PRESIDENT'S MANAGEMENT AGENDA

Improve Transfer of Federally-Funded Technologies from Lab-to-Market

Goal Leaders

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⚠ The Challenge

- The Federal Government invests approximately $150 billion annually[1] in research and development (R&D) conducted at Federal laboratories, universities, and other research organizations.
- For America to maintain its position as the global leader in innovation, bringing products to market more quickly, growing the economy, and maintaining a strong national security innovation base, it is essential to optimize technology transfer and support programs to increase the return on investment (ROI) from federally funded R&D.

🎯 The Goal

- Improve the transition of federally funded innovations from the laboratory to the marketplace by reducing the administrative and regulatory burdens for technology transfer and increasing private sector investment in later-stage R&D;
- Develop and implement more effective partnering models and technology transfer mechanisms for Federal agencies; and
- Enhance the effectiveness of technology transfer by improving the methods for evaluating the ROI and economic and national security impacts of federally funded R&D, and using that information to focus efforts on approaches proven to work.

⚙ The Strategies

- ⇄ Identify regulatory impediments and administrative improvements in Federal technology transfer policies and practices.

- 📊 Increase engagement with private sector technology development experts and investors.

- 👥 Build a more entrepreneurial R&D workforce.

- ⚙ Support innovative tools and services for technology transfer.

- 🌐 Improve understanding of global science and technology trends and benchmarks.

✓ Discovery | ✓ Strategy Development | ✓ Options & Solutions | ✓ Develop Action Plan and Key Milestones | **ONGOING** Implement and Assess Progress

Walter Copan, Under Secretary of Commerce for Standards and Technology and Director, NIST

Michael Kratsios, Deputy Assistant to the President for Technology Policy, OSTP

Participating Agencies

Interagency Contributors[1]

National Science and Technology Council Lab-to-Market Subcommittee

Interagency Working Group for Technology Transfer

Interagency Working Group for Bayh-Dole[2]

Small Business Innovation Research (SBIR) Program Managers Working Group

Interagency I-Corps Community of Practice

Federal Laboratory Consortium for Technology Transfer

1: See https://www.nist.gov/tpo/lab-market for descriptions of participating working groups and strategy team focus areas
2: The Interagency Working Group for Bayh-Dole coordinates implementation of the Bayh-Dole Act; see 35 U.S.C. 200 and 37 C.F.R. 401 and 404.

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Return on Investment Green Paper published by NIST

Small Business funding application times reduced by NSF "Project Pitch"

Updated SBIR/STTR Policy Directive published

202 small businesses supported via DOE grants

179 connections attempted on Lab Partnering Service

Air Force awards $9M to 51 companies in minutes at inaugural Pitch Day

NASA launched Entrepreneurial Workforce Initiative

NASA sharing T2 management software with Air Force

VA technologies promoted through new partnership

Agricultural Research Service analyzed first round of Innovation Fund projects

Economic analysis of NCI SBIR shows $26.1B in economic output

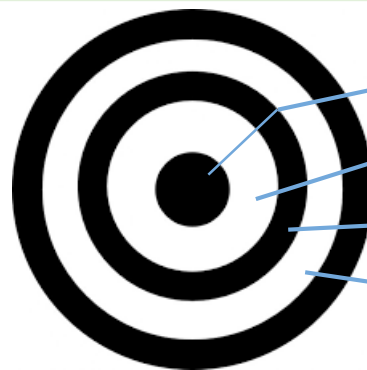NOAA completed economic impact study of T2 and SBIR

Study of university commercialization best practices released

Identify regulatory impediments and administrative improvements in Federal technology transfer policies and practices.

Problems Targeted
- Dated Legislation
- Inconsistent Interpretations
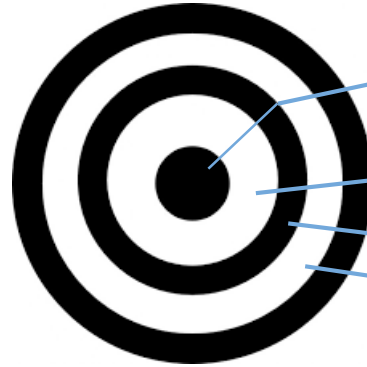- Cultural Impediments
- Lost Opportunities

Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Analyze input and recommend improved practices, policies, and regulatory actions based on input	~~Q1FY19~~ Q2FY19*	Complete	Subcommittee evaluated stakeholder input to make recommendations	L2M SC
Develop regulatory and/or legislative package timetables to carry out recommendations	~~Q1FY19~~ Q2FY19*	Complete	Timetables complete	NIST
Develop proposed updates to Bayh-Dole Act implementing regulations for cross-agency and public feedback processes.	Q4FY19	On Track	N/A	NIST, IAWGBD
Develop legislative proposal for revisions to Stevenson-Wydler Act	Q4FY19	On Track	Legislative proposal being drafted for review	NIST, IAWGTT
Reduce application and reporting administrative burden for SBIR/STTR programs	Q1FY20	On Track	NSF SBIR "Project Pitch" pilot effort initiated; Air Force SBIR contracting streamlined	SBA SBIR PM
Create sandboxes to foster innovation in regulated technology areas by creating frameworks including safe spaces to test solutions in controlled environments	Q4FY20	On Track	N/A	L2M SC

*Milestone delayed due to lapse in appropriations

Increase engagement with private sector technology development experts and investors.

