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UNIVERSITY

MSU Board of Trustees Policy (BOT 616), effective July 1, 2017

The MSU Patent Policy (herein the “Policy”) was first adopted by the MSU Board of Trustees on November 15, 1930, first revised on February 14, 2001, and subsequently revised on July 1, 2017. A complete copy of the Patent Policy can be found at <https://technologies.msu.edu/researchers/patent-copyright-policy/msu-patent-policy>. This handbook has been prepared as a guide for the application of the Policy within common technology development scenarios and to provide context for use of the Policy in navigating related administrative processes. This handbook is also organized to answer the most common questions MSU Technologies (“MSUT”) receives from MSU’s research community as those questions relate to the patenting process, licensing activities, impact on research and formation of start-up companies.

This handbook will be updated from time to time as new questions or policy interpretations arise. For assistance or additional information, please contact MSU Technologies (“MSUT”) at 517-355-2186 or visit www.technologies.msu.edu.

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1. What is the scope of the Patent Policy?

The Patent Policy applies to **University Inventions** which are:

- a. inventions or discoveries that result from University funded research, including contracts and grants controlled or administered by the University;
- b. inventions or discoveries created in a field of work or study directly related to the employee's scholarly or other employment responsibilities at the University. This component of the definition is interpreted broadly. For example:
 - i) if a faculty member in the mechanical engineering department invents an improvement to a golf club, the invention would be a University Invention just as it would be if the women's golf coach made the improvement;
 - ii) special or additional research interests and projects listed on a curriculum vitae submitted in support of an appointment or in connection with an annual review or to obtain tenure or promotion would be relevant to a determination of the scope of the employee's responsibilities at MSU; and
 - iii) employees holding both administrative and faculty appointments are under the same obligations for University Inventions as other employees.
- c. developed in whole or in part through the use of University resources or facilities, including equipment, materials, or staff services of the various units of the University. Use of laptop computers, offices, libraries, are considered incidental uses of resources and do not automatically trigger University Ownership. The use of laboratory equipment, machine shops, and greenhouses are examples of substantial University resources

A discovery or invention need not be patented or patentable to be a University Invention. Cell lines, plant varieties, and other biological materials are examples of inventions that might be protected by means other than patents.

2. Must an MSU researcher disclose to MSU an invention or discovery?

Yes. According to the Patent Policy, MSU employees including students employed by MSU must report University Inventions to MSUT in a timely manner. Generally, this means that faculty members, postdoctoral appointees, graduate students and undergraduate students must disclose any University Invention to MSUT prior to disclosing an invention or discovery through publications, presentations, or communications with third parties (including research sponsors). Failure to disclose an invention or discovery to MSUT prior to making it public or sharing it outside MSU may limit, and can completely bar, the grant of patent rights from the U.S. Patent and Trademark Office or a foreign patent office.

3. Who administers the Patent Policy?

The President of MSU is responsible for administering the Policy. Exceptions may be authorized by the President in consultation with the Provost and Vice President for Research and Innovation (“VPRI”) if the President determines the exceptions to be in the best interest of MSU. MSUT, reporting to the VPRI through the Associate Vice President for Innovation and Economic Development, manages the patent process, negotiates and administers licensing options and agreements, oversees MSU compliance with contracts on patent-related issues, and distributes licensing revenues according to the Patent Policy.

4. What is MSUT?

MSUT is an MSU service unit composed of specialists in licensing, business development, and related legal matters who are experienced in transferring technologies from the physical sciences, life sciences, health science, and information and computer sciences. MSUT is responsible for managing intellectual property arising from invention and copyright disclosures from all schools and colleges at MSU.

MSUT assists with invention disclosures, negotiates option and license agreements, and assists in the start-up of new businesses. These activities generate millions of dollars in annual revenues which are shared among MSU academic units, inventors, and collaborating institutions. A portion of the revenues are reinvested in additional research and education, thus fostering the creation of the next generation of research, researchers, and entrepreneurs. In addition, the scholarly and business relationships created and deepened through MSUT’s activities support and enhance MSU’s ability to fulfill its missions.

Early contact with MSUT personnel to discuss your invention is encouraged and can provide the researcher with an introduction to the disclosure, evaluation, and protection processes described in this handbook.

5. Why would a researcher want to participate in the technology transfer process?

When a researcher discloses an invention to MSUT, it starts a process that could lead to the commercialization of the researcher’s technology. Commercialization may involve beginning the legal protection process and working to identify outside development collaborators.

Other reasons are unique to each researcher and may include:

- Making a positive impact on society
- Meets an employment requirement
- Positively affecting research and scholarship
- Achieving recognition and financial rewards
- Generating additional lab/departmental funding
- Meeting the obligations of a research contract
- Attracting research sponsors
- Creating educational opportunities for students
- Linking students to future job opportunities

6. What happens if I don’t disclose an invention to the University?

University research often is supported under grants and contracts requiring MSU to report its inventions to the sponsor. Sponsors, including the United States government, frequently receive certain rights from the University in return for their research support. Failure to disclose an invention could result in the breach of an agreement by the University. Among other things, willful non-disclosure could lead to sanctions against the institution or disciplinary action against the researcher.

Although MSU may have obligations to notify a research sponsor of an invention, it is very important to disclose the invention to MSUT prior to any disclosure to a research sponsor. **Once publicly disclosed (i.e., published or publicly presented in some form), an invention may have restricted or minimal potential for patent protection outside of the United States.** Differences exist between the U.S. and other countries regarding the impact of early publication on a potential patent. Be sure to inform MSUT of any imminent or prior publications or public presentation, lecture, poster, abstract, website description, research proposal, dissertation/masters thesis, or other similar public disclosure including the invention.

If researchers believe that their findings may constitute a patentable invention, and if they nevertheless wish to publish those findings without MSUT filing a patent application, they should first discuss the circumstances with MSUT. MSUT will consider the wishes of the inventors as long as they are not adverse to the interests or obligations of the University.

7. How do I work with MSUT?

Researchers are encouraged to contact MSUT early during research activities to learn the options that will best leverage and balance the commercial, practical, and societal potential of the research. MSUT staff are trained to assist researchers in answering questions related to marketability, funding sources, commercial partners, patenting and other protection methods, new business start-up considerations, University policies and procedures, and much more. MSUT's team approach provides researchers with an assigned Technology Manager supported by internal legal assistance, and, if a new business start-up is being considered, with a new business development specialist from Spartan Innovations.

8. How do I start the process?

- a. When a researcher believes something unique, potentially having commercial value, or that solves a significant problem has been created, the researchers should call MSUT at 517-355-2186. This contact should be made well before presenting the discovery through publications, poster sessions, conferences, press releases, or other communications.
- b. Complete and submit the MSUT New Invention Disclosure Form ("NID"). The form is available for download from <http://technologies.msu.edu/researchers/disclose-invention>. An NID is a written description of your invention or development that is provided to MSUT. The NID should be filled out and signed by all contributors, should list all resources and collaborating individuals, and should be sent to MSUT with all supporting data and copies of all literature or patent references. Please include all the information necessary to begin pursuing protection, marketing, and commercialization activities. Submitting complete information helps MSUT to make informed and timely decisions and will allow a patent attorney to more efficiently and effectively draft a patent application in the event MSU decides to file one.
- c. Filing an NID does not provide immediate protection for your invention but initiates the process for obtaining protection.

9. When should a New Invention Disclosure be submitted to MSUT?

For a variety of reasons, earlier is generally better for filing a disclosure. Aside from minimizing downstream delays in publication and presentations, an early disclosure reduces the likelihood of irreversible error and facilitates the collection of needed signatures and records from students and postdocs who may leave the University prior to completion of the process.

