

DAY **ONE** **PROJECT**

**The “FASTER” Act for the Federal
Laboratory System: Improving National
Competitiveness by Leveraging Federal
Laboratory Talent, Innovation, and
Place**

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Summary

The federal lab system is an enormous, \$50 billion-plus enterprise of internal research and development (R&D) across the United States. As governments around the world, including China, pour billions of dollars into advanced technologies, it is imperative that we use our nation's federal lab ecosystem as effectively as possible.

However, because federal labs have varying legal authorities, missions, and cultures, their records of local economic engagement and technology commercialization vary considerably. Universities, by contrast, have demonstrated a strong record of supporting regional innovation ecosystems through use of **place** (creating incubators, research parks, and adjacent innovation districts), **talent** (allowing university researchers to be involved with private-sector technology under approved and managed relationships), and **innovation** (using intermediary university foundations to take on business aspects of technology commercialization).

The Federal Authority for Science, Technology, Entrepreneurship, and Research (FASTER) Federal Labs Act will make it possible for all federal labs to use the tried-and-true tools that universities use for economic engagement and technology commercialization. The FASTER Federal Labs Act will do this by: (i) allowing surplus federal land to be used for public-private partnership facilities, (ii) creating clearer pathways for federal researchers to work with startup companies, and (iii) authorizing a federally chartered tech-transfer organization based on models established at leading research universities. The FASTER Federal Labs Act will not require significant outlay of federal appropriations as many of its provisions simply give federal labs greater discretion over deployment of existing resources. The Act can be implemented relatively easily as an add-on to legislation expected to be considered by this Congress.

Challenge and Opportunity

Universities have a long history of successfully engaging with their communities, the private sector, and technology commercialization. As modeled by the Association of Public & Land-Grant Universities,¹ engagement often comes through use of:

- **Place.** Creating research parks, innovation districts, and tech incubators proximate to campuses.
- **Talent.** Allowing faculty to be involved with startup companies under disclosed and managed plans for mitigating conflicts of interest.
- **Innovation.** Creating affiliated intermediary organizations to take on the business of technology commercialization.²

Some federal labs can use their existing authorities to create public-private partnerships similar to the partnerships common in university settings. A good example of this is the U.S. Army Research Lab's "Open Campus" initiative,³ which invites academia and industry to partner with Lab facilities — such as the Semiconductor Research Nano Fab Center — on technology areas of critical national importance. But

¹ Association of Public & Land-Grant Universities. (n.d.). [Commission on Economic & Community Engagement](#).

² An example of such an organization is the University of Wisconsin Research Alumni Foundation (WARF). <https://www.warf.org/>

³ U.S. Army. (n.d.). [Open Campus](#). Army Research Laboratory.

because federal labs have varying missions, management systems, legal authorities and cultures, their records of local economic engagement and technology commercialization vary considerably, at least compared to many research universities. According to a recent study by the National Institute for Standards and Technology (NIST), the economic impact per federal dollar invested into R&D is “as much as 10 times greater when spent at a university lab versus a government laboratory.”⁴

Policy groups including the National Governors Association, the Brookings Institution, and the Association of University Research Parks (AURP) have called for reforms that would allow federal laboratories to be better partners in local technology development. An important step towards answering this call came in April 2019, when NIST released the Final Green Paper from its Return on Investment (ROI) Initiative for Unleashing American Innovation.⁵ The paper recommended that to increase the impact of federally sponsored research, Congress should give all federal laboratories authority to utilize land for public-private partnerships (including incubators and research parks), provide actionable solutions to conflict-of-interest rules that inhibit researcher entrepreneurship, and give federal labs broad access to private-sector tools for broad technology commercialization.

The FASTER Federal Labs Act, detailed in the subsequent section, will put these recommendations into practice. Proposals to create dedicated vehicles for federally initiated public-private partnerships in specific technical domains (e.g., the Advanced Research Projects Agency-Health and the Advanced Research Projects Agency-Climate)⁶ reflect national interest in providing more flexible ways for federal labs to connect with private and academic sectors. Coupled with the recently enacted U.S. Innovation and Competition Act (formerly known as the Endless Frontier Act), and as a complement to institution-specific engagement initiatives at individual federal labs, the FASTER Federal Labs Act will spur and enhance U.S. competitiveness across a wide range of science and technology fields.

