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July 30, 2018

Walter G. Copan, Ph.D.  
Under Secretary of Commerce for Standards and Technology  
Director, National Institute of Standards and Technology  
100 Bureau Drive, MS 1000  
Gaithersburg, MD 20899

Subject: RFI Response: Federal Technology Transfer Authorities and Process

Dear Under Secretary Copan:

On behalf of the State University of New York (SUNY) and The Research Foundation for SUNY, we would like to thank you for the opportunity to provide you with input and recommendations to inform the National Institute of Standards and Technology's Return on Investment Initiative.

Included with this letter is a joint SUNY and RFSUNY response to the National Institute of Standards and Technology Return on Investment Initiative Request for Information on Federal Technology Transfer Authorities and Processes (Docket No. 180220199-819-01).

Please feel free to contact us if you have any questions regarding our response.

Sincerely,

Grace Wang, Ph.D.  
Senior Vice Chancellor for Research  
and Economic Development  
SUNY System Administration

Jeff M. Cheek, Ph.D.  
President and Chief Executive Officer  
The Research Foundation for The State  
University of New York



## Introduction

The State University of New York (SUNY) writes in response to the National Institute of Standards and Technology (NIST) Return on Investment Initiative Request for Information (RFI) on Federal Technology Transfer Authorities and Processes (Docket No. 180220199-819-01). SUNY appreciates NIST's intention to evaluate existing practices, policies, regulations, and laws that promote the transfer of federal technologies and their practical application through commercialization by the private sector. SUNY is the largest comprehensive system of higher education in the United States, with 64 college and university campuses located within 30 miles of every home, school, and business in New York State. SUNY students and faculty across the state make significant contributions to research and discovery, resulting in \$1 billion of externally sponsored activity each year, with about \$515 million awarded to SUNY by the federal government, and producing over 250 inventions annually.

SUNY takes seriously its responsibility as steward of external grant funding to faculty and staff, as well as the discoveries and intellectual property that result. SUNY inventors have contributed to some of the most transformative technologies in history, including the heart-lung machine, bar code scanner, MRI and several FDA-approved products, all of which transform lives and benefit the public.

SUNY largely agrees with and supports the observations and recommendations to the four questions posed in the RFI as provided in the response submitted by the Association of University Technology Managers (AUTM) and also the combined response submitted by the Association of American Universities (AAU), Association of Public and Land-grant Universities (APLU), Council on Governmental Relations (COGR), and the Association of American Medical Colleges (AAMC), (referred to as the "Associations' Response"), which together represent all major research universities and medical schools – including their technology transfer offices – in the United States.

In particular, SUNY emphatically encourages NIST to implement the following components of the AUTM response:

Recommendation number 1 to create an office at the Department of Commerce to oversee proper and consistent application of Bayh-Dole, especially on “exceptional circumstances” and “march-in-rights”; Proposed Solutions 1A and 1B to fix the IPR process and provide USPTO guidance on the Mayo-Alice test;

Proposed Solution 2A to expand toolkits and expertise of federal labs and other federally-funded licensors to license IP including IP that is not patentable such as data, materials, and copyrightable works;

Proposed Solution 4B to expand federal funding for accelerator funds;

Proposed Solution 5 to exclude from USPTO prior art search under 35 USC § 102(b)(1)(B) third party disclosures substantially identical to or obvious variations of an inventor’s public disclosure;

Suggested Improvement 1 to simplify and streamline technology transfer reporting requirements;

Suggested Improvement 2 to fund institutional proof of concept and translational research awards;

Suggested Improvement 6 to encourage commercialization behavior with incentives and rewards; and,

Suggested Improvement 8 to remove uncertainty of title under the Bayh-Dole Act.

In the body of our response below, SUNY uses the Associations’ Response as a model, as it reflects the opinions of the constituencies within SUNY that are responsible for managing federally funded research and innovation. Much of the content herein includes the Associations’ Response, with additional commentary around areas of specific importance to SUNY.

