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Welcome to the world of university-based innovation development and commercialization. It’s a world where you, along with your research and ideas, can converge in meaningful, life-changing ways with industry and the entrepreneurial community. It’s a world that will allow you to transform your research into innovations with useful, much-needed applications and introduce solutions to some of the world’s most complex and challenging problems. And it’s a world that will give you the opportunity to achieve commercial success, all the while still teaching, publishing, and achieving your hard-earned academic aspirations.

The University of Pittsburgh, as one of the nation’s top research universities, remains fully committed at the highest levels to supporting innovation commercialization as part of its educational mission. That includes entrepreneurial education, patent protection, business opportunity development, innovation licensing, and the ongoing pursuit of start-up companies.

Facilitating the broad range of this endeavor is the University’s Office of Technology Management (OTM), which serves as the hub of all innovation development and commercialization here at the University, and the Office of Enterprise Development, Health Sciences (OED), which provides business development services for the University’s technology commercialization efforts. OTM and OED work closely with Pitt Innovators to explore and develop the commercial potential for their research and ideas, helping to transform them into products and processes for the innovators’ benefit, as well as for the benefit of the University and humankind.
The University encourages you to actively engage in this intellectually challenging pursuit, and OTM and OED will gladly support your journey through the entire process. We also acknowledge that the journey can prove rigorous as you try to navigate University policies and procedures, avoid potential conflicts of interest and premature public disclosure, and learn the complexities of intellectual property protection and patent law.

*The Pitt Innovator’s Guide to Technology Commercialization* will walk you through the commercialization process, from invention disclosure submission and patenting to value proposition development and licensing. This guide explains Pitt policies and procedures and will provide other information to guide you toward commercial success. Take time to familiarize yourself with the helpful research and commercialization practices outlined in this guide, and feel free to contact OTM as you enter the process. Together we can help set you on the right course for an innovation commercialization experience that ultimately may change the world.
An Overview

ABOUT OTM

An evolving history of commercialization

The University’s innovation commercialization activities have evolved dramatically since the early 1980s, when Pitt developed its first technology transfer policies in response to the U.S. Congress’ Bayh-Dole Act of 1980. The federal law gave universities title to inventions developed by their faculty and staff using federal funding. The University did begin to pursue technology commercialization shortly thereafter, but it didn’t establish its first formal technology transfer office until 1996. The office, called the Office of Technology Management (OTM), began with three licensing professionals and two support staff.

That year, the University received 46 invention disclosures from faculty members for patenting and licensing consideration. An invention disclosure is the official form filled out by faculty, staff, and student innovators to alert the University of new innovations that might be patentable and have commercial potential. That same year, OTM also received patents on 10 inventions and executed six licenses for its technologies, including licenses to two start-up companies formed around Pitt technologies.

In 2000, OTM underwent a major transition, implementing a more business-like commercialization endeavor, which meant following a more judicious approach to patenting: seeking patents for innovations with the most commercial potential. It also meant implementing a stricter licensing policy that made “fair market value” and long-term financial sustainability key criteria in licensing deals, especially for start-up companies.

The office also added several new licensing professionals and support staff to better address the growing sophistication of the ideas being submitted to OTM for commercial potential, combined with the more business-oriented approach. The office’s stated mission from 2000 to 2005: “to seek the fair-market value of the University’s intellectual property using best business practices for the benefit of the University, its faculty and staff, and the community.”

The policy succeeded in reducing patenting expenses while increasing the number of stronger licensing deals with improved long-term potential. However, the more stringent, business-oriented approach also challenged the
academic tradition at Pitt, particularly among those who thought their ideas and innovations should be freely disseminated to the public or at least virtually given away to any outsider with an entrepreneurial heart. The results: a reluctance by some faculty to participate at all in the commercialization process and a sense of disillusionment for those who did participate and had to face the sometimes cold realities of business and entrepreneurship.

In 2005, OTM addressed those challenges, along with the growing sophistication of technology transfer, and undertook another significant transition. It laid the groundwork for an office that would maintain the rigors of the previous evolution while also adopting a more service-oriented, faculty-friendly approach to commercialization. Its goals: to attract significantly more high-quality invention disclosures; to engage more faculty, staff, and students in the entire commercialization process; and to increase the number of successful licenses executed each year.

**Today’s OTM**

Today, more faculty members than ever before are participating in the process of transforming their research and ideas into innovations with commercial potential. As the hub of such activities on campus, OTM now supports the following mission:

**to facilitate the development of products and processes from University technology for the benefit of the University; its faculty, staff, and students; and the community.**

Why does the University foster technology commercialization? Past experience has demonstrated that innovations that aren’t patent-protected and licensed to industry and instead are released into the public domain often don’t find their way into everyday use. Few commercial entities in the United States will invest the large sums of money necessary to bring most ideas to market without the guaranteed exclusivity provided for a set period by patent protection.

In addition, the University holds to the belief that future economic success in the United States depends in no small part on the commercial development of university-based technologies that emerge from research funded by federal grants. The federal government invests substantial resources in basic research conducted by research institutions like the University of Pittsburgh. Granting agencies today expect their research investments to someday result not only in new knowledge, but also in new innovations that can enhance the global competitiveness of the U.S. economy.
The federal government supported that goal with the enactment of the Bayh-Dole Act of 1980, effectively giving universities title to federally funded university technologies and requiring universities to file patents on all elected technologies (see The Bayh-Dole Act At a Glance, page 6).

At the same time, OTM and OED work to foster new relationships with industry—long-lasting partnerships in sponsored research, new innovation development, technology outlicensing, and the formation of start-up companies. To manage the University’s fast-growing commercialization activities, OTM employs intellectual property protection experts, specialized licensing managers, business development and technology marketing professionals, education and outreach teams, and reporting and compliance personnel.

OTM’s aim is to bring together Pitt Innovators and commercial partners in ways that allow their collective imagination, ingenuity, and innovation to change the world.

**Commercialization support**

To effectively facilitate the commercialization process from conception to licensed innovation and beyond, OTM today offers a wide range of services aimed at helping Pitt Innovators. Services include:

- Educational opportunities in technology commercialization and “academic entrepreneurship”
- Assistance with preparing and submitting invention disclosure forms for commercial consideration
- Facilitation of the protection of intellectual property at the University
- Strategic planning for the successful transfer of innovations to the marketplace
- Unique opportunities for targeted interaction between Pitt Innovators and industry, investors, and the community
- Facilitate brainstorming to assist Pitt innovators in developing the right commercial applications
- Negotiation of licenses and options for Pitt innovations to commercial interests
- Management of post-licensing reporting, revenue collection, and proceeds distribution
- Annual recognition for faculty, staff, and students who participate in the commercialization process
The Bayh-Dole Act is a federal law enacted in 1980. This legislation, cosponsored by Senators Birch Bayh and Robert Dole, enables universities, nonprofit research institutions, and small businesses to own, patent, and commercialize inventions developed under federally funded research programs within their organizations.