Plan of Action

Congress should pass the Federal Authority for Science, Technology, Entrepreneurship, and Research (FASTER) Federal Labs Act to enable all federal labs to use the tried-and-true tools of **place, talent, and innovation** that universities use for economic engagement and technology commercialization, as follows:

- **Place.** The Act would extend Enhanced Use Lease (EUL) authority to all federal labs, allowing all federal labs to consider inviting private-sector research firms, universities, community colleges, and foundations to develop public-private enterprises adjacent to federal laboratory facilities (such as the Department of Energy Sandia Laboratories Research Park in New Mexico).
- **Talent.** Attracting and retaining the nation’s best scientists to government services requires giving federally employed researchers opportunities to collaborate with colleagues across all sectors. The Act would commission the National Academy of Public Administration (NAPA) to study best practices among public-research universities and select federal agencies (such as In-Q-Tel or DARPA) for disclosing, approving, and managing conflicts of interest that researchers may encounter when working with private-sector companies. NAPA would also investigate options for entrepreneurial leave, sabbaticals, and other programs to attract high-quality talent to federal

⁴ National Institute of Standards and Technology. (2018). *Return on Investment Initiative for Unleashing American Innovation*. Special publication 1234, December. <https://www.nist.gov/unleashing-american-innovation>

⁵ National Institute of Standards and Technology. (2019). *Return on Investment Initiative for Unleashing American Innovation*. Special publication 1234, www.nist.gov

⁶ Winter, L. (2021). [President Biden Proposes Creating Two DARPA-Like Agencies](#). *The Scientist*, April 12, 2021

labs. Best practices could be advanced to the Office of Government Ethics (OGE) and Office of Personnel Management (OPM) for consideration.

- **Innovation.** The Act would create a Congressionally chartered Federal Authority for Science, Technology, Entrepreneurship and Research (FASTER) that would allow federal labs to create technology commercialization authorities. This Authority would be modeled on affiliated commercialization authorities successfully developed by universities, states, and prior federal legislation.

Previous efforts to reform the federal lab system suffered from a focus on individual labs rather than on a laboratory-wide approach, as well as lack of a legislative vehicle embraced by the executive and legislative branches alike. The FASTER Federal Labs Act is designed from the ground up to avoid the first obstacle and can overcome the second by being incorporated into the package of [NIST reforms that Congress may be considering this year](#) or incorporated into the final version of the U.S. Innovation and Competition Act that Congress is expected to pass this year.

The sections below give more detail on key provisions of the FASTER Federal Labs Act. The Appendix provides draft text for the legislation.

Extending Enhanced Use Lease (EUL) Authority to All Federal Labs to Support Place-Based Partnerships with Universities and the Private Sector

EUL authority gives federal institutions the ability to lease excess land to the private sector, with rent paid by the developer in the form of cash or in-kind services. EUL authority has enabled establishment of productive research parks centered on federal labs, including the Falcon Hill AFB Research Park in Utah and the Moffett Field NASA Ames Research Park in California. These parks are multi-use developments that involve private-sector companies, universities, and community colleges; provide workforce housing; conduct STEM outreach; and support development and commercialization of cutting-edge technologies.

Currently, the only federal labs with EUL authority are those under the Department of Defense, as well as a select few under NASA and a few other agencies. The FASTER Federal Labs Act would extend EUL authority to give all federal labs increased capacity to pursue place-based partnerships with universities and the private sector.

Reform Conflict-of-Interest Rules for Federal Researchers

Federal employees, including federal researchers, are governed by long-standing government wide conflict of interest (COI) statutes as well as additional regulations at the agency and even laboratory level.