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

As reflected in the Associations’ Response, the Bayh-Dole Act of 1980 (35 USC 200 *et seq.*) provides the statutory framework enabling technology transfer of federally funded technologies by SUNY and its sister institutions. Bayh-Dole is widely heralded as a preeminent success story and one of the most inspired pieces of legislation over the last nearly 40 years. Before Bayh-Dole, inventions developed with government funding were owned by the government in most cases and, as a direct result, many were never developed or commercialized into products and services to benefit the public. In 1980, with around \$75 billion in annual sponsored research, the federal government held title to approximately 28,000 patents.

Fewer than 5% of these were licensed to private industry for development of commercial products.<sup>1</sup> And, in 1980, fewer than 500 patents were granted to U.S. universities.

Today, the federal government sponsors around \$150 billion in research expenditures annually, with about two thirds to universities and one third to federal labs. Deriving from this investment, universities obtain about 7,000 newly granted patents and file more than 16,000 new patent applications every year, with about three quarters of those being provisional patent applications. Universities also execute more than 7,500 licenses every year, and receive more than \$3 billion in annual licensing royalties.<sup>2</sup> SUNY produces more than 250 inventions every year, with a portfolio of 1,370 patents, 596 licenses, and 110 startups.

Providing research institutions with the mechanism to own and manage federally funded inventions through Bayh-Dole, has enabled and empowered academic institutions to become leaders in promoting innovation, economic prosperity and American competitiveness. The data discussed above illustrates that Bayh-Dole has had a deep and far-reaching positive effect, both in the U.S. and globally.

The Bayh-Dole Act should be considered a set of core principles that must be protected, but expanded upon, to maximize government investments for societal impact. Important aspects of Bayh-Dole that should be protected and reinforced include the focus on positive public impact and improved quality of life promoted by enabling universities to build private sector partnerships around patents on federally-funded inventions. Additionally, enabling universities to reward inventors for their contributions to knowledge, innovation and the economy by sharing licensing proceeds with them can incentivize researchers to invent and to participate in entrepreneurial activities, especially at academic institutions. However, the effectiveness of different types of incentives have been found to vary by discipline, so it is very important to preserve flexibility for institutions to design creative and tailored incentives that align to their institutional profile. The government also should protect and reinforce the ability of universities and other recipients of federal research funding to exercise creativity and flexibility to secure returns on combined governmental and institutional investments in research to fund future research and development activities in the future.

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<sup>1</sup> U.S. Government Accounting Office (GAO) Report to Congressional Committees entitled [“Technology Transfer, Administration of the Bayh-Dole Act by Research Universities” \(May 7, 1998\)](#).

<sup>2</sup> FY2016 AUTM U.S. Licensing Activity Survey Highlights, available at [https://www.autm.net/AUTMMain/media/SurveyReportsPDF/AUTM\\_FY2016\\_US\\_Highlights\\_no\\_Appendix\\_SUNY\\_B.pdf](https://www.autm.net/AUTMMain/media/SurveyReportsPDF/AUTM_FY2016_US_Highlights_no_Appendix_SUNY_B.pdf).

With respect to core federal technology transfer principles and practices that should be adapted or changed, SUNY suggests the development of a mechanism to enable universities and other recipients of federal research funding (e.g., federal labs and SBIR/STTR awardees) the ability to sell or otherwise transfer title to patents and applications for inventions developed through such research funding. This could be accomplished by changing the government purpose license to a mechanism analogous to a real property easement that would run with the ownership of the patent. Many entities that are sophisticated with respect to innovation, product development, entrepreneurship and technology commercialization are not as savvy when it comes to governmental regulations under Bayh-Dole and Stevenson-Wydler. Sometimes these entities are eminently positioned to commercialize a technology developed under federal research funding, but fail to grasp the nuanced consequences of the government purpose license. When such entities are not comfortable with anything less than full ownership (i.e., assignment) of the title to the patent or application, that technology may languish.

Furthermore, although the NIST ROI Initiative Public Meetings tended to focus on the many onerous constraints on technology commercialization faced by federal labs, universities also experience significant challenges and limitations. For instance, notwithstanding the large investments made in obtaining patents by universities, the commercialization failure rate is still quite high on a per patent basis. And, as discussed during the NIST ROI Initiative Public Meetings, many universities have proven more successful than most federal laboratories at achieving commercialization and productive use (i.e., applied research, public services, and transfer to companies to create new products and services). Consequently, SUNY recommends that the federal government invest in the existing strengths of the federal technology commercialization system by increasing funding to universities and removing barriers. This will help universities achieve greater impact and improve their levels of success. Specifically, as universities have proven more successful than federal labs at achieving technology commercialization and productive use, it stands to reason that a program to enable and incentivize federal labs to partner with local or regional university technology transfer offices for technology commercialization services would produce significantly greater societal and economic impact. Providing simple, modest incentives for recipients of federal research funds to share technology transfer operations would concentrate scarce resources to produce significant economies of scale, improved outcomes and, therefore, significantly greater return on investment for the federal government and the institutions receiving federal research funding.