MSU inventors should file invention disclosures with MSUT at least 30-90 days prior to a planned submission for publication or public disclosure, so that MSUT can take appropriate action. The term “publication” in this context includes full scientific papers, abstracts, web content, e-mail transmissions to recipients outside MSU, and posters that are presented at meetings or displayed in MSU hallways. While a paper is considered published on the date that it actually appears in print or on-line, the researcher relinquishes control over the timing of the publication once the paper is submitted to a journal or other publishing entity. A thesis or dissertation is published when it is cataloged in a library or becomes available to the public through an abstracting service such as Dissertation Abstracts.

The completed New Invention Disclosure will be treated as “University Confidential.” Based on the Invention Disclosure, MSUT may generate a non-confidential description of your invention in order to assist in marketing the technology. Once potential commercial partners have been identified, a patent application has been filed, and confidentiality agreements have been signed, more detailed exchanges of information can be made.

10. Can I disclose my invention to a research sponsor, non-MSU colleague, or potential licensee or business partner under the terms of a Confidentiality Agreement?

In most cases, it is prudent to delay any disclosure of an invention outside of MSU until a patent application is filed with the U.S. Patent and Trademark Office. A breach of confidentiality by a non-MSU party resulting in public disclosure of an invention before a patent application is filed will result in the loss of rights to obtain a patent in many countries. While MSU would have a cause of action for the breach of confidentiality, there is no remedy for the lost patent rights due to the breach. When in doubt, contact MSUT about how and when to disclose an invention to a non-MSU party.

If you are working with researchers at another institution or company, see Q15 in this section.

11. Should I disclose research tools in the New Invention Disclosure Form?

Yes, if an inventor’s new tools would benefit other researchers and an inventor is interested in providing them to those researchers and other third parties. Typically, research tools are materials such as antibodies, vectors, plasmids, cell lines, mice, and other materials used as “tools” in the research process. Most research tools do not necessarily need to be protected by patents in order to be licensed to commercial third parties and/or generate revenue for an inventor’s laboratory. If an inventor has research tools that she or he believes to be valuable, or that the inventor wishes to provide to others (including research collaborators), MSUT will work with the inventor to develop the appropriate protection, licensing, and distribution strategy for them.

12. Should I list visiting scientists or scientists at other institutions on my New Invention Disclosure?

All contributors to the ideas leading to a discovery should be mentioned in your disclosure, even if they are not MSU employees. MSUT, along with legal counsel, will determine the rights of such persons and institutions. It is prudent to discuss with MSUT all working relationships (preferably before they begin) to understand the implications for any subsequent inventions.

13. What about student inventions?

Students work on inventions at MSU under a wide variety of circumstances. MSU promotes student entrepreneurship, and students can be inventors under patent law. Typically, a student will own his or her rights to an invention but inventions made by students in the course of University employment or University-funded research are University Inventions and belong to MSU (see section III). Students who create inventions through their classwork will own their inventions.

14. Should I include information in the New Invention Disclosure about companies that may be interested in the invention?

To aid in the marketing and licensing of the technology, please include on the New Invention Disclosure Form any companies or other business contacts you believe might be interested in your invention or which may have already contacted you about your invention. Studies have shown that over 70% of all licenses are executed with commercial entities known by the inventor, so your contacts can be extremely useful.

15. What if I created the invention with someone from another institution or company?

If you created the invention under a sponsored research agreement, testing agreement, service agreement or consulting agreement with a company, the MSUT Technology Manager assigned to your invention disclosure will need to review that contract to determine ownership and other rights associated with the contract, and to determine the appropriate next steps. Should the technology be jointly owned with another academic institution, the Technology Manager will usually enter into an “inter-institutional” agreement that provides for one of the institutions to take the lead in protecting and licensing the invention, sharing expenses associated with the patenting process, and allocating any licensing revenue. If the technology is jointly owned with a company, the Technology Manager will work with the company to determine the appropriate patenting and licensing strategy.

16. How will the invention/discovery be assessed after the New Invention Disclosure Form is received by MSUT?

MSUT will assign a Technology Manager to review the disclosure for novelty of the invention, protectability and marketability of potential products or services, relationship to related intellectual property, size and growth potential of the relevant market, amount of time and money required for further development and commercialization, pre-existing rights associated with the intellectual property, and potential competition from other products/technologies. The assessment may also include consideration of whether the intellectual property can be the basis for a new business start-up. Overall, this evaluation process, which may lead to a broadening or refinement of the invention or the patent claims arising from the invention, will help define a strategy to focus on licensing the invention to an existing company or creating a new business start-up whose purpose would be to commercialize the invention.

17. Who decides what gets patented?

MSUT considers various factors in making recommendations about filing patent applications. Based on a recommendation from the Technology Manager, the Executive Director of MSUT ultimately makes the decision as to whether to file a patent application or seek another form of protection. Since the patenting process is expensive, MSUT exercises care in reaching a decision to file a patent application and invest MSU financial resources.

More specifically, MSUT Technology Managers consult with inventors and consider patentability in light of available references from the research and patent literature. MSUT will also consider the anticipated difficulty in enforcing the patent and whether the breadth of the patent claims would be likely to provide adequate opportunity for a licensee to develop a marketable product or service. MSUT also looks at market size and value and will put together a commercialization plan. The process requires a great deal of information, some of which will need to be supplied by the inventors. Accordingly, MSUT asks to meet with the inventors at the time they submit their New Invention Disclosure Form (if not sooner) and asks inventors to work closely with MSUT and with the patent attorney during each step of the process.

Keep in mind that some inventions may be adequately protected without patents. Certain plant varieties may be protected under the Plant Variety Protection Act or by trademark (see Section X Q8). MSUT may protect cell lines and other biological materials simply by requiring licensees to agree to limited distribution to third parties. Royalties received by MSU for such inventions will be distributed according to the Patent Policy, even though there is no patent. In other cases, inventions may contain material that can be licensed under the terms of MSU's Development of Copyrighted Materials Policy.

II. PATENTING PROCESS

Inventions are often protected by applying for and being granted a patent. Patent protection begins with the filing of a patent application with the U.S. Patent and Trademark Office and, when appropriate, foreign patent offices. It typically will require several years and tens of thousands of dollars to obtain issued U.S. and foreign patents. Other protection methods include copyright, trademark, trade secrets, and contractual use restrictions (e.g., for databases biological materials and research tools).

1. What is a patent?

In the U.S., a patent gives the holder the right to exclude others from making, using, selling, offering to sell, and importing the patented invention. A patent does not necessarily provide the holder any affirmative rights to practice a technology because a product or process developed from the patented technology may fall under broader or overlapping patent claims owned by others. Instead, it provides the right to exclude others from practicing the invention. Patent claims are the legal definition (i.e., they establish the legal scope) of an inventor's protectable invention.

2. How is a patent attorney chosen to draft a patent application?

Patent lawyers and patent agents hold a license to practice before the U.S. Patent and Trademark Office. The Office of the General Counsel and MSUT maintain relationships with several patent firms for the purpose of filing and prosecuting patent applications on MSU's behalf. MSUT chooses a patent lawyer or agent from one of these firms who will work well with the inventors and who has expertise in the field of the subject matter of the invention.

3. What is the United States Patent and Trademark Office ("USPTO")?

The USPTO is the federal agency, organized under the Department of Commerce that administers patents on behalf of the government. The USPTO employs patent examiners skilled in all technical fields in order to appraise patent applications. The USPTO also issues federal trademark registrations.