Many observers have identified overly rigid federal COI rules for federal lab researchers working on technology-transfer projects as a problem. Federal labs need to recruit young talent, for which they must compete with academic and private-sector institutions that grant employees far wider latitude over the work they pursue. Entrepreneurial researchers want to go where they are assured support in entrepreneurial projects, and/or have ability to take entrepreneurial leave.

Universities have successfully dealt with this challenge in the past. After passage of the Bayh-Dole Act in 1980, many public universities faced similar issues with overly rigid COI rules. States managed this by taking COI into their own hands. In Maryland, for example, public universities have the flexibility to

establish their own COI regulations, subject to approval by the State Office of the Attorney General. COI committees at public universities in Maryland have the authority to accept disclosures from researchers as well as to further oversee and manage researcher COIs.

The FASTER Federal Labs Act would commission the National Academy of Public Administration⁷ to conduct a study of public research universities, public university research foundations, and state technology intermediaries to identify best practices for disclosing, approving, and managing COIs. The study should also identify creative ways to use existing federal authorities to recruit and retain talent to federal labs, such as entrepreneurial-leave policies, Intergovernmental Personnel Act (IPA) programs, and soft-landing initiatives. Recommended best practices would be transmitted to the Office of Government Ethics (OGE) for consideration in future policies, procedures, and regulations, with the goals of (i) encouraging recruitment and retention of high-value federal researchers, while (ii) ensuring appropriate oversight and management of COIs involving federal researchers.

Authorize Federal Laboratories to Create Affiliated Technology Intermediaries

Many universities and states have created affiliated organizations to take on the business aspects of technology commercialization. The famous Wisconsin Alumni Research Foundation (WARF) is an example of this sort of technology intermediary. When University of Wisconsin researchers synthesized Vitamin D, they created WARF as an independent, nonprofit corporation to manage the university's Vitamin D patents and invest the resulting revenue to support future research. Since its inception 90 years ago, WARF has provided \$2.3 billion in cumulative direct grants to the university.

The FASTER Act would create a technology-transfer authority managed by the Federal Lab Consortium (FLC) to be authorized to work with all federal labs — at each lab's discretion — to hold patent rights on behalf of the federal labs, hire experienced staff with strong backgrounds in technology commercialization, create technology incubators and research parks, and improve the technology commercialization performance of the federal laboratory system. This new authority would be a resource that existing federal tech-transfer offices could use to expedite development of federally developed technologies and accept appropriations, similar to how state-based technology intermediaries operate already.

Conclusion

Federal laboratories are amazing assets to our nation's competitive landscape. Yet these assets are not being utilized to their full potential. Passing the FASTER Federal Lab Act will enable the federal lab system to attract and retain even more talented scientists, help local economies grow, improve private-private partnerships, accelerate federal technology commercialization, and strengthen U.S. scientific and technology leadership through targeted legislative and policy reforms. Most of these reforms can be accomplished through existing resources (i.e., with limited need for new funds). Passage of the FASTER Federal Lab Act can be facilitated by incorporating its provisions into an existing legislative package of NIST reforms that Congress is already planning to consider this year.

⁷ The National Academy of Public Administration is a Congressionally chartered non-partisan, nonprofit institution founded in 1967 to provide expert advice to government leaders in building effective organizations. <https://napawash.org/>

Frequently Asked Questions

1. What happens if the FASTER Federal Labs Act doesn't pass?

While the FASTER Federal Labs Act implements critical reforms that federal labs cannot implement on their own, labs need not wait for passage of the FASTER Federal Labs Act to begin making progress towards the legislation's goals. Many federal labs have tools they can use under existing authorities to strengthen economic engagement and technology commercialization, as well as to recruit excellent scientific talent. Such tools include funded researcher sabbaticals, federal/state/university partnerships, and more. The Federal Lab Consortium (FLC) is a great convenor that can help federal labs identify and exploit best practices for partnerships and commercialization.

2. How does President Obama's 2011 Memorandum on Federal Technology Commercialization intersect with the proposals in this memo?

