



The
University
of Akron

Inventor's Guide to
Technology Transfer



The Inventor's Guide to Tech Transfer outlines the essential elements of technology transfer at The University of Akron.

This guide is organized to answer the most common questions we typically field from our research community and is designed to provide a broad overview of the technology transfer process and services available for researchers.

For more information, contact the Office of Technology Transfer.

Phone: 330-972-7840

Fax: 330-972-2368

Web: www.uakron.edu/research

Goodyear Polymer Center, Suite 312
Akron, Ohio 44325



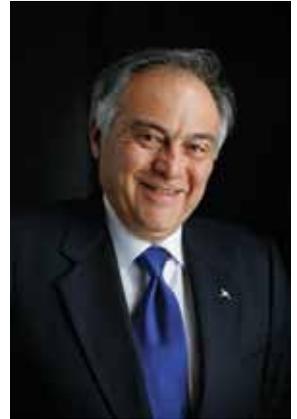
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This guide is based on the “Inventor’s Guide to Technology Transfer” originally published by the University of Michigan with adaptations for Massachusetts Institute of Technology, University of Cincinnati Intellectual Property Office (UCIPO), and UA and its Office of Technology Transfer (OTT). We are very grateful to UCIPO for their kind permission to use their excellent material and to the University of Michigan for the use of its copyright.

We know, Dear Colleagues...

. . . that our mission does not end with the vital work of creating new knowledge and new technologies. We also must share our discoveries and facilitate their timely translation into marketable products and services that benefit our sponsoring society.

The Inventor's Guide to Technology Transfer outlines how you can transform existing research and expertise into patented technology and, ultimately, into commercial products that create fuller employment, capital formation, growing profits and surpluses for reinvestment. This process of technology transfer process benefits not only regional economic vitality; it improves the quality of life, increases The University of Akron's renown, attracts new research partners, creates new streams of research funding and enhances the success of our faculty, students and partners.



Our draft strategic plan suggests many objectives that cannot be achieved without understanding the commercialization process and the important ways that we can move technologies beyond University borders for the benefit of the region and, perhaps, the world.

- To attain \$200 million in annual sponsored research activities, we require new sources of funding, including federal grants and industry sponsorship, that hinge upon the applied potential of our work.
- To achieve world-class recognition in distinctive technologies in fields such as advanced energy technologies, bio-innovation, advanced materials, health care, and other areas of strategic concern for the region and state, we must have an impact beyond publications and invited presentations.
- To optimize our effectiveness as a regional economic driver for Northeast Ohio, we need to unleash the full potential of our research and link with other area colleges and universities, entrepreneurs, growing industrial sectors and regional and international centers of excellence.

I encourage you to use this document and the expertise of the University of Akron Research Foundation to find applications of your research that solve real-world problems, to protect discoveries for your benefit and that of the University, and to share your accomplishments as widely as possible.

With every good wish for your continued success,

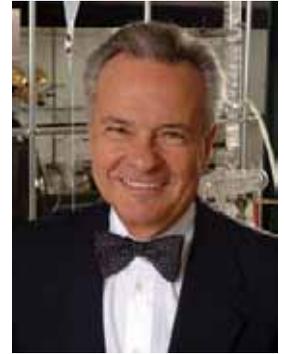
Sincerely,

A handwritten signature in black ink, which appears to read "Luis Proenza". The signature is written in a cursive, flowing style.

Luis Proenza
President

The transformative power of Technology Transfer

For more than a century, institutional research success has been measured in the traditional terms of funding and research expenditures; however, these metrics evaluate only a small portion of The University of Akron's research equation. In seeking additional outside support for our research projects, we demonstrate a commitment to discovery, knowledge and progress—but for every investment society makes in our work, a corresponding economic return often results.



Technology transfer gives us an opportunity to actively connect UA resources with industry to transform research into products by licensing patents to existing companies or developing and marketing products through a startup company. By moving scientific discoveries beyond our campus walls we benefit society as a whole. We also protect UA investments in scientific research, share discoveries with the broader community and convert concepts and prototypes into tangible products. Technology transfer requires connections with industry and other universities—the cultivation of which creates new prospects for funding sources and collaborators, enhances opportunities for students, and increases the recognition of our institution's achievements with prospective students, alumni and the community.

At The University of Akron, we possess two great resources: the Office of Technology Transfer, which ranks first in the world in patents per research dollar and seventh in the U.S. in licensing revenue among universities without a medical school, and the University of Akron Research Foundation (UARF), which connects the region with multi-national corporations through partnerships, presents forums with Fortune 500 companies and offers assistance to more than 100 entrepreneurial companies per year.

I urge you to use our resources to your benefit—the technology transfer process at The University of Akron is an opportunity to transform your research for broader use, attain success under new metrics and discover novel ways to reach your goals.

Sincerely,

A handwritten signature in cursive script that reads "George". The ink is dark and the signature is fluid and legible.

George R. Newkome, Ph.D.

Vice President for Research and Dean of the Graduate School

Technology Transfer Overview

What is technology transfer?

Technology transfer is the movement of knowledge and discoveries to the general public. It can occur through publications, educated students entering the workforce, exchanges at conferences and relationships with industry. For the purposes of this guide, however, technology transfer refers to the formal licensing of technology to third parties, under the guidance of professionals employed by universities, research foundations and businesses, in departments focused on these activities.

What is UA's Office of Technology Transfer (OTT)?

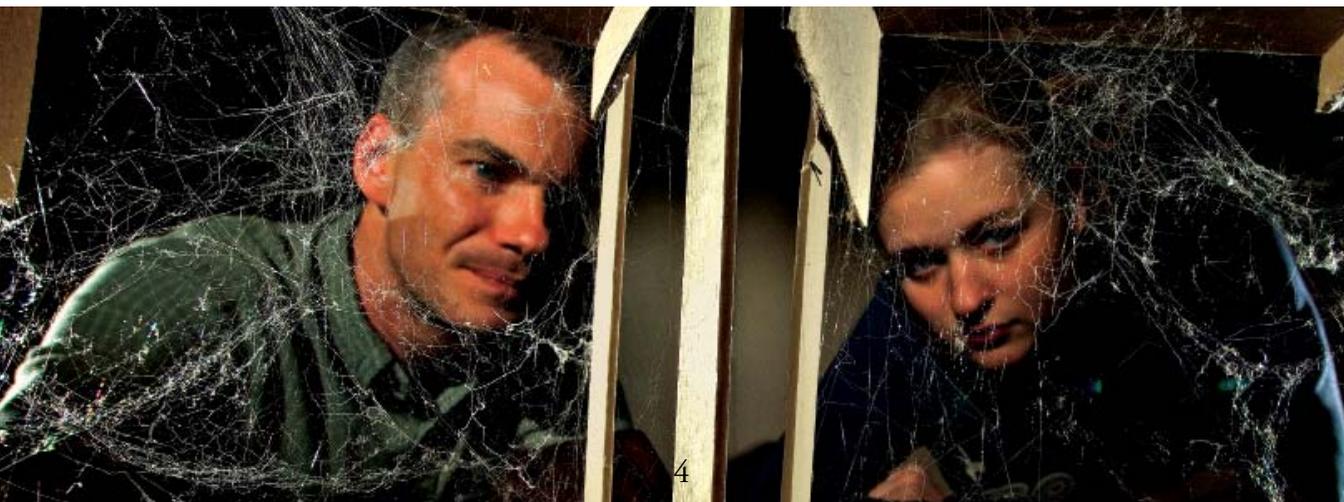
The OTT is a department composed of specialists in licensing, business development and legal matters, all of whom are widely experienced in transferring technologies across a broad array of fields, including science,

