR/STTR (Small Business Technology Transfer) Conference convened with great success and interest in Austin-Texas resulting in greater awareness among thousands of innovators in the greater Austin region.
- The SBIR.gov website refresh is in beta-testing phase and due for a spring release, and the SBIR Road Tour will kickoff on March 24th with a series of outreach efforts to underrepresented communities (www.sbirroadtour.com)

Action Plan Summary

Sub-goal	Major Actions to Achieve Impact	Key Indicators
(1) Developing Human Capital	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Number of researcher teams successfully completing a rigorous entrepreneurship education curriculum (e.g. NSF I-Corp™)
(2) Empowering Effective Collaborations	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Publication of Tech Transfer Playbook in Q2 of FY 2015
(3) Opening R&D Assets	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Launch of at least one unified and comprehensive federal search tool across all open solicitations
(5) Evaluating Impact	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Publication of additional new metrics in Q4 of FY 2015

Work plan

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&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	On track	Assets Team
<i>Opening R&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	On track	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	On track	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	On track	IAWGTT

Note: No milestone due dates were revised in Q1 of FY 2015.

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-Corp™)	NSF and other agencies	TBD	TBD	Rolling	Teams are beginning to form at other agencies and will be tracked in future reports	TBD
<i>Opening R&D Assets:</i> Number of comprehensive IP and R&D facility data sets available in open and machine-readable format on Data.gov	Agencies	TBD	TBD	Rolling	Six agencies have made significant progress on opening IP data, and four have made significant progress on opening R&D facility data	TBD
<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	Rolling	SBA to beta test online tool in early Q3 of FY 2015 and release by end of Q3 of FY 2015	TBD

Indicators in development: Economic Impact	
High Level Indicator	Potential Target Areas
Measures of economic impact	<ul style="list-style-type: none">• Published literature on technology transfer economics• Comparisons with university efforts• Cross collaboration with other goal efforts

Contributing Programs

Agencies supporting this effort include:

- Department of Homeland Security
- Department of Commerce (National Institute of Standards and Technology and National Oceanic and Atmospheric Administration)
- Department of Defense
- Department of Energy
- Department of Interior
- Department of Justice
- Department of Transportation
- Environmental Protection Agency
- Department of Health and Human Services (National Institutes of Health)
- 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.