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

SUNY agrees with and supports the content provided in Question II of the Associations' Response. SUNY also offers the additional considerations below.

### **A. New Bayh-Dole Implementing Regulations**

While SUNY believes many of the changes in the revised Bayh-Dole Act implementing regulations are positive, SUNY has concerns with some of the changes, particularly regarding ambiguity created by changes to certain time periods specified in the regulations, resulting in potentially negative consequences.

First, SUNY is concerned about the removal of the 60-day timeframe for funding agencies to request title upon learning of a contractor's failure to disclose an invention or elect title. As stated in the Associations' Response, without any required time period for agency action, an indefinite cloud will be cast over title to the invention. This is because the government would be able to take title to a patent for the subject invention *at any time* in the future if a contractor fails to timely disclose an invention (two-month window from disclosure to the contractor under § 401.14(a)(c)(1)) or elect title to an invention (two-year window from invention disclosure to the agency under § 401.14(a)(c)(2)). Failure to timely disclose may legitimately result from the inventor providing inadequate information regarding funding leading to the invention even when the contractor later learns about funding and then takes appropriate steps to appropriately inform the government to comply with reporting requirements. Similarly, an honest mistake with respect to informing the agency of an election to retain title, even where the contractor has filed a patent application clearly evidencing an intent to retain title, would result in the same situation. Removing this time requirement for an agency to request return of title enables the government to step in and take title at any time, even long after a license has been executed. *This will not advance university—industry relationships or promote commercialization. In fact, it will very likely have a chilling effect on commercialization of technologies.*

Second, SUNY echoes the concern expressed in the Associations' Response regarding the required notification period for contractor decisions to not continue prosecution of a non-provisional patent application. Decisions to proceed with patents often cannot be made until close to the deadlines to allow full assessment of potential interest in the technology. Increasing the notice period for abandoning patents limits the prosecution options available, potentially undermining unforeseen opportunities for future downstream successes. In addition, the USPTO itself provides for approval of petitions and other mechanisms to reinstate patents and applications that are inadvertently abandoned. This means that the

USPTO anticipates that typical applicants, even in the normal course of business, may encounter circumstances where they will need to revive a patent or patent application. Although costly, these additional timeframes and protective safeguards can be very useful. Unfortunately they are effectively unavailable to universities and owners of Subject Inventions in the absence of a failure to maintain compliance with Bayh-Dole reporting requirements.

Third, and possibly the change of greatest concern to SUNY (to again echo the Associations' Response), is the new requirement for a contractor to file a non-provisional patent application within ten months after filing a provisional application. While SUNY appreciates that NIST has provided for a one-year extension if requested (unless the agency notifies the contractor within 60 days of receiving the request), this will substantially increase burdens without any clear benefit to the government. Furthermore, experts affiliated with the institutions who have prepared and supported the RFI responses by AUTM and the Associations have agreed that there is a lack of certainty as to the tolling of the one-year extension, with some believing that the extension runs from the date of request and others asserting that it runs from the date of the 10-month deadline. This problematic lack of certainty compounds itself in the requirement to file the U.S. non-provisional and any foreign patent applications during the one-year extension. At its best, this requirement seemingly makes it mandatory for universities and other contractors that pursue PCT patent applications to enter national phase at 22 months from the original filing date, whereas traditionally PCT applicants have up to 30 or 31 months (depending on the country) from the original filing date to enter national phase. *This represents a very significant and negative curtailment of university patent rights, without any apparent benefit to the government.*

In addition to the concern expressed in the Associations' Response regarding the lack of a notification requirement for abandoned provisional patent applications where contractors are not abandoning the subject invention itself, circumstances may exist where a similar abandonment of a non-provisional patent application without abandonment of the underlying subject matter of the invention would be appropriate, e.g., rejection by the patent office for non-patentability. However, there is no provision in the regulations that anticipate such a scenario, and universities and other contractors are left to guess that NIST would also encourage close consultations with the contracting agency in such circumstances.