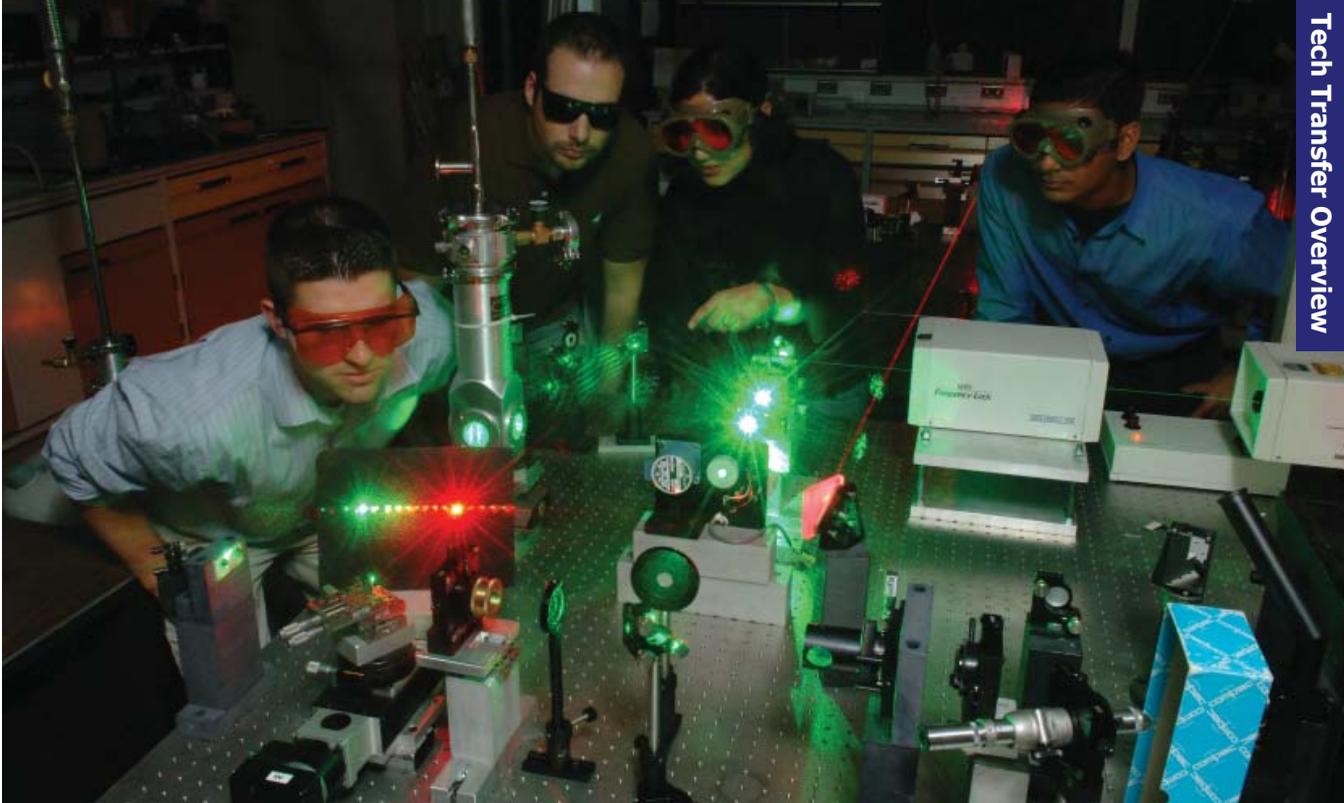
engineering and information technology. We are responsible for managing inventions from UA faculty, staff and students.

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

The reasons are unique to each researcher and may include:

- Making a positive impact on society
- Feeling a sense of personal fulfillment
- Achieving recognition and financial reward
- Generating additional department/center funding
- Meeting the obligations of a research contract
- Attracting research sponsors
- Creating educational opportunities for students
- Linking students to future job opportunities





How is technology transferred?

Technology is typically transferred through an agreement in which UA grants to a third party a license to use UA's intellectual property rights in the defined technology, sometimes for a particular field of use and/or region of the world. Such a grant may be exclusive or non-exclusive. The licensee (the third party licensing the technology) may be an established company or a new business start-up. Licenses include terms that require the licensee to meet certain performance requirements and to make financial payments to UA. These payments are shared with the inventors and also distributed to departments and research centers to provide support for further research, education and participation in the technology transfer process.

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 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, technology commercialization, education opportunities and economic development.

Technology Transfer Process

How do I work with the Office of Technology Transfer (OTT)?

We encourage you to contact the OTT during your discovery process to ensure you are aware of the options that will best leverage the commercial potential of your research. OTT staff members are trained to assist you with questions related to marketability, funding sources, commercial partners, patenting

and other protection methods, new business startup considerations, UA policies and procedures, and much more.

What are the typical steps in the process?

The process of technology transfer is summarized in the steps and diagram that follow. Note that these steps can vary in sequence and often occur simultaneously.

10 STEPS TO TECH COMMERCIALIZATION

1 RESEARCH: Observations and experiments during research activities often lead to discoveries and inventions. An invention is any useful process, machine, composition of matter, or any new or useful improvement of the same. Often, multiple researchers may have contributed to the invention.

2 PRE-DISCLOSURE: An early contact with the Office of Technology Transfer (OTT) to discuss your invention and to provide guidance with respect to the disclosure, evaluation, and protection processes described below.