The act ultimately has motivated more and more universities to become actively involved in the transfer of technology from the lab to market. The ability of universities, including the University of Pittsburgh, to retain title to and actively license these technologies serves as a tremendous incentive.

Key provisions

- The University is entitled to retain ownership of any inventions created as a result of federal funding, unless the funding agency informs the University up front that the agency will retain title to inventions derived from the funded projects because of specifically identified “exceptional circumstances” or other specified conditions.

- When a University innovator discloses the creation of an invention derived from federally funded research, the University has two months from that date to disclose that information to the appropriate federal agency. The University also must patent all inventions it elects to own and commercialize.

- The University must attempt to develop and commercialize the
invention. If an attempt is not made, the federal government retains the right to take control of the invention. The government also may take control of the invention for other reasons, such as a need to alleviate health or safety concerns. This provision is referred to in the law as the government’s “march-in” rights.

- The University must provide the U.S. government with a nontransferable, irrevocable, paid-up, nonexclusive license ("confirmatory license") to use the invention.
- In granting a license to use the invention, the University also generally must give priority to small businesses, while maintaining the fair-market value of the invention.
- When granting an exclusive license, the University must ensure that the invention will be “manufactured substantially” in the United States.
- Excess revenue must support research and education.
- The University must share a portion of the royalties with the inventor(s).
THE PITT INNOVATOR COMMUNITY

When you submit your ideas to OTM for commercial consideration, you automatically join the fast-growing ranks of the University’s prestigious Pitt Innovator community. Members of this group stand apart from other faculty and staff in that they continually—and deliberately—generate new ideas from their ongoing research that might have commercial potential.

The goal of OTM and the University is to grow and support this community with a wide range of commercialization services, from patenting and business opportunity development, to entrepreneurial education and technology licensing.

The Pitt Innovator concept gives the University a clear and simple way to market the world-class expertise and innovations of its innovators outside the University, leading to new research collaborations, sponsored-research opportunities, technology licensing, and even start-up companies built around the new technologies.

Pitt Innovators gain exclusive access to commercialization development funding and peer/industry networking opportunities both on and off campus. Innovators also are invited to participate in technology showcases, entrepreneurial education opportunities, ongoing lecture series, industry matchmaking programs, annual award recognition celebrations, and other University initiatives designed to help commercialize innovations and foster a technology commercialization-oriented culture on campus.

Why should you care?

Without question the technology commercialization process, even in the best of circumstances, will prove rigorous and challenging to all involved. It requires discipline, perseverance, and a willingness to explore a multifaceted business case that includes market
research, competitive analysis, and value proposition development. So why should you care? You will find that, with direction and hands-on assistance from OTM, such efforts will provide an exciting and dynamic new dimension to your academic experience at Pitt. And we will do everything we can to ensure a profitable commercialization experience for you.

Among the benefits of working with OTM:

- Technology commercialization is an effective way to transfer useful innovations into the marketplace, especially in the free-market environment of the United States.
- OTM works closely with patent attorneys from across many research disciplines to protect your innovations from being copied or stolen.
- Not unlike your research efforts, technology commercialization will provide rigorous, exhilarating intellectual stimulation while still enabling you to publish and teach without delays or other encumbrances.
- As part of the experience, OTM will give you plenty of opportunities to interact not only with your academic peers, but also with potential industry partners, investors, and entrepreneurs both on and off campus.
- OTM and the University’s senior administrators provide opportunities for prominent recognition of your commercialization efforts, including the Pitt Innovator Awards.

- OTM makes available financial resources that allow you to develop proof-of-concept studies, prototypes, and other data aimed at supporting the successful commercialization of your innovation.
- OTM provides financial incentives to both you and your department as part of the commercialization process. In any licensing deal for a patented technology, Pitt Innovators will share up to 30 percent of all proceeds that come back to the University over the life of a licensing agreement (and after patent expenses have been reimbursed). The innovator’s department will receive an additional 15 percent. Copyrighted innovations will garner 50 percent of the proceeds for the innovators and another 25 percent for their departments.
- You’ll join the ranks of more than 400 Pitt Innovators each year who participate in the process, and those ranks keep growing.

The other side of the “why participate” equation is straightforward. Successful technology commercialization depends on a strong partnership between you and OTM. A majority of the licensing deals that are completed by OTM originate through the innovators’ own networks of contacts. Moreover, because you are the expert when it comes to your innovation, OTM strives to work closely with you to understand the capabilities of and commercial prospects for your ideas and then strategizes with you to pursue these prospects.
OTM facilitates a process that brings you together with potential industry partners, investors, entrepreneurs, and others who may prove instrumental in commercializing your innovation. The commercialization team typically consists of a licensing manager, intellectual property specialist, business development professional, technology marketing manager, and student interns who provide market research, competitive analysis, and other services. All of them work hard to serve you, the innovator, in developing your ideas and ultimately taking them to market.

When to contact OTM

Our best advice is to contact OTM as early as possible when you think a novel innovation with commercial potential has emerged from your research endeavors. This will allow OTM to take steps early to protect your innovation via the U.S. Patent and Trademark Office, before you inadvertently make public disclosures of information that might jeopardize your future ability to file a patent application on your invention.

Consider, for instance, seeking OTM’s counsel as you are preparing a paper or article for publication, or a grant funding application. Or, if you are preparing to discuss your research endeavors with a potential industry partner, OTM can help you to secure confidential disclosure agreements, or CDAs, allowing you to discuss your innovations with others while protecting your idea and avoiding undue public disclosures of information. (Public disclosure is discussed in more detail on page 16 of this guide.) For more information, go to our Web site at www.otm.pitt.edu.
The Commercialization Process

In general, technology commercialization and technology transfer describe the process of formally transforming your research into practical applications with commercial potential, seeking patent protection for these innovations, and then transferring them to industry via license agreements and sometimes new start-up companies. The process also includes extensive market research, competitive analysis, value proposition development, business plan development and other commercial considerations along the way.

This section will take you, step by step, through that process so you will understand where to begin, how to protect your ideas, how to position your innovation for commercial markets, and what to expect for your efforts. Success will depend substantially on your active participation in the process. The University’s Office of Technology Management (OTM) and Office of Enterprise Development, Health Sciences (OED), will assist you along the way, making the technology commercialization endeavor a team effort from beginning to end.