In 2011, President Obama issued a Presidential Memorandum calling on federal agencies to share expertise with local businesses and participate with regional technology and university clusters across the United States.⁸ The memorandum encouraged use of existing collaboration tools available to certain federal agencies, such as Enhanced Use Leasing (EUL), but did not expand any agency's authority to engage with regional innovation networks.

3. What are some examples of existing technology intermediary organizations?

Examples include:

- The Congressionally chartered Foundation for the National Institutes of Health creates and leads alliances and public-private partnerships that advance breakthrough biomedical discoveries and improve the quality of people's lives.
- Another Congressionally chartered federal foundation is the Henry M. Jackson Foundation for the Advancement of Military Medicine. The Jackson Foundation has a strong record of research and technology commercialization for the U.S. Uniformed Health Services University. The Jackson Foundation now partners with federal laboratories across the United States to improve military medicine. It is one of Maryland's largest nonprofit entities, with nearly half a billion dollars in annual revenue.
- The U.S. Senate has passed the Partnerships for Energy Security and Innovation Act as an amendment to the U.S. Innovation and Competition Act. If enacted, the Partnerships for Energy Security and Innovation Act would authorize creation of a Department of Energy (DOE) Foundation that would channel private-sector investments to support DOE's mission and accelerate the commercialization of innovative energy technologies. States have chartered independent technology intermediaries—such as the Maryland Technology Corporation (TEDCO)—that have successful records in improving technology commercialization.

⁸ The White House. (2011). [Presidential Memorandum -- Accelerating Technology Transfer and Commercialization of Federal Research in Support of High-Growth Businesses](#). October 28.

Appendix

Draft text for the FASTER Federal Labs Act is provided below. This text is adopted from the Department of Energy IMPACT for Energy Foundation, as proposed in the 116th Congress, but has been expanded to include all federal laboratories:

DRAFT LEGISLATION CREATING THE FEDERAL AUTHORITY FOR SCIENCE, TECHNOLOGY, ENTREPRENEURSHIP AND RESEARCH (FASTER) FEDERAL LABS ACT

WHEREAS Federal laboratories and federal laboratory scientists are important institutions in the creation of new knowledge and technologies, but lag in research commercialization to the private sector,

WHEREAS approximately \$50 billion a year in internal research is performed by federal labs nationally,

WHEREAS Numerous commentators from across the country have urged federal reforms in helping federal laboratories improve their record of technology transfer,

WHEREAS Public research universities and states have used affiliated organizations as models to improve technology commercialization to the private sector,

WHEREAS Federal laboratories have varying statutory authorities and management structures that may inhibit working with the private sector,

WHEREAS A federally chartered non-profit organization modeled on best practices from public research universities and state governments would be a new administrative tool that could help federal laboratories improve their technology commercialization and connection to the private sector,

WHEREAS A more robust record of technology commercialization is important to help the United States remain technology leaders internationally, and increase STEM participation through federal lab partnerships,

Now Therefore, the following legislation is introduced:

A Bill for An Act Entitled: "The Federal Authority for Science, Technology, Entrepreneurship, and Research (FASTER) Federal Labs Act"

A Bill To Amend the Stevenson-Wylder Act to establish the Federal Laboratory Commercialization Corporation, and for other purposes:

Resolved by the U.S. Senate of the United States of America, that the following article is proposed as federal law under the jurisdiction of the United States of America, enforceable by Executive action.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that:

Section 1. Short Title:



This Act may be cited as “The Federal Authority for Science, Technology, Entrepreneurship and Research (FASTER) Federal Labs Act.:

Section 2.

- (1) LIMITATION. — The Federal Authority for Science, Technology, Entrepreneurship and Research (FASTER) shall not be an agency or instrumentality of the Federal Government.
- (2) NONAPPLICABILITY OF FACCA. — The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the Foundation.
- (3) NONPROFIT STATUS. — The Foundation shall be an organization described in section 501(c) 21 of the Internal Revenue Code of 1986 and exempt from taxation under section 501(a) of that Code.
- (4) BOARD OF DIRECTORS. — (A) IN GENERAL. — The Foundation shall operate under a board of directors.