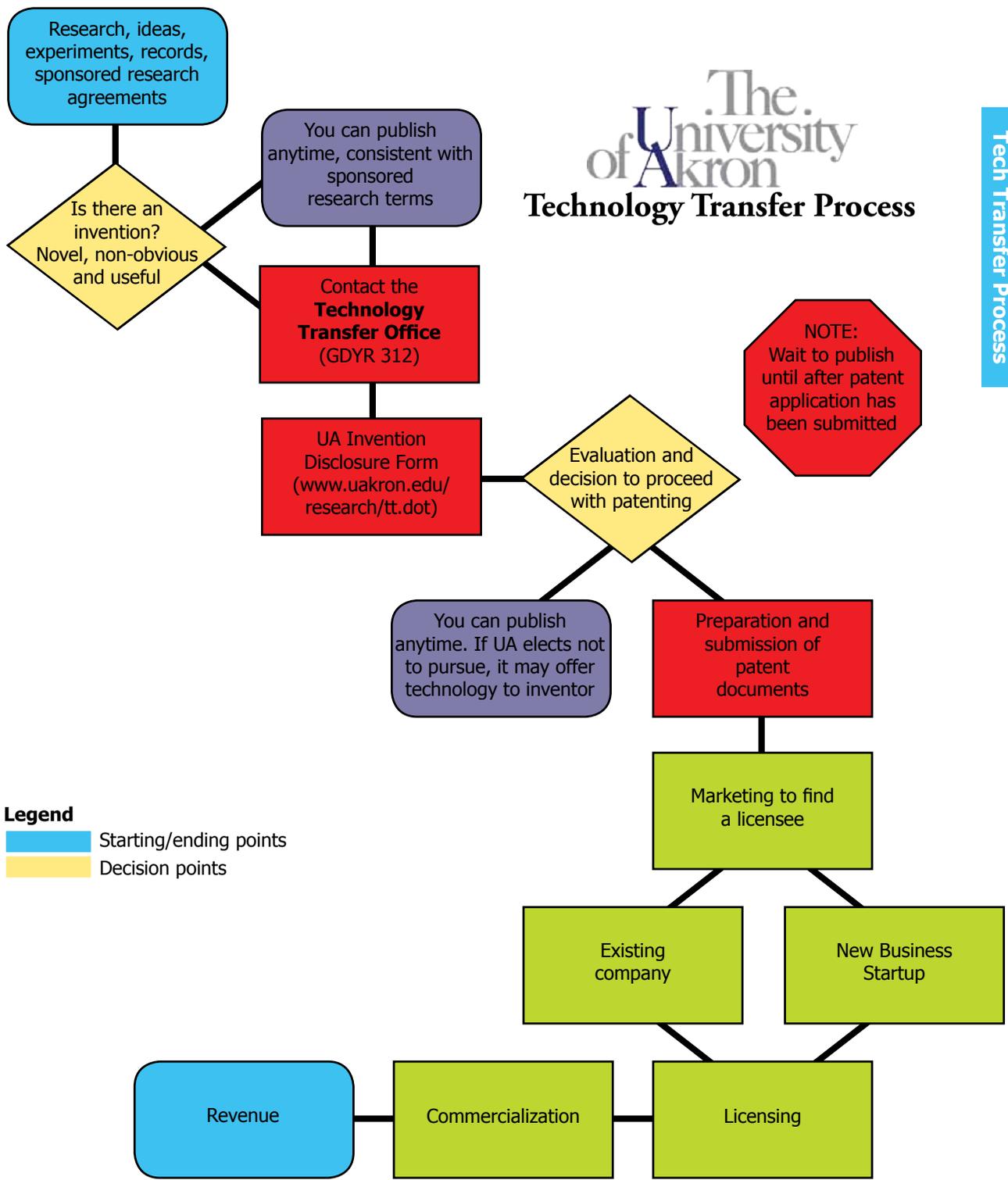
3 INVENTION DISCLOSURE FORM: The written notice of invention to the OTT begins the formal technology transfer process. An invention disclosure remains confidential and should fully document your invention so that the options for commercialization can be evaluated and pursued.

4 ASSESSMENT: The period in which the OTT reviews the invention disclosure with your input, conducts patent searches (if applicable), and analyzes the market and competitive technologies to determine the invention's commercialization potential. The evaluation process will guide our strategy on

whether to focus on licensing to an existing company or creating a new business startup.

5 PROTECTION: The process in which protection for an invention is pursued to encourage third party interest in commercialization. Patent protection, a common legal protection method, begins with the filing of a patent application with the U.S. Patent and Trademark Office and, when appropriate, foreign patent offices. Once a patent application has been filed, it will require several years and tens of thousands of dollars to obtain issued U.S. and foreign patents. Other protection options include copyright and trademark.

The University of Akron
Technology Transfer Process



Legend
 Starting/ending points
 Decision points

6 MARKETING: With your involvement, the OTT staff identifies candidate companies that have the expertise, resources and business networks to bring the technology to market. This may involve partnerships with an existing company or forming a startup. Your active involvement can dramatically enhance this process.

7a FORM A START-UP: If creation of a new business startup has been chosen as the optimal commercialization path, the OTT will work to assist the founders in planning, creating and finding funding for the startup.

7b EXISTING BUSINESS RELATIONSHIP: If the invention will best be commercialized by one or more

existing companies, the OTT will seek potential licensees and work to identify mutual interests, goals and plans to fully commercialize this technology.