PITT’S COMMERCIALIZATION PROCESS

Research

Invention Disclosure

TTC Evaluation

I.P. Protection

Business Development

Licensing

Commercialization Team Approach

- Licensing Manager
- IP Specialist
- Business Development and Marketing Professionals
- Pitt Innovator
WHERE TO BEGIN

Before entering the technology commercialization process at the University of Pittsburgh, consider the following fundamental definitions, particularly with regard to inventions (or intellectual property) and inventors. It’s important to understand such legal definitions and the parameters within which the University must operate before you enter the process.

Is your idea an invention?
The U.S. Patent and Trademark Office defines an invention as “anything made by the hand of man that is a new, useful, and non-obvious process, machine, manufacture, or composition of matter, or any new and useful improvement thereof…”

New or novel: The invention must be new or novel in that it has to be different and distinguishable from anything that is publicly known or available. The invention would not be considered novel if:

- it already had been patented, known or used by others in this country, or patented or described in a printed publication in this or a foreign country before it had been made;
- a similar invention already had been in public use, on sale, or published more than one year prior to the filing of a new patent application in the United States (immediately in other countries); or
- it had been invented earlier by another person who did not abandon, suppress, or conceal it.

Useful: An invention must be considered useful, at least to the extent that it offers one specific use, which must be stated in the patent application.

Non-obvious: Today, this has proven to be the most troublesome of the requirements, particularly due to recent court actions surrounding the issue, as obviousness is subjective. In short, the invention cannot be an obvious or trivial extension of another existing invention, as determined by a person “with ordinary skill in the art at the time of the invention.”

Process: A process is a method of manipulating certain materials to produce a given result.

Machine: A machine is limited to a particular apparatus designed to accomplish a certain result by distinctive (new, useful, and non-obvious) means.

Article of manufacture: Quite simply, this is a product.

Composition of matter: This refers to chemical and metallurgical compositions and may include specific and unique combinations of ingredients or new compounds.

Discovery vs. invention: It’s important to note that you can’t apply for a patent on a new discovery. Discovering a phenomenon in nature, for instance, does not constitute an invention, nor does simply identifying a new plant
species or new biochemical pathway. However, if you develop a new innovation around that phenomenon or plant species, or create a new way to manipulate or leverage a biochemical pathway to solve a problem, that would qualify as being “made by the hand of man.” New methods for treating a disease or the development of a new computer software algorithm would constitute a new invention.

In general, the laws of nature, theories, scientific principles, pure algorithms, and plans of action don’t qualify as inventions and therefore cannot be patented.

Who is the inventor?

Inventorship is legally determined. An inventor, according to the U.S. Patent and Trademark Office, is anyone who conceives of the new ideas that are actually embodied in the claims of a patent application. If a patent application, for instance, includes 10 claims, and you conceived of even one of those claims, you are considered an inventor of the entire invention, along with the other inventors. However, if that one claim is removed during the course of the patent reviewer’s evaluation of the invention, you no longer will be considered an inventor on that invention. In general, inventorship is based on your participation, contribution, and value to the invention, as perceived by others. Keep in mind that inventorship does not work like authorship of scientific journal articles, which sometimes include all researchers who conducted the work.

Establishing inventorship

Once you determine that your idea is new, useful, and non-obvious, establishing inventorship still requires two basic steps from a legal perspective, as determined by the U.S. Patent and Trademark Office. Both must occur for an idea to be officially considered an invention.

1. Conception: Conception is defined as a formulation by the inventor of the complete means of solving a problem in a way that allows a person of ordinary skill “in the art” of that particular field to recreate or use your invention without extensive new research or experimentation. By itself, though, conception isn’t considered an invention.

2. Reduction to practice: To complete the legal definition of invention, you have to follow through with step two—taking your idea and reducing it to practice. In short, you must actually make your concept, test it, and prove that it works. Take, for instance, those who have conceived of time machines and theorized
about how such machines might work. Many have achieved conception, indeed. But inventors have yet to reduce it to practice and prove that their machines could work. Thus, they have no invention.

Reduction to practice can occur two ways: In an actual reduction to practice, you make the invention, test it, and then determine that it works for its intended purpose. In a constructive reduction to practice, you file a patent application that sufficiently describes the invention in a way that allows a person with a skill “in the art” to practice the invention. Sometimes, filing a patent application itself is considered the equivalent of a reduction to practice, but fields such as biotechnology require an inventor to demonstrate actual biological activity.

THE INVENTION DISCLOSURE

You’ve conducted your research and found that, along the way, you may have developed an invention, or innovation, with commercial potential. Now what? That’s where OTM comes in. Before you publish your data, present it at a conference, or otherwise share your ideas with outside parties, you should submit an invention disclosure to OTM for consideration.

You can obtain an invention disclosure form and submit it online via the OTM Web site at www.otm.pitt.edu.

An invention disclosure simply allows you to share enough detailed information about your innovation with OTM to allow OTM and an independent committee of Pitt administrators and faculty peers, known as the Technology Transfer Committee (TTC), to evaluate its commercial potential. It also is the first step in the process of seeking patent protection for your innovation.

Keep in mind that the University claims ownership and control of the worldwide patent rights that result from the research conducted by faculty, staff, and students—particularly if the federal government has funded the work wholly or in part. The invention disclosure allows the University to determine whether it wishes to retain such ownership and control to pursue commercialization or to release the innovation back to the innovator.

Once OTM receives your invention disclosure, the University is required to report your innovation within 60 days to the government agency that provided your research funding.

You can find copies of the University’s policies on patents and copyrighted material at www.pitt.edu/HOME/PP/policies/11/11-02-01.html and www.pitt.edu/HOME/PP/policies/11/11-02-02.html.

When to submit: early—and often

You should submit an invention disclosure as early as possible once you’ve established that you have an innovation with commercial potential. While the invention disclosure itself offers no patent protection for your innovation, early submission will allow OTM to act
quickly in filing a patent application to the U.S. Patent and Trademark Office. That could be important later, in the event that a similar invention is under development elsewhere.

Just as importantly, you need to submit an invention disclosure early if you’re preparing to reveal enabling information about your innovation in a scientific journal article or conference presentation. The invention disclosure will alert OTM to expedite the filing of a patent application when appropriate to avoid any public disclosure of enabling information that hasn’t yet been patent-protected.

Please note that OTM in no way wants to hinder your ability to publish your data or present your work in a timely fashion. On the contrary, OTM tries to work in concert with your publishing efforts. But if you do reveal enabling information outside the University without first filing a patent application, you will seriously jeopardize the University’s ability to seek protection for your innovation, especially outside the United States (see sidebar on public disclosure of enabling information on page 16).

**What to submit: details, please**

The information you submit in your invention disclosure will determine whether the University should invest in your innovation’s commercial future. So the more details you provide about both the technical and commercial merits of your idea, the better. After all, the commercialization process, including patenting, can prove rigorous, time-consuming, and expensive for the University, offering no guarantee of success.