(B) INITIAL APPOINTMENT. — The initial appointment of the board of directors shall be facilitated by the National Institute for Standards and Technology (NIST) and the Office of Science and Technology Policy (OSTP).

(C) COMPOSITION. — To the maximum extent practicable, the board of directors shall include representatives from a diverse range of communities, including — (i) the academic community; (ii) the business community; (iii) nonprofit organizations; (iv) the communities surrounding federal laboratories and facilities; and (v) the technology transfer and commercialization community.

(D) RESTRICTION ON MEMBERSHIP. — No employee of any federal agency shall be appointed as a member of the board of directors.

b) PURPOSE; ACTIVITIES. —

(1) PURPOSE. — The purpose of the Foundation is to channel private sector investments that support efforts to create, develop, and commercialize innovative technologies that address technology challenges by methods that include —

(A) fostering collaboration and partnerships with researchers from the Federal Government, State governments, institutions of higher education, federally funded research and development centers, industry, and nonprofit organizations for the research, development, or commercialization of technologies.

(B) leveraging technologies by supporting new product development that supports regional economic development; and

(C) administering prize competitions to accelerate private sector competition and investment.

SEC. 4. ESTABLISHMENT OF FOR-PROFIT SUBSIDIARIES.

(a) ESTABLISHMENT. — The Foundation may establish one or more for-profit subsidiaries, including an impact investment fund —

(1) to stimulate economic development activities relating to the purpose of the Foundation described in section 3(b)(1);

And

(2) to attract for-profit investment partners for technology translation and commercialization activities.

(b) AUTHORITIES OF THE FOR-PROFIT SUBSIDIARY. — (1) IN GENERAL. — Subject to paragraph (2), a for-profit subsidiary established under subsection (a) may —

(A) enter into a partnership with an economic development corporation, including an incubator, accelerator, or small business investment company;

(B) pay for the cost of building and administering a facility, including a microlab or incubator or research park, to support the activities of the Foundation described in section 3(b)(2); and

(C) provide funding to a startup.

2 COST RECOVERY REQUIREMENTS. — A for-profit subsidiary established under subsection (a) shall —

(A) ensure that the Foundation owns any intellectual property rights generated through activities funded by the for-profit subsidiary, if appropriate; and

(B) own an equity stake in any startup invested in by the for-profit subsidiary.

Section 3.

Each federal agency may permit the director of any of its government operated federal laboratories to enter in lease arrangements of real property that is under the control of the federal agency as may be considered in the public interest for purposes of stimulating improved utilization of federally funded development. ***(Exact language to be developed consistent with federal Department of Defense Enhanced Use Lease guidelines)***

Section 4.

The National Institute for Standards and Technology shall contract with the National Institute for Public Administration to conduct a study of conflict-of-interest policies and procedures for federal research scientists in conjunction with the Office of Government Ethics and Office of Personnel Management. Such study shall explore most effective conflict of interest practices to disclose and manage conflicts of interest at public research universities and public research institutions and recommend necessary policy and legislative changes to enhance role of public/private partnerships. The report shall be made to Congress no later than July 1, 2023.

About the Authors



Brian Darmody is CEO of the Association of University Research Parks (AURP), a global nonprofit representing research parks and innovation districts sponsored by universities, federal laboratories, hospital systems, and communities. Brian previously served in many roles at the University of Maryland, College Park, including Associate Vice President for Research and Economic Development and Assistant to the President for State and Federal Government Affairs. He serves on the Maryland Venture Authority Board, among other board positions.



Rich Bendis is the Founder, President, and CEO of BioHealth Innovation, Inc. He is a successful entrepreneur, corporate executive, angel investor, investment banker, innovation and technology-based economic-development leader, international speaker, and consultant in the technology and healthcare industries. Rich is also the founding President and CEO of Innovation America (IA), a national public-private partnership focused on accelerating the growth of innovation economy in America. Rich serves on Maryland Governor Larry Hogan's Life Science Advisory Board. He received a 2017 most influential Marylander award and a 2017 Maryland innovator of the year award. Rich is also the host of the BioTalk podcast series.



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