## **B. Lack of Funding to Support University Technology Transfer**

As expressed in the Associations' response, although the Bayh-Dole Act encourages the commercialization of technology resulting from federal research and development, it does not fund these commercialization

efforts, such as customer discovery, proof-of-concept prototype development, marketing and licensing efforts.

Further, it is challenging for universities and other recipients of federal research funding to independently pay for technology and product research and development, as well as for preparation, filing, prosecutions and maintenance of patents and applications. Universities invest more than \$400 million to obtain patents but only \$180 million of that investment is ever reimbursed.<sup>3</sup> Lack of funding for patenting and commercialization activities poses a fundamental challenge to a university's ability to transfer federally funded technologies. Equally important, identifying technology that has commercial interest is a challenge given that most technology developed at universities is very early stage. Finally, there are challenges related to obtaining research of relevance, importance and impact to the commercial markets, identifying commercial opportunities and the ability to make appropriate and robust connections within the business community.

### **C. Invention Reporting Roadblocks**

SUNY shares the concern expressed in the Associations' response regarding the increased reporting requirements (401.5(f)), and attendant compliance burdens, that seem to neither improve effectiveness of the reporting function nor effectiveness of technology transfer broadly. In addition, there is a general lack of guidance on iEdison compliance for IP that is not patentable.

### **D. Conflict of Interest Rules**

As detailed in the Associations' response, the 2016 National Academies Press (NAP) report, *Optimizing the Nation's Investment in Academic Research*, correctly observed that "[Conflicts of Interest] are inevitable at research institutions, whose missions include the promotion of the public good by both creating new knowledge and facilitating the transfer of that knowledge to the private sector."<sup>4</sup> Conflicts of interest for universities, individual faculty and researchers often arise around holding equity in startup companies, holding C-level or managerial roles in startup companies, consulting, and other entrepreneurial endeavors where an individual's decisions or actions might be interpreted as having been influenced by considerations of personal financial gain.

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<sup>3</sup> The Association for University Technology Managers Statistics Access for Technology Transfer (STATT).

<sup>4</sup> National Academies, *Optimizing the Nation's Investment in Academic Research* (2016), available at <https://www.nap.edu/catalog/21824/optimizing-the-nations-investment-in-academic-research-a-new-regulatory>.



In 2012, the Public Health Service (PHS) responded to intense political and public pressure by substantially “ratcheting up” the obligations of PHS-funded research institutions, including those performing NIH funded research.

In addition to other substantial expansions detailed in the Associations’ Response, the new rule promulgated by the PHS reduced the threshold for a financial interest an investigator would need to disclose to an institution for review from \$10,000 to \$5,000.<sup>5</sup> However, given the effects of inflation and increased cost of living, \$10,000 can be viewed as a less significant potential conflict of interest than when these regulations were first implemented. Consequently, reducing, rather than increasing this threshold constitutes a significant expansion of the scope and burden of conflict of interest disclosure requirements, without any empirical basis for why the new threshold would be more effective.

And, as a result, some faculty have decided to forego working with industry to commercialize their ideas and universities have suffered significant new cost burdens without any attendant measurable reduction in conflicts of interest. As expressed in the Associations’ response, SUNY believes that the PHS COI disclosure requirements discourage, rather than encourage, researchers’ interest to participate in activities that could lead to commercialization of government funded ideas.

Further, SUNY agrees with the Associations’ Responses regarding Sections E. U.S. Manufacturing Requirement Compliance Challenges, F. Waivers of Rights to Inventors, G. University Technology Transfer and Patenting Challenges, and H. The Tax Code and Technology Transfer of Question II.