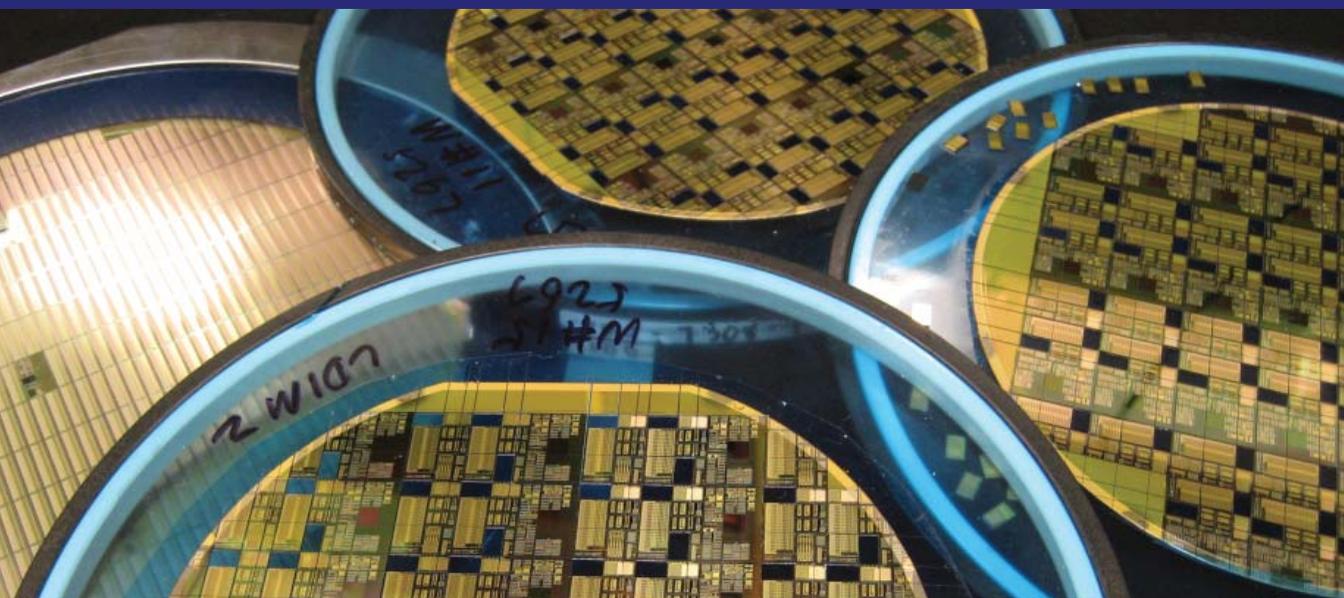
7c WAIVE BACK TO INVENTOR: If the OTT chooses not to retain title to an invention after evaluating the technology, ownership of the invention may be released back to the inventor(s).

8 LICENSING: A license agreement is a contract between UA and a third party in which UA's rights to a technology are licensed (without relinquishing ownership) for financial and other benefits. A license agreement is used with both a new startup business and an established company. An option agreement is sometimes used to

enable a third party to evaluate the technology and its market potential for a limited time before licensing.

9 COMMERCIALIZATION: The licensee company continues the advancement of the technology and makes other business investments to develop the product or service. This step may entail further development, regulatory approvals, sales and marketing, support, training and other activities.

10 REVENUE: Revenues received by UA from licensees are distributed to inventors, departments and colleges to fund additional research and education and encourage further participation in the tech transfer process.



How long does the tech transfer process take?

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

How can I help in this process?

- Contact the OTT at 330-972-7840 or the appropriate OTT staff member (found at www.uakron.edu/research/tt.dot) when you believe you have a scientific or technical observation with potential commercial or research value.
- Complete and submit the UA Invention Disclosure Form (found at www.uakron.edu/research/tt.dot) in sufficient time to file a patent application before publicly disclosing your technology or publishing a manuscript – preferably before submitting the manuscript for publication.
- On the UA Invention Disclosure Form, include companies and contacts you believe might be interested in your intellectual property or who may have already contacted you about your invention. Studies have shown that over 70 percent of all licenses are executed with commercial entities known by the inventor, so your contacts can be extremely useful.
- To avoid risking your patent rights and



possibly hindering the opportunity to market your invention, contact the OTT before holding any discussions with people outside the UA community. If a patent application has not yet been filed, we can provide you with a Non-Disclosure Agreement for the party to sign before you describe your invention to them.

- Respond to the OTT and outside patent counsel requests. While some aspects of the patent and licensing process will require significant participation on your part, we will strive to make efficient use of your valuable time.
- Keep the OTT informed of upcoming publications or interactions with companies related to your intellectual property.

Considerations

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

Yes, but since patent rights are affected by these activities, it is best to submit an Invention Disclosure Form (discussed in the next section) well before any public communication or disclosure of the invention. There are significant differences between the U.S. and other countries as to how early publication affects a potential patent. Once publicly disclosed (published or presented in some form), an invention may have restricted or minimal potential for patent protection outside of the U.S. Be sure to inform the Office of Technology Transfer (OTT) of any imminent or prior presentation, lecture, poster, abstract, website description, research proposal submission, dissertation/masters thesis, publication or other

public presentation of the invention.

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

Yes. However, it is necessary to have a Confidentiality or Non-Disclosure Agreement completed to protect your research results or intellectual property. Contact the OTT to assist you in completing outgoing agreements.

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

The Sponsored Research Agreement should specify the intellectual property rights of the sponsor. UA retains ownership of the patent rights and other intellectual property resulting from sponsored research. However, the sponsor may have rights to obtain a license to the intellectual property arising from the research. Often, sponsored research contracts allow the sponsor a limited time to negotiate a license for any patent or intellectual property rights developed as the result of the research. Even so, the sponsor generally will not have contractual rights to discoveries that are clearly outside the scope of the research (and which do not use funds from the research agreement). Therefore, it is important to define the scope of work within a research agreement.

Sponsored research agreements are handled by the Office of Research Services & Sponsored



Programs (ORSSP) and ORSSP representatives work closely with OTT on intellectual property issues in sponsored research agreements. If you have any questions about sponsored research, call ORSSP at 330-972-7666 or visit www.uakron.edu/research/orssp.

What about consulting?

When researchers enter into consulting agreements (for work to be done without use of UA facilities), they are deemed to be acting outside of the scope of their employment. Therefore, consulting arrangements are not negotiated by UA, nor formally reviewed by the OTT or

ORSSP. Researchers who enter into consulting agreements should familiarize themselves with UA policies relevant to consulting activities, including the UA Research, Copyright and Patent Policy and the Conduct and Ethics Policy (available on the OTT website at www.uakron.edu/research/tt.dot). The researcher is expected to ensure that the terms of the consulting arrangements are consistent with UA policies, including those related to intellectual property ownership, employment responsibilities and use of intellectual property. The OTT is available to provide informal advice on how your consulting agreement relates to UA intellectual property you have created.

NAVIGATING CONFLICT OF INTEREST

How does UA define conflict of interest?

A conflict of interest can occur when the opportunities for an individual to benefit occur from the outcome of his or her research and scholarship or from the legitimate activities conducted in the course of his or her responsibilities as a member of the institution.

What is UA's policy on employees holding financial interest in companies that commercialize University inventions?

Employees who create new technology may hold personal financial interests in companies that are engaged in

commercializing their inventions. Employee participation with outside companies in technology development facilitates UA's goal of making its research available for use in the private marketplace. The opportunity to participate in commercialization activities is also essential to the University's efforts to attract and retain highly qualified researchers.

What should I do if I have a conflict of interest?

UA employees must disclose the proposed financial interest and complete a Conflict of Interest Management Plan to perform outside activity with companies engaged in com-

mercializing the new discoveries (contact OTT to discuss further). The requirements for this plan are described in University Policy 3359-11-18.