Include, with as much detail as possible, the following information:

- Working title for the innovation
- Name and department of all innovators who have made creative contributions to the innovation
- Dates of conception and reduction to practice
- A statement detailing how the innovation works and how it is used
- A description of the innovation, along with a comparison to other potentially similar technologies and practices; the comparison should note any improvements or advantages over known products or processes
- A summary of the development status of the innovation, including data obtained to support and verify its functionality; data should include a summary of any experiments conducted to date to support the functionality, as well as additional steps needed to further develop and test the innovation
- A list of government and non-government funding support for the innovation’s development
- Potential commercial partners
- A detailed description of any known prior art and its disadvantages or shortcomings
Before your innovation has patent protection

In the publish-or-perish world of academic research, publishing the results of your research and presenting them at conferences might strengthen your case for tenure. But if not managed properly, it also could jeopardize your chances of patenting any innovations that stem from your research.

But if not managed properly, [publishing the results of your research] also could jeopardize your chances of patenting any innovations that stem from your research.

U.S. patent law makes this point very clear: “A person shall be entitled to a patent unless: a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent; or b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application of patent in the United States …”

Here is what you should avoid prior to working with the University’s Office of Technology Management (OTM) to seek patent protection and commercial partners for your innovation:

- Publishing anything—an abstract or scientific journal article, for instance
- Giving a talk or poster presentation at an “open” meeting outside the University
- Posting messages anywhere online describing the innovation (including Web sites, public news groups, or blogs)
- Sharing the content of a patent application or any description of the invention with someone outside of the University without first contacting OTM
- Talking with external parties about the innovation without having a Confidential Disclosure Agreement in place (CDAs can be crafted with OTM’s assistance)
- Transferring scientific materials without the use of a Material Transfer Agreement (can be obtained through the Office of Research)
- Submitting grant progress reports, which are accessible to the public
- Posting or publishing a student thesis (under some circumstances), even if nobody ever actually reads it
• Conducting classroom presentations, including distributing handouts
• Presenting at department seminars

Not all activities are considered public disclosures of your innovation, though. The following will not jeopardize any potential patent rights:
• **Lab meetings** attended by University employees only
• **Faculty meetings** with University employees only
• **Confidential submissions for publications** These remain confidential prior to acceptance by publications.
• **Unfunded government grant applications** Provided your proposal has not yet been accepted for funding, your innovation is safe from public disclosure. Once accepted, it becomes accessible to the public.

You also should consider the following tools:

**Confidential Disclosure Agreement (CDA):** If you’re planning to discuss your innovation with an outside party, such as a potential commercial partner or investor, both parties should sign a confidentiality agreement before entering any discussions. OTM can prepare the agreement with you.

**Material Transfer Agreement (MTA):** This agreement will protect you against the misappropriation, misuse, or infringement of any materials that you send to other research organizations outside the University. It simply establishes contractual parameters around the use of your materials. The Office of Research (www.pitt.edu/~offres) can assist in preparing this agreement with you.
As part of this assessment, OTM will investigate all issues that emerge from an invention disclosure that could hinder intellectual property rights, such as the existence of restrictive corporate-sponsored research, or the use of outside materials to which the University does not have the intellectual property rights. A patent search might also turn up prior art that could undermine the seeming novelty of your idea.

In addition, TTC often will enlist the help of a peer reviewer to assess technical issues related to your innovation.

**Is the patent protection on your idea enforceable?** While your idea might merit patent protection according to patenting standards, a patent holds little value if you can’t defend it against those who copy your idea, or infringe on your exclusive rights. Indeed, just because your idea might be protected under patent law doesn’t guarantee that it will be protected in the court of law.

Consider the following example of a real patent filed for a technique that transforms a common laser pointer into an exercise device and method for cats (see page 20). If you have ever tormented your feline in this manner for amusement, you’ve technically violated the patent holder’s exclusive rights. But try enforcing such patent rights against anyone who has ever used a laser pointer in this manner. You’ll find that defending such a patent would prove nearly impossible. So the University takes such enforceability into serious consideration.
One of the best ways for you to determine whether your idea is novel is to conduct a patent search through the U.S. Patent and Trademark Office (USPTO) Web site. Begin at [www.uspto.gov](http://www.uspto.gov).

A patent search, which should be a regular part of your research endeavor, will help you determine the value of your innovation and may suggest avenues of new research that could prove to be of greater or lesser utility down the road. It also will help you to compile a more complete invention disclosure, as a search will enable you to more carefully distinguish your work from other inventions that might already exist.

To start your search, go to the Web site’s menu and select “patent,” then “search.” Search options will include “quick search,” “advanced search,” and “patent number search.” You will be able to search by key words; inventor name; the name of the owner, or assignee, of the patent; patent number; and other terms.

Keep in mind that you need to pay close attention to the patent claims, which specifically define an invention. You will want to compare your innovation on the basis of such claims for any infringement analysis. Please note, however, that the entire patent may be used as prior art against your invention in determining patentability.

Will such a search identify all the prior art related to your innovation? Probably not, as gaps do exist from the time when a patent application is filed to when the application is available to the public (publication generally occurs 18 months from the earliest effective filing date). That said, the United States and most other countries do allow public access to applications 18 months after they are filed. The USPTO Web site includes a search page that allows pending applications searches.

Patent searching aside, you also might consider searching the most recent scientific literature to see if inventors have published the results of their work.
Is your innovation licensable?
Having patent protection also doesn’t guarantee that your innovation will find success in the marketplace. You also must demonstrate that your innovation offers an attractive business opportunity and fulfills a need in the marketplace. Does your idea provide, for instance, a significant competitive advantage over existing products in that market space? Is it significantly faster, smaller, cheaper, and more accurate than existing products? Is the market large enough from a customer and revenue perspective to attract a potential commercial partner that would be willing to license the technology from the University? Is your pathway to commercialization unencumbered, or will the University—and potential licensees—have to face lots of costly legal and regulatory obstacles?

Other considerations
- Level of intellectual property protection
- Related industry research and development activity
- Innovator participation in the commercialization process
- Development status and projected time to market
- Innovation validation and performance

In the end, TTC will make one of four basic decisions with regard to your innovation as conveyed in your invention disclosure:

1. Approve it: If TTC approves your innovation for commercialization, OTM will enlist help from its stable of specialized patent attorneys, in

Claim 1: A method of inducing aerobic exercise in an unrestrained cat comprising the steps of:

(a) directing an intense coherent beam of invisible light produced by a hand-held laser apparatus to produce a bright, highly focused pattern of light at the intersection of the beam and an opaque surface, said pattern being of visual interest to a cat; and

(b) selectively redirecting said beam out of the cat’s immediate reach to induce said cat to run and chase said beam and pattern of light around an exercise area.
conjunction with your insights and assistance, and draft an initial patent application for submission to the U.S. Patent and Trademark Office (see Patenting section in this guide for more details). Quick action ensures a level of intellectual property protection enabling the OTM licensing managers to start building a business case for your innovation and seek potential licensees. Keep in mind that one of the major benefits of having the University commercialize your innovation is that patent costs will climb to the tens, if not hundreds, of thousands of dollars during the patenting process.