4. What type of subject matter can be patented?

Patentable subject matter includes useful, novel, and non-obvious processes, machines, compositions of matter, articles, some computer programs, and methods (including methods of making compositions, methods of making articles, and even methods of performing business).

5. Can someone patent a naturally occurring substance?

Generally, no. A modification of a naturally occurring substance may be patentable if an inventor is able to demonstrate substantial non-obvious modifications that offer advantages of using the modified form.

6. What is the definition of an inventor on a patent and who determines this?

Inventorship is determined by patent law and requires a legal evaluation by a patent attorney. Under U.S. law, an inventor is a person who takes part in the complete performance of the mental part of the inventive act and, according to case law, generally requires the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice. The list of true inventors therefore may not be known until a patent is granted. The list of inventors at the time of filing of a patent application may change as patent claims are added, deleted, and/or amended during prosecution of the application.

Inventorship is not the same as authorship in a scholarly publication. Also, an employer or supervisor of a person, or one who furnishes only money to build or practice an invention is not an inventor. Likewise, a technician acting under the direction of an inventor is not an inventor. If an individual contributed to the work but did not conceive any part of at least one patent claim, that individual is not an inventor. It is important and appropriate to review the issue of inventorship at many stages in the patenting process because an issued patent may be rendered unenforceable if it is later found that the list of inventors is incorrect.

7. Why does MSU protect some intellectual property through patenting?

Potential commercialization partners (“licensees”) often require a patent because the rights granted to patent owners can protect the sizable investment required to bring the technology to market. Due to their expense and the length of time usually needed to obtain a patent, patent applications are not possible for all MSU inventions. MSUT carefully reviews the commercial potential for an invention before investing in the patent process. Because a patent filing is usually initiated before a licensee is identified, MSUT looks for creative and cost-effective ways to seek early protection for as many promising inventions as possible.

8. What does it cost to file for and obtain a patent?

As of January 2020, filing a regular U.S. patent application may cost between \$10,000 and \$20,000. To obtain an issued patent may require an additional \$10,000 to \$15,000 for patent prosecution. Filing and obtaining issued patents in other countries may cost \$20,000 or more per country. Also, once a patent is issued in the U.S. or in foreign countries, certain maintenance fees are required to keep the patent enforceable.

9. Who is responsible for patenting?

MSUT through the Office of General Counsel retains outside legal counsel to prepare necessary patent applications for MSU inventions. Through the use of outside legal counsel MSU has access to patent specialists in diverse technology areas. Inventors work with the patent counsel in drafting the patent applications and responses to patent offices worldwide. MSU Technology Managers and in-house attorneys select and oversee outside patent counsel.

10. What is the patenting process?

Patent applications are generally drafted by a patent attorney or a patent agent (a non-attorney with a science education licensed to practice before the U.S. Patent and Trademark Office (“USPTO”). The patent attorney generally will ask each presumed inventor to review an application before it is filed and will also ask the inventor(s) questions necessary to determine inventorship of the application claims. Inventors need to disclose the best prior art at the time the application is filed and throughout the entire patent process. At the time an application is filed, the patent attorney will ask the inventor(s) to sign an Inventor’s Declaration and an Assignment, which evidences the inventor’s duty to assign the patent to the University.

In about one year, and in many cases longer, depending on the technology, the patent attorney will receive written notice from the USPTO as to whether the application and its claims have been accepted in the form filed. More often than not, the USPTO rejects the application because certain formalities need to be cleared up or because the claims are not patentable over the prior art. The notice sent by the USPTO is referred to as an Office Action or Official Action.

If the application is rejected, the patent attorney must file a written response, usually within three to six months. Generally, the attorney may amend the claims and/or point out why the USPTO’s position is incorrect. This procedure is referred to as patent prosecution. Often it will take two rounds of USPTO Official Actions and responses by the patent attorney—and sometimes more—before the application is resolved. The resolution can take the form of a USPTO notice that the application is allowable; in other words, the USPTO agrees to issue a patent. During this process, input from the inventor(s) is often needed to confirm the patent attorney’s understanding of the technical aspects of the invention and/or the prior art cited against the application. The USPTO holds patent applications confidential until published by the USPTO, 18 months after initial filing.

If the USPTO ultimately rejects the application for patent, the final rejection may be appealed at the USPTO before the Patent Trial and Appeal Board.

11. What does the researcher need to do during the patenting process?

It is important for each inventor to stay informed and involved during the time a patent application is pending at the U.S. Patent and Trademark Office (“USPTO”) for at least the following reasons:

- a. The USPTO imposes a duty of candor and good faith upon each inventor and any attorney or agent having knowledge of the patent application. This duty requires these individuals to inform the USPTO and submit a copy of any material prior art uncovered as long as the application is pending.
- b. The patent attorney may also require input and assistance from the inventor(s) in order to respond to an Office Action.
- c. Inventors should keep MSUT informed of upcoming publications or interactions with companies related to their intellectual property.

While some aspects of the patent and licensing process may require significant participation on the part of the inventors, MSUT will strive to make efficient use of each inventor’s valuable time.

12. Is there such a thing as a provisional patent?

No. There is a provisional patent application, which is described below.

13. What is the difference between a provisional patent application and a regular (or “utility”) patent application?

In certain circumstances, U.S. provisional patent applications can be a tool for preserving patent rights while aspects of the invention are perfected and can temporarily reduce costs. This occurs because the provisional application is not examined during the year in which it is pending so claims are not required. The provisional application does not count toward the term of the patent life, and any intervening publications will not be considered prior art. A regular U.S. application and related foreign applications must be filed within one year of the provisional form in order to receive its early filing date. However, an applicant only receives the benefit of the earlier filing date for material that is adequately described and enabled in the provisional application. As a result, the patent attorney may need your assistance when an application is filed as a provisional.

14. What’s different about foreign patent protection?

Foreign patent protection is subject to the laws of each individual country, although generally the process works in much the same manner as it does in the United States. One major difference is that many foreign countries require absolute novelty for an invention to be patentable, which means that inventors will lose patent rights if they publish or publicly disclose the invention prior to filing the patent application. In contrast, the United States has a one-year grace period for publications and public disclosures.

15. Is there such a thing as an international patent?

Although an international patent does not exist, an international agreement known as the Patent Cooperation Treaty (PCT) provides a streamlined filing procedure for most industrialized nations. For U.S. applicants, a PCT application is generally filed one year after the corresponding U.S. application (either provisional or regular) has been submitted. The PCT application must later be filed in the national patent office of any country in which the applicant wishes to seek patent protection, generally within 30 months of the earliest claimed filing date.

The PCT provides two advantages. First, it delays the need to file costly foreign applications until the 30-month date, which often gives an applicant the opportunity to further develop, evaluate, and/or market the invention. Second, the international preliminary examination often allows an applicant to simplify the patent prosecution process by having a single examiner speak to the patentability of the claims, which can save significant costs in prosecuting foreign patent applications.

An important international treaty known simple as the “Paris Convention” permits a patent application filed in a second country (or a PCT application) to claim the benefit of the filing date of an application filed in a first country. However, pursuant to this treaty, these so-called “convention applications” must be filed in foreign countries (or as a PCT) within one year of the first filing date of the U.S. application.

16. What is the timeline of the patenting process and resulting protection?

Currently, the average U.S. utility patent application is pending for about two to three years, though inventors in the biotech and computer fields should plan on a longer waiting period. Once a patent is issued, it is enforceable for 20 years from the initial filing of the application that resulted in the patent, assuming that U.S. Patent and Trademark Office-mandated maintenance fees are paid. Other countries require fees to be paid while under patent review and after issuance as well.