How are conflicts of interest issues resolved and approved?

The approved Conflict of Interest Management Plan is forwarded to the Office of Research for final approval by the Vice President for Research. In granting approval, the Vice President for Research may consult with the relevant Provost, the Office of General Counsel, and the standing committee on conflicts of interest.

Invention Disclosures

What is an Invention Disclosure?

An Invention Disclosure is a description of your invention or development that is provided to the Office of Technology Transfer (OTT). The Disclosure should also list all sponsors of the research and should include any other information necessary to begin pursuing protection and commercialization. It is critical that you note the date of any upcoming publication or other public disclosure describing the invention. To initiate the process, deliver, mail, email or fax the UA Invention Disclosure Form (found at www.uakron.edu/research/tt.dot) to the OTT office. This document will be treated as “UA Confidential.” You will usually be contacted by the OTT shortly after your submission of the Disclosure to discuss the invention and its potential commercial applications.

Why should I submit an Invention Disclosure?

When you disclose your invention to the OTT, it starts a process that could lead to the technology commercialization. This may involve beginning the legal protection process and working to identify outside development partners. If government funds were used for your research, you are required to file a prompt disclosure, which will be reported to the sponsoring agency. Similar requirements may exist for other sponsored projects.

How do I know if my discovery is an invention? Should I be submitting an Invention Disclosure?

You are encouraged to submit an Invention Disclosure Form for developments that you feel may solve a significant problem or have significant value. A search of the prior patent art can be helpful in this area. If you are in doubt, contact the OTT to discuss the potential invention.

When should I complete an Invention Disclosure?

You should complete an Invention Disclosure Form whenever you feel you have discovered something unique with possible commercial value. This should be done well before presenting the discovery through publications, poster sessions, conferences, press-releases or other communications. Once publicly disclosed (i.e., presented in some form to non-UA listeners), an invention may have restricted or minimal potential for patent protection outside of the U.S.

How do I submit an Invention Disclosure?

You can download an Invention Disclosure Form and simple instructions from www.uakron.edu/research/tt.dot. Disclosures are reviewed by the OTT. However, the inventor is encouraged to follow-up on the

Disclosure and case status. If you have any questions, call the OTT at 330-972-7840.

Should I list visiting scientists in my Invention Disclosure?

All contributors to the ideas leading to a discovery should be mentioned in your Disclosure, even if they are not employees. Appropriate legal counsel will determine the rights of such persons and institutions. It is

prudent to discuss with the OTT all working relationships (preferably before they begin) to understand the implications for any subsequent inventions.

What happens after I submit an Invention Disclosure?

Your invention will be given a technology record number (UA XXX), which will be used in all future communications.

ASSESSING INVENTION DISCLOSURES

How does the OTT assess Invention Disclosures?

OTT personnel examine each Invention Disclosure to review the novelty of the invention, competing technologies, 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, pre-existing rights associated with the intellectual property and potential competition from other products or technologies. This assessment may also include consideration of whether the intellectual property can be the basis for a new business startup.

If I believe that all intellectual property should be licensed non-exclusively to all potential users for the

public good, will UA honor my request?

The OTT will work with you to develop the appropriate commercialization strategy for your invention. Some technologies lend themselves to non-exclusive licensing (licensing to multiple third parties), while others will only reach the commercial marketplace, and therefore the public, if they are licensed on an exclusive basis. We will try to accommodate inventors' commercialization wishes consistent with the objectives of co-inventors and consistent with obligations to sponsors or other third parties.

Is an invention ever reassigned to an inventor?

If the OTT decides not to pursue patent protection or chooses not to actively market

the invention, UA may reassign (transfer ownership) to the inventor(s). Reassignment of inventions funded from U.S. government sources requires the government's prior approval. Among the key factors in UA deciding to reassign are whether additional UA resources or private resources could best improve marketability and whether all inventors agree with the reassignment plan. Upon reassignment, the inventor(s) is responsible for payment of all further development, patenting and marketing expenses. UA may also require you to share with UA some of any revenue you derive from the commercialization of the invention. If additional UA resources are used to further develop the invention, UA may reassert ownership interest in the invention.

Patents

and other legal protection

What is intellectual property?

Intellectual property, or “IP”, relates to inventions and materials that may be protected under patent, trademark or copyright laws.

What is a patent?

A patent is a legal right that allows the holder to exclude others from making, using, selling, offering to sell and importing any patented invention. Note, however, that a patent does not provide the holder any affirmative right to practice a technology, since it may fall under a broader patent owned by others; your patent only provides the right to exclude others from practicing it. Patent claims are the legal definition of an inventor’s protectable invention.

What type of subject matter can be patented?

Patentable subject matter includes 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).

Can someone patent a naturally occurring substance?

Not in its natural state. However, a natural substance that has never before been iso-



lated or known may be patentable in some instances, but only in its isolated form (since the isolated form had never been known before). A variation of a naturally occurring substance may be patentable if an inventor is able to demonstrate substantial non-obvious modifications that offer significant advantages in using the variant.

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.

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

Under U.S. law, an inventor is a person who takes part in the conception of the ideas in the patent claims of a patent application. Thus, inventorship of a patent application may change as the patent claims are changed during prosecution of the application. An employer or person who furnishes money to build or practice an invention is not an inventor. Inventorship may require an intricate legal determination by the patent attorney prosecuting the application.

Who is responsible for patenting?

The Office of Technology Transfer (OTT) contracts with outside patent counsel for patent protection, thus assuring access to patent specialists in diverse technology areas. Inventors work with the patent counsel in drafting the patent applications and responding to office actions in the countries in which patents are filed.

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 by the USPTO). The patent attorney generally will ask you to review an application before it is filed and will also ask you questions about inventorship of the application claims. At the time an application is filed, the patent attorney will ask the inventor(s) to sign an Inventor's Declaration and an Assignment under which the

inventor(s) assigns his or her rights in the patent to UA.

In 18 to 24 months, 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 as patentable in the form as filed. More often than not, the USPTO rejects the application because the claims are not patentable over the "prior art" (anything that workers in the field have made or publicly disclosed in the past). The letter 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. The attorney may amend the claims or point out why the USPTO's position is incorrect. This procedure is referred to as patent prosecution.

Often it will take two USPTO Official Actions and two 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 the prosecution process, input from the inventor(s) is often needed to confirm the patent attorney's understanding of the technical aspects of the invention or the prior art cited against the application. The USPTO holds patent applications confidential until published 18 months after initial filing. The time between the initial filing of the patent application and the issuance of the patent is the "patent pending" period.



Is there such a thing as a provisional patent?