2. **Hold it:** Often, innovators will submit invention disclosures on technologies that still are in the earliest stages of development. While such innovations might hold great commercial promise, the innovators sometimes don’t have enough data to adequately validate and support the efficacy of the idea. If you find yourself in that situation, TTC will ask you to spend more time developing your innovation, testing it, and collecting data to support the case for commercialization. TTC will revisit the case in the future.

3. **Release it back to you:** If TTC determines that the University does not want to pursue the commercialization of your innovation, it will release your innovation back to you to commercialize on your own, if you so choose (after making sure that the relevant federal funding agencies don’t choose to take ownership of the innovation). Once the innovation is released back to you, you will have the right to do what you want with it. If you do succeed on your own, the University requires only a small percentage of the generated proceeds.

4. **Not patentable:** In some cases, TTC will determine that, based on a patent search and other factors, an innovation simply isn’t patentable. As such, the University won’t proceed with the commercialization process in those cases.

**PROTECTING YOUR INNOVATION**

Why file for patent protection on your innovation when you simply could publish your academic findings or present them to an industry conference audience? Many companies will not license an innovation or manufacture a product that does not offer them some kind of exclusivity—a monopoly, if you will. That means they sometimes won’t adopt your ideas without such protection, and your ideas therefore won’t ultimately reach the marketplace and help others. Patents and copyrights offer protected exclusivity, at least for a limited time.

A patent is a contract between the government and the innovator that provides the right to exclude others from making, using, selling, offering for sale the designated invention (or intellectual property) in the United States, or importing the invention into the United States. The contract extends for 20 years from the date on which the application for the patent was filed in the U.S., or, if the application contains a specific reference
to an earlier filed application under certain sections of the patent law, from the date on which the earliest of such application was filed.

To achieve patent protection, you will have to convince USPTO that your invention is new, useful, and non-obvious. Those three eligibility standards are explained in greater detail on page 12.

A patent essentially provides the potential for a licensee to obtain a substantial and sustainable competitive advantage in the marketplace for a period of time.

A patent essentially provides the potential for a licensee to obtain a substantial and sustainable competitive advantage in the marketplace for a period of time. Without such protection, and the monopoly it offers, companies find little incentive to make the necessary investment in the development and marketing of new innovations. In the pharmaceutical industry, taking a new drug to market can cost a company upwards of $1 billion and more than 10 years to develop, test, achieve FDA approval, and market the drug. Without competitive exclusivity offered by patent protection, the company wouldn’t take that kind of investment risk.

The University of Pittsburgh owns and manages a sizable portfolio of patented and patent-pending intellectual property. As such, it reserves the right to sell or assign, pledge, mortgage, license, or donate its property to existing companies outside the University, including new start-up companies that are established around the innovations.

What to expect

OTM manages the patenting process for all innovations developed by Pitt faculty, staff, and students. The process begins, as noted previously, when you submit a completed invention disclosure form for commercial consideration. If the Technology Transfer Committee, upon its review of your disclosure, approves it for commercialization, OTM typically moves into action quickly and engages a qualified patent attorney to draft an initial patent application—usually a provisional patent application. This type of filing with USPTO serves to establish a filing date and provide protection for a 12-month period while a full patent application is being prepared for submission. No claims, however, are required in a provisional patent application (although business considerations may dictate the inclusion of a few claims). Therefore, a provisional application usually can be filed quickly and less expensively than a non-provisional patent application. Moreover, USPTO does not review provisional applications.

The filing date particularly is important outside the United States, because if two inventors apply for patents on the same or similar invention, the first one to file will receive the patent. In the United States, however, inventorship is awarded to the first one to invent the idea. And that often comes down to how well you have documented your development
efforts in properly kept lab notebooks (see sidebar on maintaining your lab notebooks on page 25).

A provisional patent application also proves useful as a means of getting an application on file quickly to beat an imminent publication deadline, or as a means of limiting the financial risk as you’re working to solidify the functionality of your innovation with supporting data. It allows you to continue collecting data that validates your idea for one year beyond the date of filing. Sufficient validating data compiled during that period, along with continued confidence that your innovation will be licensed to industry, will help ensure the University’s commitment to the commercialization of your innovation at the end of the 12-month period and converts the provisional application into a full application with claims.

Before the end of the 12-month period, the University will re-evaluate your data and determine whether to convert to a full nonprovisional application, based on the functionality and perceived market potential of your innovation. It also will have to complete simultaneously any international filings. Keep in mind that patent costs can range from the tens of thousands of dollars to several hundred thousand dollars, depending on your innovation and in which countries you file. As a result, the University takes a very judicious approach to its patenting decisions. Typically OTM will rely on specialized, experienced patent attorneys from firms across the country and have one of them draft an application for one of two types of patents:

- **Utility patent:** This is the main type of patent and applies to unique and useful inventions, including machines, compositions of matter, articles of manufacture, processes, and any non-obvious new or useful improvement of existing inventions. Examples would include new drugs, electronic circuits, and new methods of producing compounds.

- **Design patent:** This type applies only to the unique shapes or designs of inventions and covers only their ornamental or aesthetic characteristics. Examples include certain toys, furniture, and unique containers.

In either case, be prepared to work closely with the patent counsel in a timely fashion. The preparation of an effective patent application can be time-consuming and expensive. Both time and expenses can be reduced if the inventor fully cooperates throughout the process with enough information to complete the application. And that begins with the amount of detailed information you initially provide in your invention disclosure to OTM.

You also can help the process when you:

- provide all available written documentation on your work and related work by others,
- educate yourself about other patents in your field of work, and
- work closely with your patent attorney and OTM to focus the patent claims on your innovation’s likely business strategy.
The process, however, doesn’t end with the filing of a full application 12 months after the provisional application is filed. You and the University will have to determine whether to begin international patent filings at that time, as well as other considerations. This determination will depend on the innovation’s perceived market potential.

**International filings:** The Patent Cooperation Treaty (PCT) is an international patent law treaty signed by many cooperating countries. It provides a unified procedure for filing patent applications to protect inventions in each of its cooperating countries. A patent application filed under PCT is called a PCT application or an international application.

