Lab to Market

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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 R&D assets as a platform for innovation and economic growth

Progress Update

Context

- The Federal Government spends more than $130 billion on research and development (R&D) each year, 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 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 FY2014:

- In collaboration with the NSF I-Corps program, the NIH National Cancer Institute (NCI), National Center for Advancing Translational Sciences (NCATS), and National Heart, Lung, and Blood Institute (NHLBI) awarded 21 grant supplement awards to academic researchers and entrepreneurs who received SBIR or STTR funding tailored for startup teams commercializing biomedical technologies.*
- A total of 375 teams completed the NSF I-Corps immersion course through Q4 FY14, with participation by 5 university "Nodes."
- USDA established an "SBIR-TT" program, allowing the entire portfolio of Agricultural Research Service (ARS) technologies to be an SBIR topic.

*Note: * http://www.whitehouse.gov/blog/2014/06/19/lab-bench-bedside-accelerating-commercialization-biomedical-innovations*

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-Corps)
(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.	• *Under development*
(3) Opening R&D Assets	• Make all **relevant data** about both (a) Federally funded 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	• *Under development*

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.	4 Qtr 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.	4 Qtr 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.	4 Qtr 2015	On track	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.	4 Qtr 2014	Completed	Assets Team
Fueling small business innovation. Launch one or more unified and comprehensive Federal search tools across all open SBIR/STTR solicitations.	4 Qtr 2015	On track	SBIR Program Managers
Fueling small business innovation. Determine status quo of time and process from application to award, including accounting and reporting requirements.	4 Qtr 2015	On track	SBIR Program Managers
Evaluating impact. Begin reporting with metrics developed in FY12Q4.	3 Qtr 2014	Completed	IAWGTT
Evaluating impact. Develop framework for economic impact analysis in collaboration with the research community.	2 Qtr 2015	On track	IAWGTT

Notes on milestone due date revisions:

- Opening R&D assets: Agencies require additional time to make all relevant data sets available.
- Fueling small business innovation: Agencies are building on recent improvements to SBIR.gov to fully enable search and tracking capabilities, but will require additional time to complete.
- Evaluating impact: Relevant metrics are being successfully collected in anticipation of public reporting.

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-Corps)	NSF and other agencies	TBD	TBD	Rolling	N/A	TBD
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	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
Small Business: Launch of at least one unified and comprehensive Federal search tool across all open solicitations	SBIR PM workgroup	0	1 or more	Rolling	N/A	TBD

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

Contributing Programs

Agencies supporting this effort include:

- Department of Homeland Security
- Department of Commerce (NIST and NOAA)
- 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 include:

- Several universities are partnering at the agency level