



## 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<sup>1</sup> 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.



1: Analytical Perspectives, Budget of the United States Government, Fiscal Year 2019, ch. 18. <https://www.gpo.gov/fdsys/pkg/BUDGET-2019-PER/pdf/BUDGET-2019-PER.pdf>



# Goal Leadership and Implementation



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## Participating Agencies



## Interagency Contributors<sup>1</sup>

- National Science and Technology Council Lab-to-Market Subcommittee
- Interagency Working Group for Technology Transfer
- Interagency Working Group for Bayh-Dole<sup>2</sup>
- 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.





## Agency Progress in the Last Quarter



Innovation Xlab Series  
launched



71 private sector partners  
supported



Four IDeA grants awarded



Energy I-Corps cohorts 7 and 8  
progressing



FLCBusiness 3.0 launched

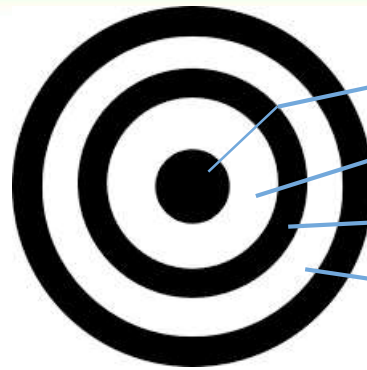


\$250B economic impact from  
encryption standard





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



Problems Targeted

Dated Legislation

Inconsistent Interpretations

Cultural Impediments

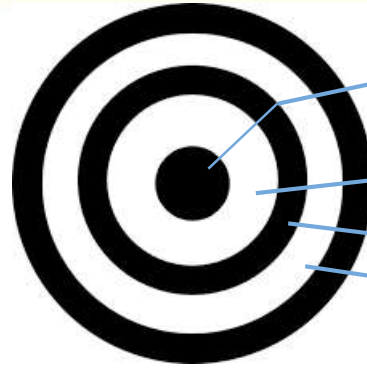
Lost Opportunities

Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Hold kick off event: "Unleashing American Innovation: Lab-to-Market" on April 19, 2018	Q3FY18	Complete	233 registered attendees	DOC, OSTP
Publish Request For Information (RFI) and hold public forums to gather input	Q4FY18	Complete	4 Public Forums with 341 registered participants; 104 RFI responses received	NIST
Analyze input and recommend improved practices, policies, and regulatory actions based on input	Q1FY19	On track	Interagency strategy team established to gather and evaluate stakeholder input, and develop recommendations	L2M SC
Develop regulatory and/or legislative package timetables to carry out recommendations	Q1FY19	On track	N/A	NIST





Increase engagement with private sector technology development experts and investors.



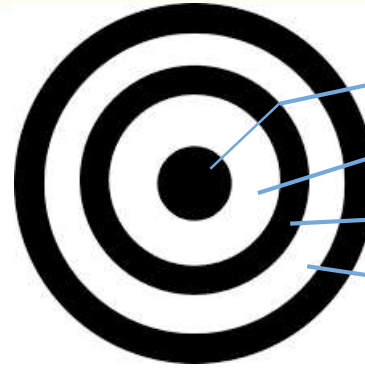
- Problems Targeted
- Challenges working with Government
  - Lack of Interest in Federal Technologies
  - Mismatch with Market Needs
  - Inability to Find Information

Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Examine existing models for private investment and growth, including agency foundation and investment mechanisms	Q4FY18	Complete	Interagency strategy team produced list of existing agency models and mechanisms	L2M SC
Analyze input and develop recommendations for additional milestones to increase private sector engagement	Q1FY19	On track	Interagency strategy team established to gather and evaluate stakeholder input, and develop 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	Completing onboarding paperwork for fellow	NIST, GSA