17. Will the University initiate or continue patenting activity without an identified licensee?

The University often accepts the risk of filing a patent application before a licensee has been identified. After University rights have been licensed, the licensee generally pays the patenting expenses. At times MSUT must discontinue attempts to secure a patent after a reasonable period (one to three years) of attempting, without success, to license the invention, or if it is determined that MSU cannot obtain reasonable claims from the U.S. Patent and Trademark Office.

III. OWNERSHIP

1. Who owns the patent?

The U.S. Bayh-Dole Act of 1980 allows universities and other non-profit institutions to have ownership rights to discoveries resulting from federally funded research, provided certain obligations are met. MSU's Patent Policy, like the policies of most United States research institutions, extends this principle to include all inventions funded through MSU, regardless of the source of funds.

As a general rule, the University owns inventions made by its employees while acting within the scope of their employment, using funds administered by the University, or using University resources. With respect to a faculty member's duties with the University, MSU holds the position that MSU will own inventions having subject matter related to an area within the faculty member's academic expertise. This interpretation is based on the premise that MSU's initial extension of an offer of employment or faculty appointment was due, at least in part, to the faculty member's expertise in both a general and a specific field. Additionally, if the faculty member's research, teaching and outreach interest have expanded and/or the faculty member has indicated expertise in other areas for the purposes of promotion or maintaining employment with MSU, the faculty member's duties with the University may include other disciplines or sub-disciplines. In some cases, the terms of a Sponsored Research Agreement or Materials Transfer Agreement may affect ownership. When in doubt, it is best to call MSUT for advice.

2. What if a University employee conceives an invention while away from the University?

Inventions conceived while an MSU employee is away from the University may still be a University Invention and, thus, owned by the University. For example, if a professor of immunology who studies infectious properties of an influenza virus at MSU has a flash of insight leading to a new influenza vaccine, MSU would own the patent even if the insight occurred while the professor was vacationing in California. On the other hand, if the same professor conceived of an improved surf board design on vacation and subsequently reduced it to practice without use of University funds or resources, the invention would not result from the professor's duties at the University, and the professor would be free to pursue patent protection on his or her own.

3. What about outside consulting?

When researchers enter consulting agreements, they are acting outside the scope of their employment at the University. Therefore, consulting arrangements are not negotiated by the University or formally reviewed by MSUT or the Office of Sponsored Programs ("OSP"). Inventions made in the course of University-sanctioned outside-work-for-pay may lead to ownership disputes. Researchers who enter into consulting agreements should familiarize themselves with University policies on outside-work-for-pay activities https://hr.msu.edu/policies-procedures/faculty-academic-staff/faculty-handbook/outside_work_for-pay.html. Researchers who consult may be asked to assign ownership of inventions to their industry clients. However, MSU ownership of all University Inventions is a condition of employment for faculty and other MSU personnel. This condition reflects the fact that MSU is the primary employer of the researcher.

Specific exceptions to institutional ownership of University Inventions deriving from outside-work-for-

pay must be authorized in advance and in writing through the Office of the President who, in consultation with the Provost and the Vice President for Research and Graduate Studies, may authorize such exceptions. Exceptions may be allowed on the basis of national security, institutional interests in promoting Michigan economic development, or the documented existence of alternative mechanisms for institutional benefit in lieu of University invention licensing. A researcher engaging in consulting is expected to ensure that the terms of the consulting arrangement are consistent with all applicable University policies, including those related to ownership of intellectual property, including intellectual property created during outside-work-for-pay and the use of intellectual property owned by the University during outside-work-for-pay (see https://hr.msu.edu/policies-procedures/faculty-academic-staff/faculty-handbook/outside_work_for-pay.html). MSUT is available to provide informal advice on how your consulting agreement relates to your obligations with respect to MSU intellectual property.

4. Who owns rights to discoveries made while I am consulting?

Your obligations to the University are not superseded by terms in your consulting contract. It is important to clearly define the scope of work within consulting contracts to minimize any potential issues regarding ownership of inventions during or arising from consulting activities. You must disclose to MSUT any inventions or discoveries made during the performance of outside-work-for-pay. MSUT will determine the ownership of the invention based on several factors:

- The degree to which the invention resembles or derives from your University research;
- The ownership of background intellectual property from which the invention may be considered an improvement or an extension;

If you have questions, MSUT is available for informal advice.

5. Who owns rights to discoveries made while on sabbatical?

University policies relating to ownership of intellectual property (“IP”) continue to apply when a faculty member is on a sabbatical leave authorized by the University. Contact MSUT before starting a sabbatical to ensure that IP ownership arrangements are vetted and documented. Likewise, if MSU is hosting a visiting researcher from another institution who will be working in your laboratory, please contact MSUT to obtain an agreement outlining ownership of discoveries made with the involvement of the visitor. This agreement should be provided to the visiting researcher as part of his or her visiting offer.

6. Are there circumstances under which MSU may choose not to assert its ownership University Inventions?

As a land grant university, MSU seeks to maximize its impact in teaching, research, and community engagement. Accordingly, there may be circumstances when it is in the best interest of the University to assign its ownership of University Inventions to others:

- a. Testing services are services provided by MSU to industry partners such as clinical trials, agricultural field trials, process verification studies, and process scale-up studies. In such situations, the background intellectual property (“IP”) is owned by the company sponsoring the study, the testing protocol is largely specified by the company and the creation of new IP is not an intended or likely outcome. Consistent with the land-grant mission, MSU may enter into agreements with company sponsors in which MSU assigns ownership of data, images, test results and IP that is incremental to the background IP that may result from such studies. This does not include traditional industry sponsored research projects where MSU researchers are engaged in a creative research endeavor and the real possibility of new intellectual property exists.
- b. Outside-work-for-pay arrangements when the faculty member is working on a project where the

company owns the background IP, and the IP created during the project does not overlap with the faculty member's research and scholarly work at MSU.

c. When faculty are working with companies that have licensed MSU technology in order to improve the protection of the licensed technology in a Licensees product. Under such circumstances, where the primary purpose of the outside-work-for-pay is to enhance the technology transfer and strength of MSU licensed IP in a Licensees product, and the invention is an improvement on a technology already licensed from MSU to the company under a license agreement in good standing, MSU may assign ownership of improvements by faculty who are named inventors to the licensee company.

In such cases, inventors who are asked to execute assignment documents to an entity other than MSU shall forward the assignment document and disclose the invention to MSUT which will determine whether these conditions have been met before any legal assignment of inventions are made.

7. Are there circumstances under which MSU would assign patent rights to an inventor?

If MSUT decides not to pursue patent protection for an invention and/or chooses not to actively market the invention, the University may transfer ownership to the inventor(s) upon request from the inventor(s). Reassignment of inventions funded from U.S. government sources requires the government's prior approval. Among the key factors in deciding to reassign are whether additional University resources or private resources could best improve the marketability of the invention.

8. Who owns student inventions?

Students generally own their own intellectual property unless one of the three conditions to University ownership is triggered. Students will own any intellectual property created in coursework, and capstone projects unless they elect to assign their rights to others. Likewise, students will generally own intellectual property created in student companies mentored under entrepreneurship programs or Spartan Innovations. Students will own intellectual property created under grants that specifically support student innovation and entrepreneurship (e.g. Gerstacker grants). Undergraduate students doing independent research under the supervision of an MSU faculty will also own any intellectual property created. MSU will own inventions developed by student employees, students supported by grant funds administered by the University and/or students using University resources or facilities not generally available to the public.

Examples:

- A student develops a flying drone working with fellow students in a "builders day" entrepreneurial event.

The student owns this IP.