A PCT application has two phases. The first is the international phase, in which patent protection is pending under a single patent application. Under the first phase, the International Searching Authority performs a search and produces a written opinion regarding patentability of the invention. The authority then may opt to conduct a preliminary examination.

During the second phase, known as the national phase, the patent attorney will ensure a continuation of your patent protection in other countries by filing the necessary documents with the patent office of each separate contracting state in which you desire patent protection. The relevant national authorities then will examine your application and determine whether to issue a patent. PCT does not, however, provide a blanket international patent, as such a contract does not exist.

The University typically will not pursue national-phase filings without a licensee in hand to cover such expenses.

**Continuation filings:** As you develop new innovations related to your original patent application, you may wish to file additional applications, known as Continuation In Part, or CIP, filings. CIPs, which require additional filing expenses, can be filed right up to the actual issuance of a patent on the original application.

**Other expenses:** Other continuing expenses typically include fees for USPTO to review your application and make a patentability assessment, which typically results in what is known as an office action. An office action will disallow or significantly narrow your patent claims, and you often will be required to work with the patent attorney and OTM to respond with convincing arguments why the claims should be allowed. Such actions will lead to additional expenses. Patenting expenses then continue with an issuance fee when the patent is allowed, followed by periodic maintenance fees throughout the life of the patent.

Generally, you can expect the patenting process to take at least three to five years—or even longer—from the time the initial application is filed thanks to a continued backlog of patent applications with USPTO.
In the United States, if two or more patent applications are filed on the same invention, the patent will be awarded to the applicant with the earliest date of invention. In the rest of the world, in a similar situation, the patent would be awarded to the first person to file a patent application on the invention. The United States thus is known as having a first-to-invent patent system. Other countries use a first-to-file system.

In a first-to-invent system, if a dispute or question arises as to which of two inventions was invented first, the patent generally will be awarded to the inventor who can prove the date when he or she conceived the invention. Proof must be in the form of documentary evidence, not merely a statement by the inventors based on their recollection of events. The best form of documentary evidence, of course, is a laboratory notebook.

**Keeping good notebooks:** The purpose of your laboratory notebook is to document how and when your inventions have occurred and show what steps have been taken and by whom. It is important to keep these records in case a question ever arises about inventive contributions or the dates of the invention. Not every patent application elicits questions, but this issue is not uncommon. Lack of documentation could result in a loss of your patent if the dates or inventors are challenged. From the start, develop good practices for keeping records regarding your inventions.

**What to include:** Your notebook should include a description of the problem you are studying, a description of your research approach, and any initial ideas or approaches under consideration. Create your notebook entries as you form your ideas and conduct your experiments. Perhaps most importantly, record the conception of any new ideas, particularly if they seem to represent an important scientific breakthrough.

**Ideas, theories, lines of inquiry:** It is important for you to be able to prove when and how you made your invention. Inventions are considered to have two major development steps: conception and reduction to practice. Conception occurs when you have a complete idea for a solution to a problem. This must be more than an idea for a line of study, however. You should fully describe your concept in your notebook, providing sufficient detail so that someone skilled in the field could understand your invention. The date that you first conceive your invention is extremely important, so ensure that your entry is complete, signed, dated, and witnessed. Record any additional ideas and improvements on your invention as they occur, including notes from laboratory group meetings if the work is discussed, and note what contributions or suggestions are made and by whom.
Experimental results and data: Make sure you record the experiment’s data in sufficient detail so another party can reproduce the experiment. Include information regarding equipment, materials, times, conditions, and methods used. Your invention is considered reduced to practice when your idea can be made or exhibited to achieve the desired result. Include all data in your notebook, either by directly recording it in the book or by stapling photocopies of the data into the book with sufficient explanation to illustrate that the data are genuine.

How to record information: How you record the information is almost as important as the information itself. Make regular entries in your notebook as you perform experiments and collect data. Ideally this should be done on a daily basis, but not always is practical. Consider the following six guidelines for best practices:

1. Use a bound notebook: Choose a bound book so pages cannot be added, deleted, or placed in a different order.

2. Include the names of all research investigators: The first page of your notebook should include the name of the principal investigator, the names of all other investigators involved (both Pitt researchers and external collaborators), the title of the research project, and information about the project’s funding.

3. Sign and date every page: Record all information as it occurs, making sure all research collaborators sign and date every page of the notebook. Include the dates of the experiments, and document the results. Notations should be objective and factual.

4. Don’t erase or tear out pages: Use ink to record all information in the notebook. Do not erase or delete anything from the notebook. Cross out information that is irrelevant, but ensure that all notes are legible.

5. Don’t skip pages: Any blank space on a page or an empty page should be marked with an ‘x’ or diagonal line to clearly indicate that no information was added to the record at a later date.

6. Obtain witnesses: This is the most important step. It is extremely important to have someone, who is not an inventor, record that he or she has read the entries and understands the work. This strengthens the validity of the documentation should there be a question regarding when or how the invention occurred.
Copyrights ... and wrongs

Not all Pitt innovations that make their way successfully into the marketplace are patentable inventions. In fact, some of the University’s most successful commercialization efforts in recent years have revolved around specialized editorial content developed by Pitt faculty and staff and formatted into books, papers, CDs, DVDs, databases, etc. While not patentable, such works still are protected via copyrights.

Copyrights protect your original works of authorship. They prevent others from being able to reproduce your work or prepare derivative works based on your work—without your permission. Copyrights also prevent others from distributing your work without your permission. The good news is your work becomes copyrighted automatically once your original work is affixed in a tangible medium, such as an article, book, CD, or PowerPoint presentation, for instance. To remind others, simply affix to your actual work a copyright symbol ©, the year you produced the work, and the name of the entity that owns your work (© 2010 University of Pittsburgh, for instance).

What can you copyright? Consider the following:

- books, periodicals, and manuscripts
- computer programs
- stage plays and screenplays
- music and motion pictures
- fine art, graphic art, photographs, prints, and art reproductions
- maps, globes, and charts
- technical drawings, diagrams, and models

You can’t, however, copyright ideas, facts, titles, names, short phrases, or works consisting entirely of information that is common property and containing no original authorship (standard calendars, tape measures, rulers, etc.).

To register your copyright ... or not

While your work becomes copyrighted by virtue of putting it into a fixed medium, you might consider registering your work with the Library of Congress. It’s not required, but it will prove beneficial because it:

- establishes a public record of your copyright claim,
- is necessary for filing an infringement suit against someone who violates your copyright,
- establishes prima facia evidence of validity if made within five years of publication, and
- allows statutory damages if you register your work within three months of publication or prior to infringement.