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

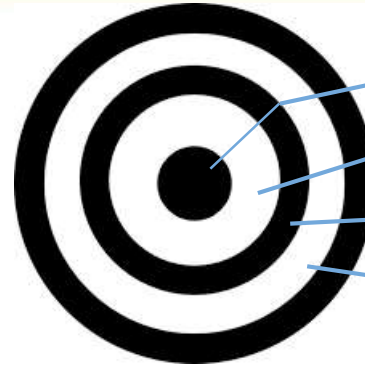
Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Identify existing entrepreneurial training programs and models for the R&D workforce	Q4FY18	Complete	Initial input gathered from agencies	L2M SC
Analyze Federal entrepreneurial training programs using the developed analysis framework.	Q2FY19	On track	N/A	L2M SC
Create metrics to assess the effectiveness of Federal entrepreneurial training programs.	Q2FY19	On track	N/A	L2M SC
Examine differences in conflict-of-interest policies and how they impact ability of personnel to engage in entrepreneurial activities.	Q4FY18	Complete	Interagency strategy team collecting and evaluating COI policies and practices at agencies and universities	L2M SC
Analyze input and develop recommendations for additional milestones to increase entrepreneurship in the R&D workforce	Q1FY19	On track	Interagency strategy team established to gather and evaluate stakeholder input, and develop recommendations	L2M SC
Expand agency participation in R&D entrepreneurial training programs, such as I-Corps and Cyclotron Road	Ongoing	On track	Federal I-Corps Community of Practice transitioning leadership	L2M SC
Develop and expand graduate student internships and post-doctoral training programs focused on entrepreneurial training	Q4FY19	On Track	INTERN and SBIR/STTR post-doc programs successfully launched	L2M SC
Develop and implement policies and best practices that encourage entrepreneurship, including public-private partnerships.	Q4FY19	On Track	Survey has been completed and key findings identified.	L2M SC







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

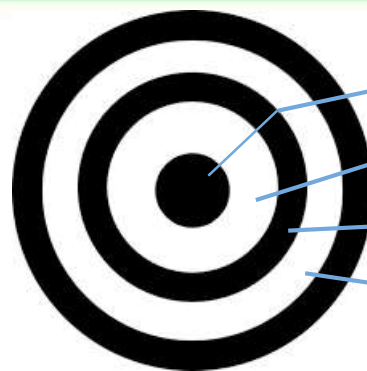
Key Milestones	Milestone Due Date	Milestone Status	Change from last quarter	Owner
Analyze input and develop recommendations for additional milestones for new tools and services that will meet stakeholder needs	Q1FY19	On track	Interagency strategy team established to gather and evaluate stakeholder input, and develop recommendations	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	Complete	Partnership executed and project underway	NIST
Survey agencies and customers to determine priority actions for FLCBusiness implementation	Q1FY19	On track	FLCBusiness updated to version 3.0 per user and stakeholder input.	FLC
Develop an inventory of existing tools & services used across the agencies and labs	Q3FY19	On track	N/A	L2M SC
Identify tools & services best practices both within the Federal labs and externally.	Q4FY19	On track	N/A	L2M SC
Identify and recruit individuals external to the Federal government to provide input and perspective as end customers of Federal tech transfer	Q3FY19	On track	N/A	L2M SC
Identify and recommend near-term pilots to improve tools and services	Q4FY19	On track	N/A	L2M SC
Develop and present a comprehensive plan with costs, schedule and milestones to improve and develop tools and services for improved T2	Q1FY20	On track	N/A	L2M SC







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 study of global practices in technology transfer and commercialization.	Q4FY18	Complete	Study complete, publication pending	NIST
Complete a study of state programs in technology transfer and commercialization.	Q4FY18	Complete	Study complete, publication pending	NIST
Complete a quantitative and qualitative study of federal tech transfer across multiple agencies	Q4FY18 Q2FY19	Delayed	Milestone extended to allow for additional revisions to study report and case studies	NIST
Analyze input and develop additional milestones for improved metrics and economic analysis	Q1FY19	On track	Interagency strategy team established to gather and evaluate stakeholder input, and develop 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	Interagency agreement established. Dataset matching completed.	SBA
Make recommendations based on study of issues in reporting data, software and apps that may expand the definition of technology transfer.	Q4FY20	On track	Contract initiated with National Academy of Sciences	NIST