- A graduate student working as a research assistant under the direction of her professor and in his lab supported by an NSF grant create a new transgenic plant. The University owns this IP.
- An undergraduate student working alongside graduate students and faculty on a project with Federal funding – University will own this IP.
- An undergraduate student working on an independent research project of their own under the supervision of faculty in a university laboratory – This will depend on the individual circumstances but most likely the student will own this IP unless the university facility use was extensive.
- A student team develops an improvement on a vehicle invention working under a capstone engineering project sponsored by Big Motor Company. The students were given a choice of projects but chose this Big project knowing in advance that they would be required to assign any inventions to Big as a condition of working on this project. Since the students voluntarily chose the benefits of working on this project in exchange for assigning the intellectual property Big Motor Company would own the invention.

IV. RESEARCH CONSIDERATIONS

1. Will I be able to publish the results of my research and still protect the commercial value of my intellectual property?

The right to publish or present research results is a fundamental component of academic freedom, and nothing in the Patent Policy is intended to interfere with it. However, publishing or publicly disclosing information about an invention before seeking patent protection for it may result in loss of rights to a patent. University Inventions must be reported to MSUT before publication or public disclosure, so that timely action to obtain a patent may be taken if warranted, and so that MSUT can comply with any contractual obligation for the University to notify a funding sponsor of the invention.

2. May I use material or intellectual property from others in my research?

Yes, but it is important to document carefully the date and conditions of use so that MSUT can determine if this use may influence the ownership of and license rights to your subsequent research results. If you wish to obtain materials from outside collaborators, an incoming Material Transfer Agreement (“MTA”) should be completed. Contact MSUT’s specialist on MTAs at cdamta@msu.edu for more information on incoming MTAs. For details, visit <http://technologies.msu.edu/researchers/forms/mta-cda-dua>.

3. Will I be able to share materials, research tools, or intellectual property with others to further their research?

Yes. However, it is important to document items that are to be shared with others and the conditions of use. If you wish to send materials to an outside collaborator, an outgoing Material Transfer Agreement (“MTA”) should be completed for this purpose. It also may be necessary to prepare a Confidentiality Agreement (“CDA”) to protect intellectual property arising out of your research results. Contact a MSUT Technology Manager at www.technologies.msu.edu or 517-355-2186 or the MSUT CDA/MTA specialist at cdamta@msu.edu to assist you in drafting and negotiating terms of MTAs or CDAs.

V. TECHNOLOGY TRANSFER / LICENSING ACTIVITIES

Technology transfer is the transfer of knowledge and discoveries from the university to the public. It can occur, for example, through publications, students entering the workforce, exchanges at conferences, and relationships with industry. For purposes of this guide, technology transfer refers to the formal licensing of technology to third parties under the guidance of professionals like those employed at MSUT.

After an invention has been assessed and a plan is in place to protect the invention, MSUT staff, with inventor involvement, will identify candidate companies that have the expertise, resources, and business networks to bring the technology to market. This may involve contracting with an existing company or forming a start-up. Active involvement on the part of the inventor(s) can dramatically improve this process.

Technology is typically transferred through a license agreement in which the University grants its rights in the defined technology to a third party for a period of years, often limited to a particular field of use and/or region of the world. The licensee (the third party licensing the technology) may be an established company or a new business start-up.

1. What is a license?

A license is a permission that the owner of intellectual property grants to another party, without relinquishing ownership, usually under a license agreement. Licenses include terms that require the licensee to meet certain performance requirements and to make financial payments to the University. These payments are shared with the inventors of the technology and are also distributed to the inventor's academic unit and to central administration to provide support for further research and the creation of new technologies.

2. What is a license agreement?

License agreements describe rights and responsibilities related to the use and exploitation of intellectual property developed at the University. University license agreements usually stipulate that the licensee should diligently seek to bring the intellectual property into commercial use for the public good and to provide a reasonable return to the University.

3. What rights can be licensed?

Depending on the nature of the invention or discovery, any and all legal rights may be licensed to a company in any or all fields of use and in any territory. Typically a company will be granted the rights to make, have made, use, and sell, products and services based on the patent. Exclusive patents usually allow the company to sub-license these rights to others. However, some legal rights may be reserved for MSU such as the right to continue to use the patents for further research or educational purposes or to meet legal obligations MSU has to a research sponsor like the federal government.

4. What rights does a research sponsor have to any discoveries associated with my research?

Company-sponsored research agreements typically provide that the University will maintain ownership of any inventions that are made solely by University employees; that the University will own, or the University and company will share ownership of, any inventions made jointly by University and company personnel; and that the company will own any inventions made solely by its personnel. The University is typically willing to negotiate a license with, but not to grant ownership rights to, the company for any inventions resulting from the research that are owned in whole or in part by the University. In return for a license, the company must generally agree to reimburse the University for all patent costs, to pay royalties, and to commit to make a diligent effort to market licensed products. The University may offer an option or right-of-first refusal to an industry sponsor of any intellectual property developed in a sponsored research project. In situations where the breadth of an invention and the market application is known at the outset of the project, the University may pre-negotiate license terms for intellectual property that falls within these specified applications.

Companies which sponsor research may also want to ensure that no patent opportunities are missed by requiring that the company have an opportunity to review manuscripts prior to publication or public disclosure. MSU may grant such a right of review, but will not give the company the right to alter publications as a result of the review except to the extent necessary to delete any company-owned confidential information. The company will generally have the right to request a delay in publication or public disclosure of no more than 90 days for the review.

A sponsored research agreement between MSU and a company sponsor will specify the relevant terms. The sponsor generally will not have contractual rights to discoveries that are clearly outside of the scope of the research. Therefore, it is important to define the scope of work within a research agreement.

Sponsored research projects with company (industrial) partners are handled by MSU Business Connect. See

<http://businessconnect.msu.edu> for more information or contact information. Sponsored research projects with non-company sponsors are handled by the Office of Sponsored Programs (“OSP”). OSP project representatives work closely with MSUT on IP issues in sponsored research agreements. If you have questions about government-sponsored research, please contact the OSP project representative responsible for the sponsor.

5. What is the Bayh-Dole Act?

The U.S. Bayh-Dole Act of 1980 allows universities and other non-profit institutions to have ownership rights to discoveries resulting from federally funded research, provided certain obligations are met. These obligations include making efforts to protect (when appropriate) and commercialize the discoveries, submitting progress reports to the funding agency, giving licensing preference to small businesses that demonstrate sufficient capability, and sharing any resulting revenues with the inventors. The Bayh-Dole Act is credited with stimulating interest in technology transfer activities and generating increased research, commercialization, educational opportunities, and economic development in the United States.

6. How will MSUT market the invention?

Technology Managers use many sources and strategies to identify potential licensees and market inventions. Often existing relationships of the inventors, MSUT staff, and other researchers are useful in marketing an invention. Market research can assist in identifying prospective licensees. MSUT also examines other complementary technologies and agreements. MSUT uses its website to post inventions, leverage conferences and industry events, and make direct contacts. Faculty publications and presentations are often excellent marketing tools as well, if made in consultation with MSUT after the filing of invention disclosures and any necessary protections have been put in place.

7. How is a company chosen to be a licensee?

A licensee is chosen based on its ability to commercialize the technology for the benefit of the general public. Sometimes an established company with experience in similar technologies and markets is the best choice. If an appropriate and interested existing company, or companies, are selected as (a) potential licensee(s), MSUT Technology Managers work with those potential licensees to develop the appropriate financial and diligence terms to fully commercialize the technology. In other cases, the focused efforts of a start-up company are a better option. It is rare for the University to have multiple potential licensees bidding on an invention. The Technology Managers work to balance the interests of the primary stakeholders: the researchers, the University, and the public.

