

**Agency: National Institute of Standards and Technology, Department of Commerce**  
**RFI Response to Federal Technology Transfer Authorities and Processes**  
**Docket Number: 180220199-819-01**

**Introduction:**

Federal investment in research and development (R&D) continues to be a key driver of American innovation, economic growth and productivity, and safeguard for our global leadership and national security. At the University of Colorado Boulder (CU Boulder), we take great pride in the cutting-edge research taking place across campus aimed at tackling some of our nation's most pressing challenges. CU Boulder, in collaboration with our partners at federal research laboratories and private industry, is part of a thriving research ecosystem along Colorado's Front Range where discovery leads to innovation. Robust technology transfer operations remain a vital component of this ecosystem to ensure investments in research translate to both societal and commercial enterprises designed to meet 21<sup>st</sup> Century needs. Since 1994, 87 companies have been founded based on CU Boulder technologies, 67 of which are still in operation. That is why we applaud NIST's call to evaluate and promote best practices designed to improve federal technology transfer policies and procedures in order to effectively meet those needs now and into the future. We appreciate the opportunity to contribute to the conversation by respectfully submitting the following suggestions:

**I. What are the core Federal technology transfer principles and practices that should be protected, and those which should be adapted or changed?**

- A. The federal funding agencies' I-Corps programs have been a valuable addition to the national technology transfer ecosystem. Recent adaptations to the program, including shared mentoring, and an option for the technical lead to be someone other than the PI, are improving accessibility. To further enhance accessibility, additional incentives for Nodes to travel to provide team and trainer trainings would be useful, as would on-line programming for teams unable to travel.

**II. What are the issues that pose systemic challenges to the effective transfer of technology, knowledge, and capabilities resulting from Federal R&D?**

- A. There is presently a significant gap in federal funding opportunities between the I-Corps program and the SBIR/STTR programs. The developmental tasks that lie between these two include proof-of-concept (POC) validation and prototyping of technology, in a manner that aligns with the value propositions developed in I-Corps. A federal POC program that funds such studies prior to a startup having been formed, and while the technology is still incubating within a university or federal lab, would address this gap.

- B. The inability for works created by federal employees to be protected under copyright has acted as a significant deterrent in the field of software innovation. Due to the short duration of software product lifecycles, the speed of software development, and limitations around patenting software, it is often copyright that provides the primary intellectual property protection for software. Without copyright, federal labs have no asset to license and technology transfer may be blocked. Further, if software is co-developed between a federal lab and a university, the university may license its copyright but the federal lab will be unable to participate in the license agreement. Implications include lost opportunities to transfer software developed in federal labs, lost licensing revenue, and a lack of incentive for federal employees to develop commercially-relevant software.

**III. What are other ways to significantly improve the transfer of technology, knowledge, and capabilities resulting from Federal R&D to benefit U.S. innovation and the economy? What changes would these proposed improvements require to Federal technology transfer practices, policies, regulations, and legislation?**

- A. Where federal labs are located in ecosystems with established commercialization and entrepreneurial resources, consideration should be given to outsourcing functions to those existing resources. For example, where inventor education, industry mentorship, and startup accelerators are already present in local universities or other organizations, federal labs should look at partnership rather than attempting to build comparable resources *de novo*.
- B. Federal labs should consider the mechanisms employed by many universities to encourage their researchers to participate in startup companies that commercialize their research. These mechanisms include permission to spend a capped amount of time on external commercialization activity, clear conflict of interest planning, professional credit for significant commercialization impact, and revenue sharing policies for inventors.
- C. Technology transfer personnel operating within the federal labs regularly have excellent knowledge of federal regulations, but lack expertise and motivation for commercialization strategy and execution. Training and emphasis on the activities that follow claiming title to an invention and filing a US patent application could help to shift towards an internal culture of commercial ROI over mere Bayh-Dole compliance.

Again, we applaud and commend NIST for its outreach and engagement on this very important issue, and we appreciate the opportunity to contribute to the dialogue.

Respectfully submitted,



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