Furthermore, SUNY would add a sixth item to Section G of the Associations’ Response to Question II, namely Challenges in Negotiating with Recipients of Federal Research Funds. Prospective partners find it difficult to negotiate with federal funding recipients, in part due to the many agency specific FAR (civilian) and DFARS (DOD) requirements. Private partners are easily able to negotiate intellectual property terms, but it is not possible to negotiate with such ease and latitude with the recipients of federal research funds due to restrictions that flow with the federal funding – especially with respect to software and data rights. Another important statistic is the fact that out of academia’s 43,000 existing licenses, only 217 have

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<sup>5</sup>Response of the Association of American Universities (AAU), Association of Public and Land-grant Universities (APLU), Council on Governmental Relations (COGR), and the Association of American Medical Colleges (AAMC) to the NIST Request for Information (RFI) on Federal Technology Transfer Authorities and Processes.

generated over \$1 million. This suggests that the degree of difficulty faced in executing these licenses is inordinate and results in a highly inefficient use of time compared to the returns received.

### **III. What is the proposed solution for each issue that poses a systemic challenge to the effective transfer of technology, knowledge and capabilities resulting from Federal R&D?**

Below, in *italics*, are SUNY's recommended improvements and proposed solutions to the challenges identified in Question II above. As previously stated, these recommendations largely comport with and in some cases are borrowed from the Associations' Response.

#### **A. New Bayh-Dole Implementing Regulations**

1. Requirement to disclose a subject invention within two (2) months and to elect title to a subject invention within two (2) years of disclosure and removal of the 60-day time for funding agencies to request title upon learning of a contractor's failure to disclose an invention or elect title.

*SUNY appreciates NIST's intent to improve due diligence, but believes that NIST should reconsider reinstating the former 60-day time period for agency action. NIST should make it easier to disclose and elect to retain title to subject inventions, software and other non-patentable IP (i.e., iEdison). SUNY also believes that NIST should make it a presumption under Bayh-Dole that contractors retain title to subject inventions, unless expressly returned or requested to return under circumstances of failure to commercialize. Lastly, SUNY believes that NIST should create a formal mechanism for contractors to obtain compliance with reporting requirements following proper filing of patent application documents or use of petitions to reinstate inadvertently abandoned patents and applications.*

SUNY also supports the recommendations included under the second and third items of Question III. Section A. of the Associations' Response.

#### **B. Lack of Funding for Patent Costs and Technology De-Risking**

SUNY agrees with the statement in the Associations' Response that the current lack of funding in this area poses a fundamental challenge to universities' ability to transfer federally funded technologies to private partners, especially since university technology is very early-stage and high-risk.

*SUNY also supports the possible approaches for improving this situation outlined in the Associations' Response, especially for the government to provide some supplemental funding specifically for patenting and commercialization activities. NIST and the Department of Commerce might consider establishing a separate pool of funds for these purposes.*

*Regarding challenges to obtaining research of relevance, importance and impact to the commercial markets and identifying commercial opportunities, models such as NSF and NIH I-Corps programs, and Commerce's Regional Innovation Strategies Program, offer insights into ways in which supplemental and complementary investments in downstream activities can yield advancements in commercialization efforts.*

*SUNY further recommends the federal government require research teams to perform, or recruit other participants to perform, some form of I-Corps-like customer discovery, for all federal funded grants with applied research components.*

*The federal government could rectify funding challenges by allowing universities to request additional funding at the grant stage specifically to support technology development and maturation activities. This would provide universities with a source of funding to prove early stage inventions for downstream commercialization partners. One way this might be implemented would be to allow access to or "unlock" funds available for patents, technology maturation or product development upon completion of specific milestones, such as successful completion of a customer discovery program (e.g., I-Corps).*

*Another option to help increase university participation in the patent process would be to expand the USPTO Certified Law School Clinic Program and create a system for enabling recipients of federal research funds to preferentially participate in this program.*

*With respect to funding for technology maturation or product development, SUNY believes that the federal government should establish new funding and increase existing funding. One example of such type of funding is the NIH REACH program, which is focused on biotech and life sciences. Another possibility would be to increase funding to institutions and organizations dedicated to assisting small businesses in the fabrication of proof of concept prototypes and product manufacture.*

*A further way to help support technology commercialization by recipients of federal research funds would be to invest in AI review of IP portfolios based on natural language processing, machine learning and big*

*data. Such an AI IP portfolio review system would ideally be able to suggest bundling opportunities, potential licensees, and, based on product specs, potential assertive licensing targets.*

*Along the lines of this Section in the Associations' Response, SUNY additionally recommends that the federal government establish and fund similar intrapreneur, entrepreneur, and executive-in-residence programs that would be available to assist recipients of federal research funds. In addition, SUNY recommends that the federal government establish programs and funding mechanisms that would provide more seamless connections with the SBA, SBDC, SCORE and other institutions and organizations dedicated to assisting small businesses.*

### **C. Invention Reporting Roadblocks**

SUNY agrees with the statement in the Associations' Response that there are a number of problems with current invention reporting that add to compliance burdens without increasing the effectiveness of reporting, much less technology transfer overall.