8. If all the inventors believe and agree that their intellectual property should be licensed non-exclusively to all potential users for the public good, will the University honor their request?

MSUT will work with the inventors to develop the appropriate commercialization strategy for their invention. Some technologies lend themselves to non-exclusive licensing (licensing to multiple third parties), while others will only reach the public if they are licensed on an exclusive basis to a company willing to invest resources in developing the invention for the commercial market. MSUT will give careful consideration to inventors’ wishes. However, the University’s final decision will be based on an assessment of which strategy will produce the most benefits for the University and the general public, consistent with governmental or institutional policies and other obligations.

9. What is the relationship between an inventor and a licensee, and how much of the inventor’s time will

a technology transfer arrangement require?

Many licensees require the active assistance of the inventor to facilitate their commercialization efforts, at least at the early stages of the commercial development. This can range from infrequent, informal contacts to a more formal relationship, either through the University's license or an outside-work-for-pay consulting agreement. Working with a new business start-up can require substantially more time, depending on the inventor's role in or with the company and the inventor's duties at the University. Please note that the inventor's participation with a start-up is governed by University conflict of interest and outside-work-for-pay policies.

10. What other types of agreements and considerations apply to tech transfer?

During the life of a license agreement information and materials may be exchanged between MSU and its licensees. Depending upon the stage of the relationship, other types of agreements may be employed to facilitate technology development. These include:

a. **Non-Disclosure Agreements (“NDAs”)**, which are often used to protect the confidentiality of an invention during evaluation by potential licensees. NDAs also protect proprietary information of third parties that University researchers need to review in order to conduct research or evaluate research opportunities. MSUT enters into NDAs to protect the University's proprietary information shared with companies or researchers outside the University and manages incoming NDAs related to research contracts.

b. **Material Transfer Agreements (“MTAs”)**, which are used for incoming and outgoing materials at the University. These agreements describe the terms under which University researchers and outside researchers may share materials. Intellectual property rights can be endangered if materials are shared without a proper MTA. It is the responsibility of the MSU investigator to keep track of his/her obligations with regard to the materials exchanged via MTAs. In particular, the principal investigator must be mindful of restrictions on use of the materials received from third parties, pre-publication review rights of the material providers, and rights in new inventions.

c. **Inter-Institutional Agreements**, which describe the terms under which two or more institutions (generally two universities) will collaborate to assess, protect, market, license, and share in the revenues received from licensing jointly owned intellectual property.

d. **Option Agreements**, or option clauses within research agreements, which describe the conditions under which the University preserves the opportunity for a third party to negotiate a license for intellectual property. Option clauses are often included in sponsored research agreements with corporate research sponsors. Option agreements are entered into with third parties wishing to evaluate the technology prior to entering into a full license agreement.

e. **Research Agreements**, which describe the terms under which sponsors provide research support to the University. These are negotiated by the Office of Sponsored Programs (non-corporate sponsors) or MSU Business Connect (corporate sponsors).

11. How are most licensees found?

Studies have shown that 70% of university licensees were already known to the inventors. Thus,

research and consulting relationships are often a valuable source of licensees. Licensees are also identified through existing relationships of MSU Innovation Center staff. MSU's licensees often license more than one technology from the University. MSUT attempts to broaden these relationships through contacts obtained from website posting inquiries, market research, industry events, and the cultivation of existing licensing relationships.

12. How long does it take to find a potential licensee?

It can take months or sometimes years to locate a potential licensee, depending on the attractiveness of the invention, its stage of development, competing technologies, and the size and intensity of the market. Most university inventions tend to be in the early stage of the development cycle and, thus, require substantial commercialization investment, making it difficult to attract a licensee.

13. How can I assist in marketing my invention?

An inventor's active involvement can dramatically improve the chances of matching an invention to an outside company. An inventor's research and consulting relationships are often helpful in identifying potential licensees and technology champions within companies. Once interested companies are identified, the inventor is the best person to describe the details of the invention and its technical advantages. The most successful technology transfer results are obtained when the inventor and the Technology Manager work together as a team to market and sell the technology.

14. Can there be more than one licensee?

Yes, an invention can be licensed to multiple licensees, either non-exclusively to several companies or exclusively to several companies, each for a unique field-of-use (application) or geography.

15. How long does the technology transfer process take?

The process of protecting the technology and finding the right licensing partner may take months—or even years—to complete. The period of time will depend on the development stage of the technology, the market for the technology, competing technologies, the work needed to bring a new concept to market-ready status, and the resources and willingness of the licensees and the inventors.

VI. REVENUE

1. What can an inventor expect to gain if intellectual property is licensed?

Per University policy, a share of net proceeds from licensing an invention is provided to its inventor(s), the Major Administrative Unit for the inventor(s) (usually the College), and the University. For more information, visit <http://technologies.msu.edu/researchers/patent-copyright-policy/msu-patent-policy>. Most inventors additionally enjoy the satisfaction of knowing their inventions are being deployed for the benefit of the general public. New and enhanced relationships with businesses are another outcome that can augment an inventor's teaching, research, and consulting. In some cases, the licensee may choose to sponsor additional research at the University.

2. How are license revenues distributed?

MSUT is responsible for managing the expenses and revenues associated with technology agreements. Per the MSU Patent Policy, revenues from licenses minus any unreimbursed expense from patenting or otherwise protecting the technology and from the marketing and licensing process are shared with inventor(s).

3. How often are license revenue distributions made?

MSUT distributes revenues on a quarterly basis. Distributions are made in the quarter following the quarter in which the revenues are received. Distributions are dependent on payments being received by MSUT. More details may be found here: <http://technologies.msu.edu/researchers/forms/royalty-distribution>

4. What expenses are reimbursed before royalties are distributed?

MSUT will recover its direct out-of-pocket expenses for the relevant patent and license and make distributions according to any Inter-Institutional agreements that govern royalty sharing before distributing any licensing proceeds. These costs cover legal fees incurred in obtaining patent searches and patentability opinions, and in drafting and prosecuting patent applications, as well as patent office fees in the United States and foreign countries. In some cases, they may also include the cost of intellectual property brokers and consultants or litigation expenses; outside services to audit a licensee; or travel expenses associated with any of these activities. MSUT will not deduct fees for time of its personnel or for the services of any other regular MSU employee, and MSUT does not recover overhead. MSUT only distributes money that MSU actually collects – not money that is owed to the University but is uncollected.

In some cases, researchers ask the University to accept funding from sponsors who attach conditions to the distribution and use of inventions conceived during performance of the sponsored work. For example, a sponsor may request a non-exclusive royalty-free license to an invention conceived during a sponsored project. When the University elects to accept such funding, the sponsor's conditions will be honored. Because such conditions typically result in lower payments to inventors (and the University) – or no licensing payments at all – the existence of such conditions should be disclosed to project participants who were not involved in recommending acceptance of the funding conditions before such participants decide to join the project and commence work. Administrative approval of the exception is typically predicated on the principal investigator's agreement to make such disclosures.

5. What are the tax implications of any revenues I receive from the University?

License revenues are paid through the University's payroll system and treated as unearned income. Taxes are not withheld from revenue distributions and are the sole responsibility of the inventor. Accordingly, a Form 1099 will be issued for this income. You should consult a tax advisor for specific advice.