Your scholarly works: caveats

If you produce your copyrighted work in the course of your University employment or under the supervision and control of the University as works made for hire, your copyrighted interest in your work belongs to the University.
However, you are entitled to claim copyright ownership, including worldwide rights, in the following works that are created as part of your scholarly pursuit: books, articles, educational coursework, similar works intended to disseminate the results of your academic research or scholarly study, popular fiction or nonfiction works, poems and musical compositions, and other works of artistic imagination. For complete details on the University’s copyright policy, go to: www.bc.pitt.edu/policies/policy/11/11-02-02.html.

TAKING YOUR INNOVATION TO MARKET

Getting a patent for your innovation is a major accomplishment, but it’s only the beginning of the process. Finding a potential licensee for your innovation and getting it to market requires a whole new set of challenges that often run contrary to the academic research mindset. This is where the University’s Office of Technology Management (OTM) and Office of Enterprise Development, Health Sciences (OED)—in active partnership with you—will step in and facilitate the effort on your behalf.

In short, OTM and OED will provide business planning and strategy; market research; targeted innovation marketing; start-up development; industry/investor relationship development; and financial resources to facilitate proof-of-concept and prototype development, data collection, and other early-stage business development assistance.

Both offices also conduct educational courses and workshops to train you and your colleagues in technology commercialization and, in particular, business opportunity development. Past experience in technology commercialization strongly suggests that a large majority of licensing successes begin with the active participation of the innovators—and their industry contacts.

Why should they care?

Assuming your innovation works, your biggest challenge won’t be convincing industry how innovative your technology is, but rather why it’s exponentially better, cheaper, faster, or smaller than existing solutions to the problem it is solving. It must solve a significant problem that offers a huge, longterm business opportunity to a potential licensee. Otherwise, why should they care?

To answer this fundamental business question, you and your commercialization team at OTM and OED will have to conduct extensive market research to understand who the industry players are; how they’re solving the problem currently; where their business pain points are; what your innovation’s competitive advantage may be; how large the potential market may be; what kinds of competition already occupy the market space; and what kinds of regulatory, insurance, and other hurdles may stand in the way of commercial success. Other questions to consider:

- Is your competitive advantage sustainable? Is there strong and broad patent protection, or a first-to-market advantage that will allow the technology to dominate the market?
• What level of investment will be required for your innovation to be fully developed and ready for commercialization? And will those dollars be made available for that development effort?

• What skills and resources are available to you, and will they be cooperative in allowing you to further develop your innovation?

• Will the potential end-users of your innovation be willing to pay a price sufficient enough to allow for an appropriate return on investment for the licensee of your innovation?

OTM and OED employ both Pitt student interns, primarily from the University’s graduate and undergraduate business programs and law school, and experienced business consultants to assist with necessary market research and identifying business opportunity development strategies aimed at improving the commercial potential of Pitt innovations.

As you’re thinking about market research questions, potential industry partners will be asking their own questions about your innovation as they decide whether to enter into a licensing agreement with the University. Among their concerns:

• How much time, effort, and money will it take to get your innovation to market?

• What are the risks and pitfalls of your innovation?

• Would your innovation complement the industry partner’s other product offerings or research and development (R&D) programs?

• How will they convince their superiors and R&D colleagues that your innovation is a great business opportunity?

• Can they get around your innovation without having to enter into a licensing agreement?

• Will you work with them to help develop your innovation? (Often, companies can provide more development than research in the R&D spectrum and must rely on academic innovators to undertake any additional research necessary for effective commercialization, as well as to troubleshoot when development problems arise.)
The value proposition

Collectively, the answers to all of the market-driven questions should be reduced to a succinct, targeted statement summarizing the commercial value of your innovation and convincing potential industry partners to license your innovation. We call that statement, which will become your key marketing tool, the value proposition.

You will use the value proposition to position the business opportunity for your innovation—whether online, in scientific journals, at conferences and technology showcases, at industry partnering meetings, or through other interactive venues. OTM and OED will help you to develop your value proposition as well as cultivate marketing opportunities on your behalf. They can help you in the following ways:

- Develop marketing materials discussing your technology and its value proposition, in addition to explaining who you are, your research interests, and your scientific expertise. The materials can be distributed to potential industry partners throughout the year.
- Post available technologies on the OTM Web site and other online resources that market university technologies.
- Attend industry conferences and participate actively in those conferences’ partnering forums to foster interactions among potential industry partners and licensees.
- Host technology showcases for potential industry partners, investors, and other resources, allowing you to display posters of your innovations. OTM and OED also can provide industry or business-assistance mentors to help you to effectively communicate your value proposition in these posters.
- Sponsor interactive events, locally and nationally, giving Pitt Innovators the opportunity to meet potential industry partners and investors.

In the meantime, you are encouraged to play an active role in the marketing effort. That’s why OTM and OED will work closely with you to help to develop your value proposition into a very concise and simply worded description of your innovation and the business opportunity it provides. Some people refer to such a description as an elevator pitch.

As the name suggests, the premise is simple: You get into an elevator with someone who could be a valuable industry partner or investor. Now you have one minute to capture that person’s interest in your innovation and your value proposition, along with what you need to succeed. The pitch should include:

- a brief description of your innovation (nonconfidential and in layman’s terms),
- the problem that your innovation solves,
- its market potential,
- a comparison to existing solutions,
- an explanation of the development stage of your innovation, and
- the status of any intellectual property protection you have received to date.
10 things to remember when attracting industry or investors to your innovation

1. **Protect your idea.** Before talking to industry, contact the Office of Technology Management (OTM) to discuss the use of a Confidential Disclosure Agreement (CDA) to ensure that your conversation remains confidential.

2. **Proactively seek opportunities.** Interact with companies at conferences, technology showcases, partnering events, venture fairs, and via publishing papers. Most technology licenses result from an innovator’s networking efforts with companies.

3. **Prepare a compelling elevator pitch.** Explain your idea simply in less than a minute. Include the problem it solves and how it’s significantly faster, smaller, cheaper, or more effective than current solutions.

4. **Keep it simple.** Don’t get too technical when discussing your innovation, regardless of how complex and captivating the science may be. Never assume that the potential partner will understand such technical concepts.

5. **Show enthusiasm.** It’s your idea and you believe strongly in it. Share that enthusiasm and confidence with others. They expect it.

6. **Find out what they want.** Listen to their needs, desires, and frustrations, any of which could lead to new opportunities.

7. **Keep your marketing materials handy.** An opportunity may arise at any time to discuss your innovation with someone. Be prepared with manuscripts, marketing briefs, articles, etc.

8. **Exchange business cards.** Get their information and promise to follow up with them soon. While they may not be interested in your latest innovation, they may become valuable future contacts.

9. **Keep OTM in the loop.** Share contacts and other information with OTM and its business development arm, the Office of Enterprise Development (OED), which will follow up to develop potential partnering opportunities on your behalf.