Problems Targeted
Challenges working with Government
Lack of Interest in Federal Technologies
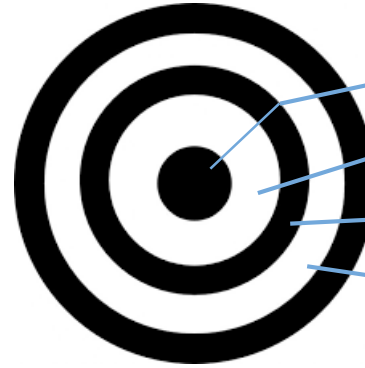Mismatch with Market Needs
Inability to Find Information

Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Analyze input and develop recommendations for additional milestones to increase private sector engagement	~~Q1FY19~~ Q2FY19*	Complete	Subcommittee evaluated stakeholder input to make recommendations	L2M SC
Develop recommendations for making federally funded technologies, knowledge, and capabilities more attractive for private investment through Presidential Innovation Fellow's assessments	Q4FY19	On track	Fellow on board	NIST, GSA
Examine existing authorities that foster and provide flexibility for R&D collaborations with the private sector.	Q1FY20	On Track	Paper drafted on common technology transfer and cost-share mechanisms	L2M SC
Enhance interagency collaboration to support the R&D innovation ecosystem, such as through consortia and regional innovation clusters, to engage the private sector and leverage non-federal resources	Q1FY20	On Track	N/A	L2M SC
Improve outreach activities from agencies to the private sector, such as demonstration and showcasing of federally-funded R&D	Q1FY20	On Track	N/A	L2M SC

*Milestone delayed due to lapse in appropriations

Build a more entrepreneurial R&D workforce. Support entrepreneurial education and training to develop the next generation of skilled innovators and entrepreneurs, and enable technology transfer and start-ups.

Problems Targeted

Lack of Knowledge

Lack of Incentives

Cultural Impediments

Policies that Discourage Entrepreneurship

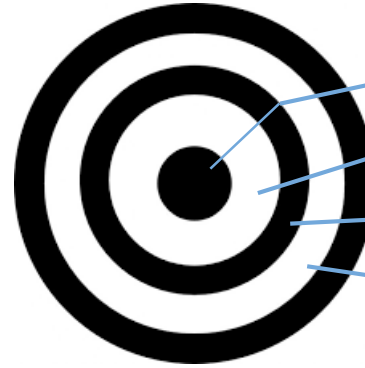| Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Analyze input and develop recommendations for additional milestones to increase entrepreneurship in the R&D workforce	~~Q1FY19~~ Q2FY19*	Complete	Subcommittee evaluated stakeholder input to make recommendations	L2M SC
Improve and expand agency participation in R&D entrepreneurial training programs, such as I-Corps, the Lab-Embedded Entrepreneurship Program, and internships	Ongoing	On track	Federal I-Corps Community of Practice transitioning leadership ; INTERN and SBIR/STTR post-doc programs successfully launched	L2M SC, NSF
Create an Interagency Working Group on entrepreneurial training to share practices and develop recommendations to improve federal entrepreneurial training programs**	Q3FY19	On Track	N/A	L2M SC, NSF
Develop and implement policies and best practices that encourage entrepreneurship and an entrepreneurial culture, including fostering public-private partnerships	Q4FY19	On Track	Survey has been completed and key findings identified.	L2M SC
Submit proposal to designate a job series for Federal technology transfer professionals	Q4FY20	On Track	N/A	IAWGTT, OPM
Increase the participation of underrepresented groups in entrepreneurship to ensure a diverse and inclusive innovation community	Q1FY20	On Track	N/A	L2M SC

*Milestone delayed due to lapse in appropriations
** Previous milestones for analyzing training programs and creating metrics will fall under new working group once established

Support innovative tools and services for technology transfer. Improve and develop tools to support the discovery and transfer of technologies.