6. What happens to my share of licensing revenue if I waive rights to it?

Revenues waived by inventors are distributed to the associated college. To avoid potential tax liability, revenues waived by you to your department/unit must not be under your control. In addition, revenues must be waived irrevocably. See MSUT website for additional information. (add link here)

7. How are inventor revenues distributed if there are multiple inventors and/or multiple inventions in a license?

While there may be some variation in the procedure, typically when a license agreement is developed, a revenue distribution worksheet is created to document the formula used to distribute any subsequent revenues. The initial worksheet includes a draft formula based on the contributions listed in the New Invention Disclosure Form(s) relating to the license. MSUT asks one inventor within the group to serve as coordinator and to report the percentages determined by the inventors collectively. All inventors must sign the worksheet, signifying their approval. If inventors are unable to agree on a revenue distribution plan, MSUT, will distribute the revenues equally among all inventors.

When multiple inventions are licensed under the same agreement, MSUT will first recover out-of-pocket

expenses for the entire suite of inventions. If the revenue paid was earned royalties, the revenue will be divided among the inventions or patents tied to the specific product sold. All other revenue will be divided evenly among the currently licensed inventions after expenses are recovered.

8. What if an inventor receives equity (stock) from a company?

Inventors who receive equity from a licensee are permitted to share University revenues from the commercialization of their invention.

9. How is equity from a license distributed?

Equity from licenses for University inventions is received and held by the MSU Research Foundation. This equity will generally be liquidated for cash at the earliest possible opportunity. No attempt is made to time the sale of the equity for maximum value. The net proceeds from the liquidation of the equity received will be distributed as net licensing proceeds per the Patent Policy. Sometimes the University (or its designate, such as the MSU Research Foundation) may make additional cash investments in a company that holds a license from the University. This equity that is a product of a cash investment is not considered equity from the license, even if such follow-on rights to invest are granted in the license, and any net proceeds from such an investment will not be distributed as royalties per the Patent Policy.

10. What happens to royalties when an inventor leaves the University?

An inventor's royalty share is not dependent on them continuing to be a University employee. Once an inventor leaves the University, they will continue to receive revenue distributions quarterly (if there is revenue to distribute). A check will be sent to their home address. The inventor will be notified by email when a revenue distribution has been processed. It is the responsibility of the inventor to keep MSUT informed as to what their current home address and email addresses are. This information can be sent to msutfin@msu.edu. Additional tax forms may be required (W-9, W-8BEN).

If we cannot locate an inventor that is owed a revenue distribution, the amount owed to the inventor will be escheated to the State of Michigan on an annual basis. At that point inventors will need to claim their distribution amount from the State. Revenue distributions are personal to the inventor. If an inventor is deceased, revenue distributions will be made to their estate, or to their heirs if so directed by their estate.

VII. FORMING A START-UP COMPANY

If creation of a new business start-up has been chosen as the commercialization path, an MSUT Technology Manager and Spartan Innovations business development specialists will work as business formation consultants to assist in planning, forming, and funding the start-up.

1. What is a start-up company and why choose to create one?

A start-up is a new business entity formed to commercialize one or more related inventions. Forming a start-up company and licensing intellectual property (“IP”) to it is an alternative to licensing the IP to an established business. A few key factors when considering the formation of a start-up company are:

- a. development risk (often companies in established industries are unwilling to take the risk in new or developing markets)
- b. development costs versus investment return (can the investors obtain their needed rates of return)
- c. potential for multiple products or services from the same technology (few companies survive on one product alone)
- d. sufficiently large competitive advantage and target market
- e. whether potential revenues are sufficient to sustain and grow a company

MSU Innovation Center can help evaluate these and other factors.

2. Who decides whether to form a start-up?

In some situations a start-up company formed to commercialize an invention may be the best alternative. MSU, through Spartan Innovations, may assist in the formation of a start-up company for this purpose. The choice to establish a new company for commercializing intellectual property is a collaborative decision made by Spartan Innovations, MSUT, and the inventors.

3. What assistance and resources are available to the inventor?

The new business development specialists and/or mentors-in-residence at Spartan Innovations serve as coaches, advisors, resource locators, and project planners to help fill the gap between the creation of the technology and the formation of a start-up. Their activities may include locating prospective management talent, developing a funding strategy, making introductions to potential investors, developing and reviewing business plans, and engaging experts to work on key gating issues. New business development professionals can also draw upon an extensive network of resources and experience to assist the inventor.

4. What role does an inventor usually play in a company?

MSU faculty typically serve as technology consultants, as advisors, or in some other technical developmental capacity. Rarely do faculty choose to leave the University and join the start-up. In many cases, the faculty role is suggested by the start-up investors and management team, who identify the best role based on the inventor’s expertise and interests. As the company matures, and additional investment is required, the inventor’s role may change. Faculty involvement of any kind in a start-up is also reviewed by the MSU Faculty Conflict of Interest team. Student inventors and post-docs may choose to join the start-up upon graduation, but rarely have the experience or business skills to serve as the company’s sole management.

5. How much of my time and effort will it take?

Starting a company requires a considerable amount of time and effort. Until the start-up team is identified and engaged, the faculty member will need to champion the formation effort. After the team is in place, the inventor may be needed for investor discussions and formal responsibilities in or with the company, as well as for University processes such as conflict of interest reviews.

6. Can the University and Spartan Innovations accept equity in the company?

The MSU Research Foundation through Spartan Innovations can accept equity for their role in the creation of the company, and equity (held by MSU Research Foundation) can be part of the consideration granted by the company to MSU in return for the license. Equity may be substituted for cash royalties/license fees that are often difficult for start-ups to fund. A decision to include equity as a component of what the company pays for the license must make sense for both the University and the company.

7. Will Spartan Innovations pay for incorporating a start-up company?

Possibly. As part of its role to assist in company formation, and in return for equity in the company, Spartan Innovations may contribute toward company formation expenses. However, as a separate entity, the start-up should pay for its own legal expenses, including all business incorporation matters and licensing agreements.

8. What legal assistance is needed in creating a start-up?

In addition to corporate counsel, the start-up may have its own intellectual property (“IP”) counsel to assist with corporate patent strategy, especially if the company will be involved in a patent-rich area. The start-up’s counsel must be separate from MSU-retained patent counsel, though it is advisable and recommended that the corporate IP counsel and the MSU-retained patent counsel coordinate their activities. Also, it is wise for inventors to have agreements regarding their roles with the start-up reviewed by their own counsel to ensure that all personal ramifications—including taxation and liabilities—are clearly understood.

For additional information and available resources, see <http://spartaninnovations.org/>

VIII. COMMERCIALIZATION

1. Once a license is signed or a start-up company organized, how will the technology be commercialized?

Most licensees continue to develop an invention to enhance the technology, develop products/services, reduce risk, prove reliability, and satisfy the market requirements for adoption by customers. This can involve additional testing, prototyping for manufacturability, durability, and integrity, regulatory approval, and further development to improve performance and marketability. Documentation for training, installation, and marketing is often created during this phase. Benchmarking tests are often required to demonstrate the product/service’s advantages and to position the product/service in the market.

2. What is the role of the inventor during commercialization?

Inventors’ roles can vary depending upon individual interest, the licensee’s desire to utilize inventors for various assignments, MSU’s contractual obligations related to the license, and any personal consulting agreements into which the inventor enters.

3. What revenues are generated for the University if commercialization is successful? If unsuccessful?

Most licenses require the payment of licensing fees. Such fees can be very modest (for start-ups or situations in which the value of the license is deemed to warrant a modest license fee) or can reach tens of thousands of dollars. Royalties on the eventual sales of the licensed products can generate revenues, although this can take years to occur. Equity, if included in a license, can yield returns, but generally only if a successful equity liquidation event (public equity offering or a sale of the company) occurs. Most licenses do not yield substantial revenues. A recent study of licenses at U.S. universities demonstrated that only 1% of all licenses yield over \$1 million. However, the rewards of an invention reaching the market are often more significant than the financial considerations alone.