*SUNY encourages NIST to form a working group consisting of individuals from agencies, universities, and other federal contractors to develop comprehensive guidance to support iEdison usage, which includes guidance to support iEdison compliance for IP that is not patentable.*

*SUNY encourages NIST and the National Institutes of Health (NIH) to use their efforts to rebuild the iEdison system to create a single reporting platform that is used by all federal agencies, both intuitive and simple to use for universities and contractors.*

*SUNY supports the Associations' Response and also strongly believes that NIST should make it a presumption under Bayh-Dole that contractors retain title to subject inventions, unless expressly returned or requested to return under circumstances of failure to commercialize.*

### **D. Conflict of Interest Rules**

SUNY agrees with the statement in the Associations' Response that although it is imperative to identify and manage conflicts of interest that could affect research integrity or the safety of human subjects, the regulations surrounding conflicts of interest have become more burdensome and produced disincentives for creating responsible collaborations with industry.

*SUNY supports the Associations' Response and also emphasizes that aspects of an ideal system directed to address conflicts of interest would make it easier for inventors, universities, non-profits, federal lab contractors, and other recipients of federal research funds to receive and hold equity in startup companies that license federally funded technologies. In addition, this ideal system would also make it easier for inventors and entrepreneurs employed at universities, federal lab contractors, and other recipients of federal research funds to engage in startups and other entrepreneurial activities, through entrepreneurial leaves of absence and other mechanisms.*

#### **E. U.S. Manufacturing Requirement Compliance Challenges**

SUNY agrees with the statement in the Associations' Response that increased globalization has made it harder to find licensees able to comply with the U.S. manufacturing requirements. SUNY also agrees that slow response times and lack of response by agencies make this barrier especially challenging.

*SUNY supports the Associations' Response and also emphasizes that if agencies do not provide a response within that time period, this should establish a presumption that the waiver for the requirement to manufacture within the U.S. has been granted. And, if the agency responds in the negative without providing a clear explanation, institutions should have the ability to appeal to NIST.*

Further, SUNY agrees with the statements of challenges and impediments and supports the recommendations for addressing these challenges and impediments, as presented in Sections F, G and H of the Associations' Response. In addition to the five items included in the Associations Response under Section G, University Technology Transfer and Patenting Challenges, SUNY includes a sixth concern for Challenges in Negotiating with Recipients of Federal Research Funds, to address the difficulty experienced by private partners in negotiating with federal funding recipients, in part due to the many agency specific FAR (civilian) and DFARS (DOD) requirements.

*With respect to Section G, SUNY encourages NIST and the federal government to provide greater clarity and certainty regarding the patenting process and patentability, especially for software and diagnostics, both of which have experienced significant setbacks in recent years. This greater clarity would instill a greater confidence in patent application strategy and finance decisions that would be very beneficial to SUNY and our affiliated licensees and startups.*

*With respect to Section G(4) Rights in Software, SUNY further notes that the federal government has broad rights in data and software created with federal research funds, making for a very complicated landscape, especially with data often comprising a significant aspect of know-how that may be out-licensed in tandem with patent applications, and also especially under circumstances of joint inventorship with federal employees.*

*With respect to Section G(5) Micro-entity Status, SUNY encourages NIST and the federal government to provide greater clarity on whether a university's connected research foundation, or other 501(c)(3) organization under Internal Revenue Code of 1986, that holds title to patents and patent applications on behalf of a university qualifies for micro-entity status. Allowing micro-entity status for university research foundations and other university affiliated 501(c)(3) organizations holding title to patents on behalf of a university would level the academic technology transfer playing field to the extent that all university systems would be treated the same as micro-entities. The Research Foundation for SUNY holds title to all patentable intellectual property developed by SUNY faculty and staff, so SUNY strongly advocates for this micro-entity status to be conferred upon university research foundations and other IP-holding university affiliated 501(c)(3) organizations.*