Problems Targeted

Lack of Awareness

Complicated Bureaucracy

Inconsistent User Experiences

Duplicative Tools

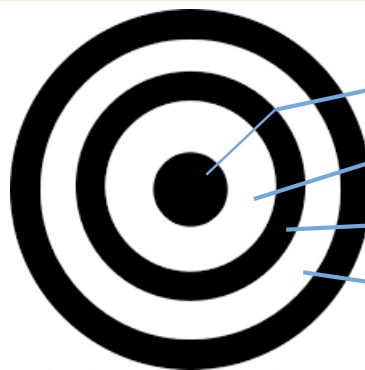| Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Analyze input and develop recommendations for additional milestones for new tools and services that will meet stakeholder needs	~~Q1FY19~~ Q2FY19*	Complete	Subcommittee evaluated stakeholder input to make recommendations	L2M SC
Survey agencies and customers to determine priority actions for FLCBusiness implementation	Q1FY19	Complete	FLCBusiness updated to version 3.0 per user and stakeholder input.	FLC
Enable interagency sharing and leveraging of resources and expertise related to implementing intramural and extramural reporting tools to enable adoption and adaptation for agency-specific missions and improve the user experience.**	Q1FY20	On Track	N/A	L2M SC
Improve outreach to extramural R&D performers (university technology transfer offices, SBIR/STTR awardees) to support effective reporting of federally-funded R&D outputs	Q1FY20	On Track	N/A	L2M SC
Develop enabling policies and guidance (Federal and agency-specific) to improve tools used for outreach and raising public awareness of federal R&D resources, including federally-funded R&D outputs	Q1FY20	On Track	N/A	L2M SC
Identify common measures and mechanisms to improve the effectiveness of technology transfer tools and services used for outreach and to raise public awareness of federally-funded R&D outputs	Q4FY20	On Track	N/A	L2M SC

*Milestone delayed due to lapse in appropriations
** Previous milestones that will fall under new milestone of interagency sharing: Develop an inventory of existing tools & services used across the agencies and labs; Identify tools & services best practices both within the Federal labs and externally; Identify and recruit individuals external to the Federal government to provide input and perspective as end customers of Federal tech transfer; Identify and recommend near-term pilots to improve tools and services; Develop and present a comprehensive plan with costs, schedule and milestones to improve and develop tools and services for improved T2.

Improve understanding of global science and technology trends and benchmarks to measure progress and achieve results.

Problems Targeted

- Demonstrating Value
- Varying Missions
- Activities vs Outcomes
- Reporting Burdens

Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Complete a quantitative and qualitative study of federal tech transfer across multiple agencies	~~Q4FY18~~ Q3FY19	Delayed	Milestone extended to allow for additional revisions to case studies	NIST
Analyze input and develop additional milestones for improved metrics and economic analysis	~~Q1FY19~~ Q2FY19*	Complete	Subcommittee evaluated stakeholder input to make recommendations	L2M SC
Identify administrative and business data sources to evaluate company-level economic impacts of SBIR/STTR in collaboration with Census and USPTO	Q1FY19	On Track	Pilot study with Census complete; USPTO study on track	SBA
Propose changes in federal-wide guidance by developing unified methodology for data collection/ sharing and clarify definitions/data collection processes	Q1FY20	On Track	N/A	IAWGTT
Enhance reporting guidance to add "a la carte" technology transfer metrics that agencies might include in their annual reporting	Q1FY20	On Track	N/A	L2M SC
Issue a prize competition to solicit proposals/ideas for increasing extramural reporting	Q1FY20	On Track	N/A	NIST
Compose a white paper on findings in TT and ROI literature and possible future studies	Q1FY20	On Track	N/A	L2M SC
Bundle publicly-available federal innovation data to support research in the field of science and innovation policy	Q1FY20	On Track	N/A	L2M SC
Make recommendations based on study of issues in reporting data, software and apps that may expand the definition of technology transfer.	Q4FY20	On track	Study Committee formed, http://sites.nationalacademies.org/PGA/step/PGA_191994	NIST

*Milestone delayed due to lapse in appropriations

Completed Milestone	Completion Date	Strategy	Final Status	Owner
Hold kick off event: "Unleashing American Innovation: Lab-to-Market" on April 19, 2018	Q3FY18	1	233 registered attendees	DOC, OSTP
Publish Request For Information (RFI) and hold public forums to gather input	Q4FY18	1	4 Public Forums with 341 registered participants; 104 RFI responses received	NIST
Examine existing models for private investment and growth, including agency foundation and investment mechanisms	Q4FY18	2	Interagency strategy team produced list of existing agency models and mechanisms	L2M SC
Identify existing entrepreneurial training programs and models for the R&D workforce	Q4FY18	3	Initial input gathered from agencies	L2M SC
Examine differences in conflict-of-interest policies and how they impact ability of personnel to engage in entrepreneurial activities.	Q4FY18	3	Interagency strategy team collected and evaluated COI policies and practices at agencies and universities	L2M SC
Execute and begin Joint Venture Partnership to engage the private sector to develop tools for efficient utilization of public and private data to enhance technology commercialization efforts	Q4FY18	4	Partnership executed and project underway	NIST
Complete a study of global practices in technology transfer and commercialization.	Q4FY18	5	Study complete	NIST
Complete a study of state programs in technology transfer and commercialization.	Q4FY18	5	Study complete	NIST