4. What will happen to the invention if the start-up company or licensee is unsuccessful in

commercializing the technology? Can the invention be licensed to another entity?

Licenses typically include performance milestones that, if unmet, can result in termination of the license. This termination allows for subsequent licensing to another business if commercial interest in the technology still exists.

IX. NAVIGATING CONFLICT OF INTEREST

1. How does the University define a conflict of interest?

A conflict of interest can occur when a University employee, through a relationship with an outside organization, is in a position, or perceived to be in a position, to: 1) influence the University's business, research, or other areas that may lead to the employee's direct or indirect financial gain, 2) adversely impact or influence one's research or teaching responsibilities, or 3) provide improper advantage to others, to the disadvantage of the University. The existence of a conflict of interest is not a negative, it is a routine occurrence that it is properly addressed by oversight through a conflict of interest management plan.

2. When does a faculty conflict of interest require involvement of the Board of Trustees?

Michigan law requires that, whenever the University enters a contract with a company in which an employee holds a financial, or ownership interest, or an executive position in the company, the employee must report his or her interest to the Board of Trustees ("BOT") and the BOT must give notice to the public of the employee's interest and the intent on the part of the University to enter a contract with the company. This required notice is given at one of the regularly scheduled BOT meetings. The notice process is commonly referred to as a "first read" at MSU. Once the terms of the contract between MSU and the company have been negotiated, the BOT must review and approve the material terms of the contract before it can be formally executed. The contract term review and approval process is commonly referred to as a "second read" at MSU. Each company is required to have a first read only once. Thereafter, each contact between MSU and the company will require a second read.

3. When should I seek guidance on conflict of interest?

Whenever a question or uncertainty arises, you should seek guidance from your Office of Sponsored Programs ("OSP") or Business Connect project representative for research-related issues and/or your MSUT Technology Manager for license-related issues. There are two times in particular when guidance is required: when research proposals are submitted to external sponsors (OSP/Business Connect) and when a license, option, or Material Transfer Agreement is being considered with a company in which the faculty member, or any University employee, has an equity or management interest (MSUT).

4. What kinds of issues concern conflict of interest reviewers?

Examples include the integrity of research, the treatment and roles of students, supervision of individuals working at both the University and a licensee company, and conflict of commitment (i.e., your ability to meet your University obligations).

5. What are examples of a conflict of commitment?

A conflict of commitment may exist if duties, assignments, or responsibilities associated with a technology license or outside business arrangement have a negative impact on your ability to meet commitments associated with your University employment or exceed the amount of time available to you for these activities. The best approach is to fully disclose your situation to your unit administrator and discuss the potential impact of outside activities on your University responsibilities. Outside-Work-For-Pay is limited to four (4) days per month under MSU's current policy.

6. How does the University manage conflict associated with research and tech transfer transactions?

MSUT representatives can advise you on conflict of interest issues or direct you to the appropriate conflict of interest resource. It is the responsibility of the researcher or faculty member to comply with University conflict of interest policies. Conflict of interest approval is required before any agreements with a company in which a University employee has an interest can be approved.

For more information, see <https://coi.msu.edu/>

X. OTHER INTELLECTUAL PROPERTY

1. What is “intellectual property”?

Intellectual property is inventions and/or material that may be protected under patent, trademark, trade secret, and/or copyright laws, or sometimes merely by contract.

2. How are software inventions handled?

MSU software is usually protected under copyright law, and its licensing is governed by the MSU Development of Copyrighted Materials Policy. In a few cases, MSU software may also be patentable. While the President of MSU oversees implementation of the Patent Policy, the Provost oversees implementation of the Development of Copyrighted Materials Policy.

3. What is a copyright and how is it useful?

Copyright is a form of protection provided by the laws of the United States to the authors of “original works of authorship.” This includes literary, dramatic, musical, artistic, and certain other intellectual works, as well as computer software. This protection is available to both published and unpublished works. The Copyright Act generally gives the owner of copyright the exclusive right to conduct and authorize various acts, including reproduction, public performance, and making derivative works. Copyright protection is automatically secured when a work is fixed into a tangible medium such as a book, software code, or video. In some instances, the University registers copyrights, but generally not until a commercial product is ready for manufacture. Authors of a University copyright are entitled to revenue distribution per the Copyright Policy. See Section VI for details on revenue distribution. Please note, that per the Copyright Policy, only Authors and the University receive a share of the revenues.

4. How do we decide whether to commercialize with a traditional or an “open source” license for software?

Generally, MSUT supports University software developers who choose to make their programs available to the public through open source mechanisms, provided the University retains the right to distribute the program freely, that open sourcing is consistent with obligations to sponsors, and that each developer’s unit supports the decision. Developers should seek authorization from the appropriate department chair or dean. Developers need to be informed about the different types of open source licenses so that they use the correct open source (<https://opensource.org/licenses>). MSUT can assist developers in making this determination.

5. What is a derivative work?

A “derivative work” is a work based upon one or more preexisting works, such as a translation, musical arrangement, dramatization, fictionalization, motion picture version, sound recording, art reproduction, abridgment, condensation, or compilation, or any other form in which a work may be recast, transformed, or adapted. A work consisting of editorial revisions, annotations, elaborations, or other modifications, which, as a whole, represent an original work of authorship, is a “derivative work.” The owner of a copyright generally has the exclusive right to create derivative works.

6. How do I represent a proper University copyright notice?

Although copyrightable works do not require a copyright notice, MSUT recommends that one is used. For works owned by the University, please use the following template: [Year of first publication] © Board of Trustees of Michigan State University (e.g., 2016 © Board of Trustees of Michigan State University).

7. How can I learn more about University copyright policies?

It is best to begin by reviewing material on the University's copyright website at <https://innovationcenter.msu.edu/tech-transfer-commercialization/faculty-researchers/msu-copyright-policy/>. If you have additional questions about a potentially copyrightable work, please contact MSUT. If you have questions about other copyright policies, please contact the University's Office of General Counsel.

8. What is a trademark or service mark and how is it useful?

A trademark includes any word, name, symbol, device, or combination that is used in commerce to identify and distinguish the goods of one manufacturer or seller from those manufactured or sold by others, and also to indicate the source of the goods. In short, a trademark is a brand name. A service mark is any word, name, symbol, device, or combination that is used, or intended to be used, in commerce to identify and distinguish the services of one provider from those of others, and to indicate the source of the services. Trademark protection is not meaningful until a product is nearing production for sale. The official logos of the University and its sports teams are administered and licensed by the University Licensing Programs Office. Licensing of MSU trademarks and indicia is managed by the University Licensing Programs Office (<http://www.licensing.msu.edu/>).

9. What is trademark registration?

Trademark registration is a procedure in which the United States Patent and Trademark Office provides a determination of rights based upon legitimate use of the mark. However, it is not necessary to register a trademark or service mark to prevent others from infringing upon the mark. Trademarks generally become protected as soon as they are adopted by an organization and used in commerce, even before registration. With a federal trademark registration, the registrant is presumed to be entitled to use the trademark throughout the United States for the goods or services for which the trademark is registered.

10. How can I request registration of a trademark?

The University Licensing Programs Office website created a questionnaire to help determine if a mark associated with the University should be registered with the USPTO. The questionnaire can be found at: <http://static1.squarespace.com/static/5512f0b7e4b0cd853fcec429/t/55368ec7e4b07dc6066a6692/1429905871912/Request+for+Trademark+Application.pdf>