No. However, there is a provisional patent application, which is described below.

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

In some circumstances, U.S. provisional patent applications provide a tool for preserving patent rights, while providing extra time to prepare a regular application. The provisional application is not examined during the year in which it is pending and claims are not required. A regular U.S. application and related foreign applications must be filed within one year of the provisional filing in order to receive the benefit of the provisional application’s early filing date. An applicant only receives the benefit of the earlier filing date for material that is adequately described in the provisional application, so we may still need you to work with a patent attorney.

What’s different about foreign patent protection?

Foreign patent protection is subject to the laws of each individual country, although in a general sense, the process works much the same as it does in the U.S. In most foreign countries, however, an inventor will lose any patent rights if he or she publicly discloses the invention prior to filing of the first (or “priority”) application in one country. In contrast, the U.S. has a one-year grace period after publication in which a patent may be filed.

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 (ei-

ther 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.

What is gained by filing an application under the PCT?

The PCT application provides two advantages. First, it delays the need to file costly foreign applications until the 30-month date, often after an applicant has the opportunity to further develop, evaluate and market the invention for licensing. Second, the interna-

tional 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. Another important, but less commonly used, international treaty called 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, provided that a so-called “convention application” is filed in foreign countries (or as a PCT) within one year of the first filing date of the U.S. application.

Who owns what I create?

Ownership depends upon the employment status of the creators of the invention and their use of UA facilities. Considerations include:

- What is the source of the funds or resources used to produce the invention?
- What was the employment status of the creators at the time the intellectual property was made?
- What are the terms of any agreement related to the creation of the intellectual property?

As a general rule, UA owns inventions made by its employees while working under a grant or contract to UA or using UA resources. When in doubt, it is best to contact the

Office of Technology Transfer (OTT) for advice.

Where can I find UA’s policy on ownership of inventions?

The policy is defined by University Rule 3359-02-05 University Research, Copyright and Patent Policy, which can be found on the OTT website at www.uakron.edu/research/tt.dot. These policies are governed by Ohio Revised Code § 3345.14.

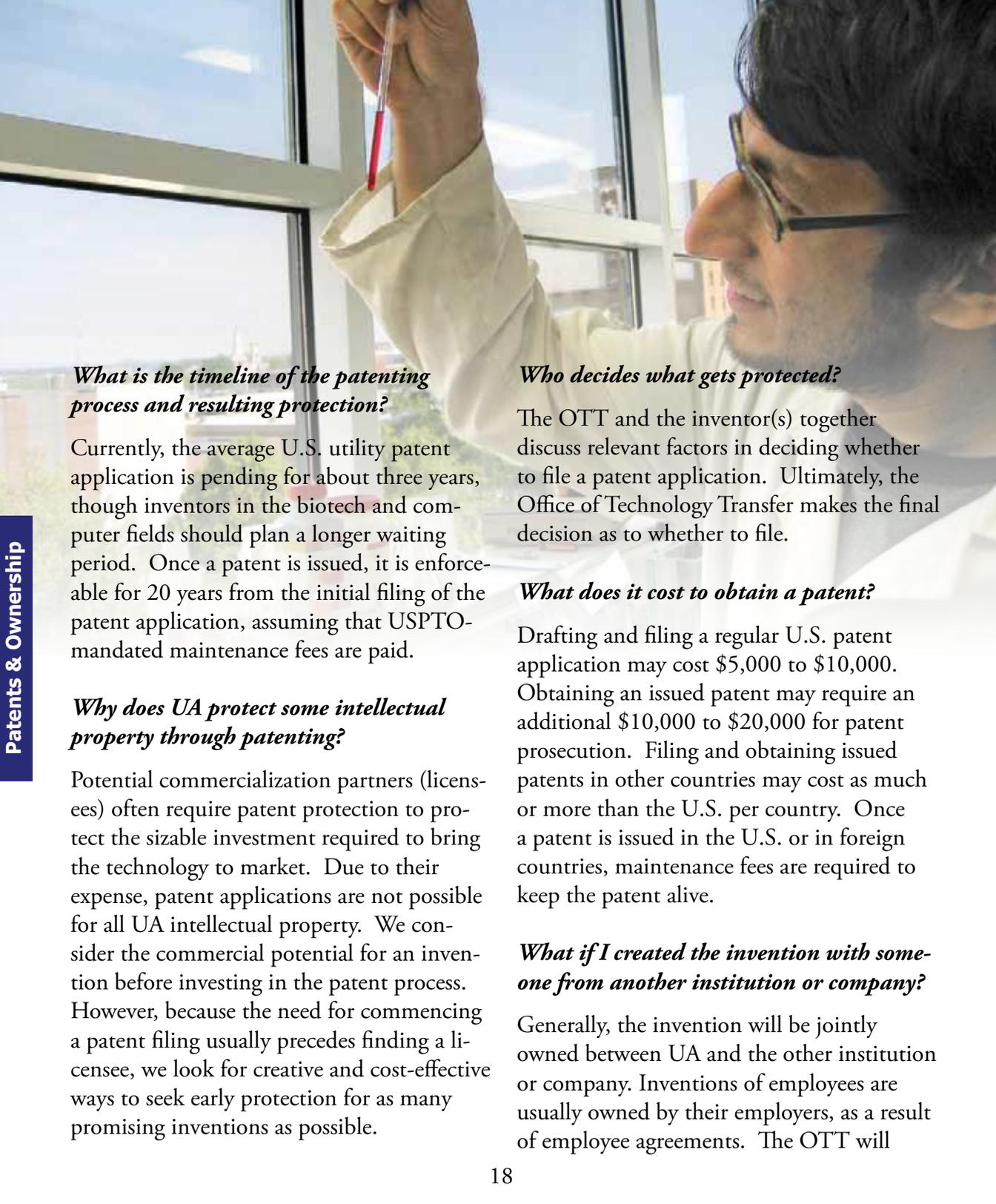
Who owns rights to discoveries made while I am consulting?

Consulting contracts are separate from UA employment, and should be treated as such. It is important to

clearly define the scope of the consulting work to avoid potential conflicts with UA research. Inventions made by UA employees, within the field of their professional expertise, or using UA facilities, are owned by UA.

Can a student contribute to an invention?

Yes, a student can even be the sole contributor or inventor, although inclusion as a coinventor with a faculty contributor or inventor is more common. Ownership of rights depends on whether the invention was created by a student in his or her capacity as a UA employee, using UA resources, or under a contract or grant to UA.



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

Currently, the average U.S. utility patent application is pending for about three years, though inventors in the biotech and computer fields should plan a longer waiting period. Once a patent is issued, it is enforceable for 20 years from the initial filing of the patent application, assuming that USPTO-mandated maintenance fees are paid.