*With regard to Challenges in Negotiating with Recipients of Federal Research Funds, SUNY believes that universities and other recipients of federal research funds would welcome the creation of and authorization to use succinct, plain-language, business-friendly template licenses, and other agreements (e.g., options, MTAs, NDAs) in which FAR and DFARS are implicated.*

**IV. 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?**

Again, SUNY agrees with and fully supports all aspects of the Associations' Response under Question IV. However, to the list of ways to make improvements provided in the Associations' Response, SUNY adds the items below.

**A. Remove Regulations where Not Absolutely Necessary**

Anecdotally, DARPA recently found that many of their regulations were creating friction, inefficiencies and pain points. They determined that many of these regulations were not necessary, but rather had merely

accreted over time. They were able to improve their performance metrics and efficiency simply by removing most of those regulations that were not required for legal compliance.

## **B. Create Programs to Encourage Partnering with Startup Companies and Local Businesses**

An example of this type of program is the FuzeHub Manufacturing Innovation Grant. FuzeHub is the state-wide Manufacturing Extension Partnership for New York. Over the past several years FuzeHub has awarded multiple rounds of funding to assist in the purchase of equipment for university research labs, with the requirement for startups and local businesses to provide letters of support expressing an intent to use or benefit from the use of the laboratory equipment to be purchased. The equipment purchased with the Manufacturing Innovation Grant must be made accessible to benefit local businesses and startups at least fifty percent (50%) of the time it is available. Establishing a requirement for part-of-time access by private companies and public individuals for equipment purchased using federal funds could serve a similar purpose of encouraging partnerships with local businesses and startups.

Additionally, a program for beneficial disposal of surplus or older laboratory equipment and scientific instrumentation purchased with federal research funds with universities, federal labs or research and manufacturing focused non-profits could serve a similar purpose and potentially be of tremendous assistance to smaller universities and local startups and businesses. And further, a platform that could facilitate equipment and instrumentation trades between research institutions and organizations (e.g., SUNY has a surplus “xyz” piece of equipment available, or SUNY is seeking an “abc” scientific instrument) could be of further beneficial assistance.

## **C. Create better metrics and methods to evaluate the ROI outcomes and impacts arising from Federal R&D investment**

Metrics for ROI need to consider a number of factors to adequately capture the value flowing from federal R&D investment. A consideration of licensing income or licenses executed alone, for example, would not capture some of the most successful university spin-outs which may have no license agreements in place. Similarly, if ROI is measured by solely focusing on licenses executed, it could deter exploration of certain technologies that may just require more time to develop. A more appropriate approach would be for NIST to consider a wide range of factors to ensure it captures the full range of value that is generated from federally funded technology. Factors that should be considered in evaluating ROI should include, but not be limited to, the following: businesses created, contribution to the state of art, beneficial societal impacts (e.g., lives saved, improvements to quality of life or the environment, and contributions to a local economy). Finding

and executing a simple method to measure and clearly communicate qualitative stories about these types of outcomes is critical to a full appreciation of the successes supported by technology transfer, commercialization, and productive use. NIST should form a working group consisting of representatives from AUTM, AAU, APLU, and universities and contractors to develop the data collection platform and communications strategy to better publicize how technology resulting from federal research and development impacts lives. In addition, it should be appreciated that monetary ROI derives not only from the licensing proceeds and startup deals executed, but also from the increased tax base resulting from economic development spurred on by technological advancement and commercialization efforts. Further, devising a way to create and implement incentives to encourage these types of beneficial public impacts will support positive commercialization outcomes.

## **Conclusion**

SUNY appreciates the efforts of NIST and the administration to increase the ability of universities and federal laboratories to effectively transfer new ideas generated with federal research funds out of the lab and into the marketplace to enhance the public good. SUNY agrees with and supports in large part the response prepared by AUTM and also the response prepared by AAU, APLU, COGR, and AAMC since those associations represent the majority of SUNY institutions at which federally supported inventions are being developed. SUNY looks forward to continuing to work closely with NIST as it moves forward to implementing new programs, initiatives and efforts which result from this ROI initiative.