Why does UA protect some intellectual property through patenting?

Potential commercialization partners (licensees) often require patent protection to protect the sizable investment required to bring the technology to market. Due to their expense, patent applications are not possible for all UA intellectual property. We consider the commercial potential for an invention before investing in the patent process. However, because the need for commencing a patent filing usually precedes finding a licensee, we look for creative and cost-effective ways to seek early protection for as many promising inventions as possible.

Who decides what gets protected?

The OTT and the inventor(s) together discuss relevant factors in deciding whether to file a patent application. Ultimately, the Office of Technology Transfer makes the final decision as to whether to file.

What does it cost to obtain a patent?

Drafting and filing a regular U.S. patent application may cost \$5,000 to \$10,000. Obtaining an issued patent may require an additional \$10,000 to \$20,000 for patent prosecution. Filing and obtaining issued patents in other countries may cost as much or more than the U.S. per country. Once a patent is issued in the U.S. or in foreign countries, maintenance fees are required to keep the patent alive.

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

Generally, the invention will be jointly owned between UA and the other institution or company. Inventions of employees are usually owned by their employers, as a result of employee agreements. The OTT will

typically work with the other institution to draw up an “inter-institutional” agreement that provides for one of the institutions to take the lead in protecting and licensing the invention, sharing of expenses associated with the patenting process and allocating any licensing revenues.

Will UA initiate or continue patenting activity without an identified licensee?

Often UA accepts the risk of filing a patent application before a licensee has been identified. After UA’s rights have been licensed to a licensee, the licensee generally assumes the patenting expenses. At times, we must decline further patent prosecution after a reasonable period (often five years) of attempting to identify a licensee.



OTHER FORMS OF IP

What is a copyright and how is it useful?

Copyright is a form of protection provided to the authors of “original works of authorship” including literary, dramatic, musical, artistic and other intellectual works, as well as computer software. Protection is available to published and unpublished works that are fixed in a tangible form, such as a book, software code or video. The U.S. Copyright Act automatically gives the creator of a work the exclusive right to conduct and authorize various acts, including reproduction, public performance and making derivative works. In some instances, UA registers copyrights, but generally not until a commercial product is ready for manufacture.

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

A trademark includes any word, name, symbol or combination thereof, that is used in commerce to identify and distinguish the goods of one manufacturer or seller from those of others and to indicate the source of the goods. In short, a trademark is a brand name. A service mark is any word, name or symbol that is used in commerce to identify and distinguish the services of one provider from those of others and to indicate the source of the services.

What is trademark registration?

Trademark registration is a procedure in which the USPTO 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 trademark. Trademarks generally become protected as soon as they are adopted by an organization and used in commerce. With a federal trademark registration, the registrant is presumed to be entitled to use the ® trademark throughout the U.S. for the goods or services for which the trademark is registered.

Commercialization



What activities occur during commercialization?

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

What is my role during commercialization?

Your role can vary depending on your interest and involvement, the interest of the

licensee in utilizing your services for various assignments and any sponsored research related to the license or any personal agreements.

What revenues are generated for UA if commercialization is successful?

Most licenses have licensing fees that can be very modest (for startups or situations in which the value of the license is deemed to warrant a modest license fee) or can reach millions of dollars in rare instances. Royalties on the eventual sales of the licensed products can generate similar or greater revenues, although this can take years to occur. Most licenses do not yield substantial revenues. A recent study of licenses at U.S. universities demonstrated that only 1 percent 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.

What will happen to my invention if the startup company or licensee is unsuccessful? Can the invention be licensed to another entity?

Licenses typically include performance milestones that, if unmet, can result in termination. This allows for subsequent licensing to another business. However, time delays and other considerations can hinder this re-licensing.

Considerations for Startup Companies

What is a startup and why choose to create one?

A startup is a new business entity formed to commercialize one or more related intellectual properties. Forming a startup business is an alternative to licensing the intellectual property to an established business. A few key factors when considering a startup company are:

- Development risk – often large companies in established industries are unwilling to take the risk for unproven technology
- Development costs versus investment return – can the investors in the startup obtain their needed rates of return?
- Potential for multiple products or services from the same technology – few companies survive on one product alone
- Sufficiently large competitive advantage and target market
- Potential revenues sufficient to sustain and grow a company

The Office of Technology Transfer (OTT) and University of Akron Research Foundation (UARF) can help evaluate these and other factors.

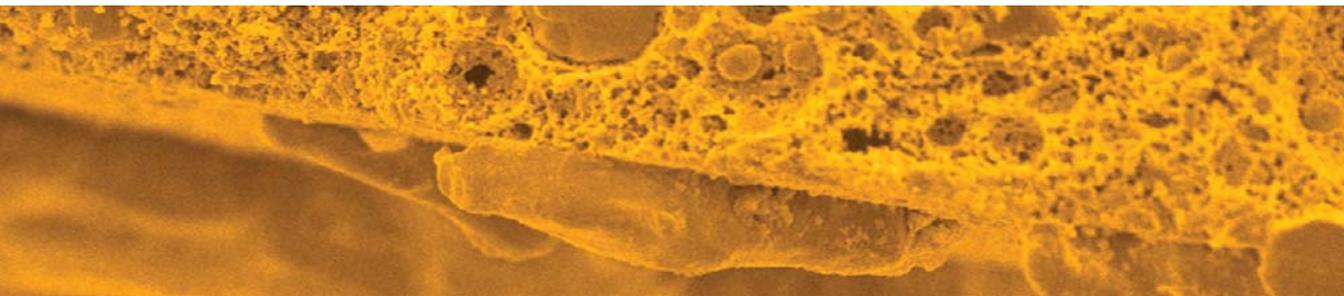
What is the University of Akron Research Foundation (UARF)?

UARF bridges gaps between UA and industry, facilitating the transfer of technology to private companies. As a separate corporation, UARF can engage in activities that state universities cannot, such as indemnifying research sponsors or holding equity in companies that license UA intellectual property.

UARF and its staff also assess intellectual property for commercial potential, develop business plans and structures, and create startup companies for UA faculty, staff and students, as well as Ohio entrepreneurs. Considerable synergy exists between OTT and UARF activities.

Who decides whether to form a startup?

The choice to establish a new company for commercializing intellectual property is made by the inventors in consultation with the OTT and UARF. The inventor in concert with the OTT decides if a startup is appropriate. UARF will assist by assessing other resources for advice on founding the startup.



Licensing agreements

What is a license?

A license is permission granted by the owner of intellectual property that allows another party to act under all or some of the owner's rights, usually under a written license agreement.

What is a license agreement?

License agreements are typically in writing and describe the rights and responsibilities related to the use and exploitation of intellectual property. UA license agreements usually stipulate that the licensee must diligently seek to bring the UA intellectual property into commercial use for the public good. The agreement also seeks to provide a reasonable return to UA.

How is a business 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 business with experience in similar technologies and markets is the best choice. In other cases, the focus and intensity of a startup company is a better option. Typically, UA does not have multiple potential licensees bidding on an invention.

What can I expect to gain if my intellectual property is licensed?

Per UA policy, a share of any financial return from a license is provided to the inventor(s). For more information, see www.uakron.edu/dotAsset/125251.pdf. In addition, inven-



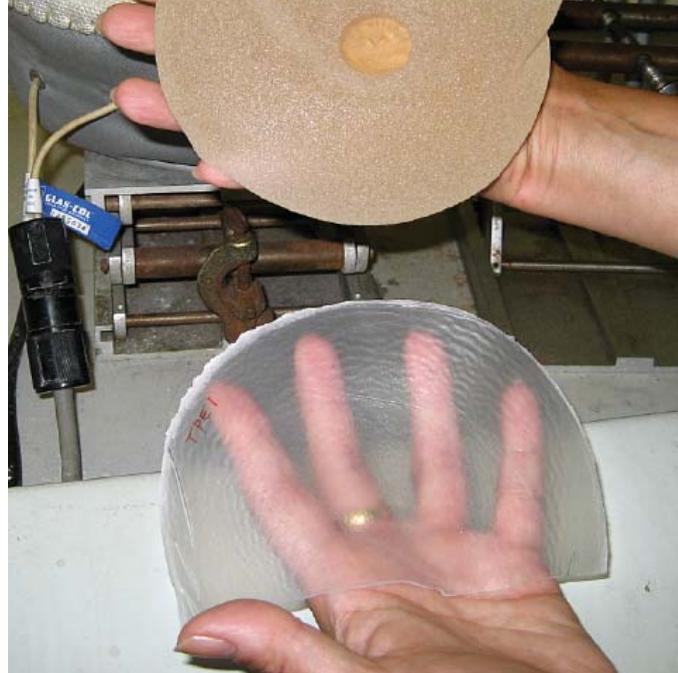
tors enjoy the satisfaction of knowing their inventions are being deployed for the benefit of the general public. New and enhanced relationships with businesses are another outcome that can augment one's teaching, research and consulting.

What is the relationship between an inventor and a licensee? How much of my time will it require?

Most licensees need some active assistance by the inventor to facilitate their commercialization efforts. This can range from infrequent, informal contacts to a more formal consulting relationship. Working with a new business startup can require substantially more time, depending on your role in or with the company and your continuing role within UA. Your participation with a startup is governed by UA conflict of interest policies.

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

Non-Disclosure Agreements (NDAs) are often used to protect the confidentiality of an invention during evaluation by potential licensees. NDAs also protect proprietary information of third parties that UA researchers need to review in order to conduct research or evaluate research opportunities. The Office of Technology Transfer (OTT) enters into NDAs for UA proprietary information shared with someone outside of UA, and manages NDAs related to research contracts and potential research relationships along with the Office of Research Services & Sponsored Programs (ORSSP).



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

Option Agreements, or Option Clauses within research agreements, describe the conditions under which UA preserves the opportunity for a third party to negotiate a license for intellectual property. Option clauses are often provided in a Sponsored Research Agreement to corporate research sponsors at UA. Option agreements also are entered into with potential licensees wishing to evaluate the technology prior to entering into a full license agreement.

Research Agreements describe the terms under which sponsors provide research support to UA. These are negotiated by the ORSSP and OTT.

Marketing

to find a licensee

How does the Office of Technology Transfer (OTT) market my inventions?

The OTT uses many sources and strategies to identify potential licensees and market inventions. Sometimes existing relationships of the inventors, the OTT and other researchers are useful in marketing an invention. Market research can also assist in identifying prospective licensees. In addition, the OTT examines other complementary technologies and agreements to assist our efforts. Faculty publications and presentations are often excellent marketing tools.

How are licensees found?

Studies have shown that 70 percent of licensees were known to the inventors. Thus, research and consulting relationships are often a valuable source for licensees. Licensees are also identified through existing relationships of the OTT staff. The OTT attempts to broaden these relationships through contacts obtained from personal networking and from website inquiries, market research, industry events and the cultivation of existing licensing relationships.

How long does it take to find a potential licensee?

It can take months and sometimes years to locate a potential licensee, depending on the attractiveness of the invention and the

size and stage of development of the market. Most UA inventions tend to be in the early stage in the development cycle and thus require substantial commercialization investment, making it challenging to attract a licensee.

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. Research and consulting relationships are often helpful in both 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 OTT work together as a team to market and promote use of the technology.

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 only for a unique field-of-use (known as an application) or geography.

Revenue

distribution

How are license revenues distributed?

The Office of Technology Transfer (OTT) and University of Akron Research Foundation (UARF) are responsible for managing the expenses and revenues associated with technology agreements. Per the UA Patent Policy, revenues from license fees, royalties and equity – minus any un-reimbursed patenting expenses – are distributed:

- 40 percent to the inventors named on the patent
- 40 percent to UARF, which is used to pay legal fees, marketing expenses and administrative costs, as well as to support

UA research programs

- 10 percent to a research account for the inventors, which UARF administers
- 5 percent to a research account for the inventors' primary college
- 5 percent to a research account for the inventors' primary department

How are inventor revenues distributed if there are multiple inventors or multiple inventions in a license?

The “inventors’ share” of royalties is divided equally among all inventors unless other prior distribution is agreed upon.

REINVESTMENTS & RELATIONSHIPS

Every year, the Office of Technology Transfer (OTT), working with UA inventors and licensees:

- Receives close to 70 Invention Disclosures
- Files for approximately 40 new U.S. patents
- Negotiates numerous license agreements and assists in forming startups

The revenues received are shared with inventors and among UA departments, colleges, and the Office of Research. Revenues going to UA entities are reinvested in additional research and education, fostering the creation of the next generation of research, researchers and entrepreneurs.

New technology transferred to industry enhances industrial competitiveness, brings new products and therapies to the public, and further creates economic development and new jobs.

In addition, the creation and deepening of company relationships through these activities support UA's mission of being a leading urban academic and research institution. They result in additional research projects, broader educational opportunities and collaborative investments, and an enhanced ability to create, retain and share valuable resources.

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