10. **Stick with it.** The commercialization process can take considerable time and commitment, requiring patience and perseverance. OTM and OED will closely support your efforts.
The ultimate goal of the University’s technology commercialization endeavor, of course, is to find an industry partner or start-up company willing to license your innovations and take them to market. Keep in mind that the University does not sell its intellectual property. Rather, it negotiates a licensing agreement that gives the industry partner, or licensee, the right to use and/or sell your innovation in the marketplace.

OTM, led by its licensing managers and supported by the University’s Office of the General Counsel and Office of Research, will work closely with you to identify potential licensees and to negotiate all financial, business, and legal terms on your behalf.

Typically, OTM will negotiate one or two types of deals. If the potential partner wants to explore applications and opportunities for a given innovation, OTM will negotiate an option agreement.

This gives the partner an opportunity to “kick the tires” and take some time to determine whether it should consider taking a license to the innovation.

Licenses can also take several forms. An innovation, for instance, might offer numerous possible applications, and a licensee might choose to pay for the exclusive right to all of those applications. Or the licensee may be interested only in one specific application and therefore license that one only. In some cases, licensees will sign non-exclusive agreements for innovation applications.

A typical licensing negotiation will proceed in the following manner:

1. It begins with an exchange of nonconfidential information to launch in-depth discussions.
2. More detailed confidential information is exchanged following the execution of a confidentiality agreement with the potential partner.
3. The partner will request a visit with the innovator. Potential licensees typically are interested in having discussions about the science behind the innovation, available supporting data, development plans, and potential applications.
   
4. Serious contenders will launch a formal due-diligence
investigation. Often, the partner at this stage will conduct a formal review of the business assumptions that are critical to determining the commercial value and potential of the innovation. In some cases, the partner will enter into an option agreement to ensure exclusivity while it conducts the formal review.

5. If the partner is satisfied with its due-diligence effort, the two parties will enter into a negotiation of licensing terms, which will be detailed in a term sheet.

Terms of the deal

OTM works with a variety of innovations at different stages of development, so each licensing deal tends to be different. However, OTM licensing managers typically include the following terms in the deals they negotiate:

- **Patent cost reimbursement**, past and new
- **Up-front fees**
- **Royalties** on sales
- **Minimum royalties/maintenance fees** to maintain the license agreement in effect prior to actual product sales and provide an incentive to the licensee to aggressively pursue product commercialization
- **Milestone payments**, including performance milestones, designed to share in the increased value of the innovation prior to product sales and royalty payments and to keep the commercialization process moving forward
- **Scope documents**, whether the licensee will receive worldwide exclusive rights or rights to certain geographic regions, all fields of use, or just certain applications
- **Equity**: The University sometimes will take partial company ownership, particularly in a start-up company based on a Pitt innovation, in lieu of cash payments.

Your share of the proceeds

You and your academic department will share in the success of your innovation’s commercialization efforts, after expenses are paid. For patented innovations, the royalty distribution is as follows:

- You, the innovator, receive 30 percent of the proceeds (divided among all the innovators connected to the licensed innovation).
- Your academic department receives 15 percent.
- 10 percent is applied to a University Development Fund.
- 30 percent is placed in a Patent Rights Fund.
- OTM receives the remaining 15 percent.

For copyrighted innovations, the royalty distribution is as follows:

- You, the innovator, receive 50 percent of the proceeds.
- Your academic department receives 25 percent.
- The remaining 25 percent is applied to a Copyright Development Fund.
Certainly, the University of Pittsburgh strives to spin off new start-up companies each year around Pitt innovations, and sometimes, Pitt Innovators will leave the University and participate actively in these new ventures. If you choose not to leave your academic position, the University maintains a list of rules aimed at protecting it from serious conflicts of interest. Here is what you can and cannot do if your innovation becomes the basis for a new company:

**Permitted activities**

- You can hold equity in the start-up, but no more than 20 percent.
- You can conduct sponsored research that is funded by the company.
- You can maintain a consulting relationship with the company, in accordance with Pitt’s consulting policies.
- You can serve on a nonfiduciary scientific advisory board tied to the start-up.
- The University does permit you to take a temporary leave of absence from the University, called an Entrepreneurial Leave, to help start the company. Such a leave typically lasts for no more than two years.

**Prohibited activities**

- You cannot hold more than 20 percent equity in the start-up (collectively).
- You cannot serve as the principal investigator for sponsored research funded by the company.
- You cannot hold a seat on the board of directors, which requires fiduciary responsibility.
- You cannot serve in a management position at the company.

For more information on University policies regarding company start-ups, ownership in a start-up, potential conflicts of interest and other related issues, go to the University's Conflict of Interest Office Web site at:

[www.coi.pitt.edu/COIpolicies.htm](http://www.coi.pitt.edu/COIpolicies.htm)
Appendix

A Glossary of Key Terms

**Abandonment:** stopping the prosecution process of an application or invention; can be implicit, such as failure to reply to an office action or pay a prescribed fee within the time period allowed or explicit, such as the applicant or his agent informing the patent office that further prosecution will not be pursued

**Amendment:** answer to an office action by a U.S. patent examiner, usually modifying, correcting, striking or adding claims, or correcting drawings in an attempt to overcome objections to the application

**Anticipation:** an invention lacks patentable novelty if it has been anticipated, exists as prior knowledge, or has been established by publication or use prior to the claimed date of the invention

**Application:** the complete, formal document filed with the U.S. Patent and Trademark Office requesting the grant of a patent; includes an oath, specification, claims, and drawings; the application must include a disclosure of the invention that would enable a person of ordinary skill in the art to make and use the invention

**Assignee:** one who receives rights in a patent from another by the signing over or assignment of a right

**Assignor:** one who can assign rights to a patent

**Claim:** a statement by the patent applicant specifically describing the heart of the invention; claims establish the essence and scope of protection given to the patent owner

**Conception:** the initial creation in the inventor’s mind, the basis of the patent, occurs when a solution is formulated, not when the underlying problem is recognized

**Confidentiality disclosure agreement (CDA):** a legal document through which intellectual property can be disclosed by one party to another to be used only for stated purposes, not to be disclosed to others, and returned to the giver upon request

**Continuation application:** an application filed after the final office action on an earlier filed application that consists of the same disclosure; the claims may be the same or there may be a new set of claims directed to the same invention claimed in the prior application; continuation applications must be filed before the earlier application is abandoned and must contain no new matter; a continuation application has the same filing date as the earlier (parent) filed application

**Continuation in part application (CIP):** an application filed before the earlier filed application is abandoned that adds new material to or deletes material from the earlier filed application; material in common with the earlier application has the original application’s filing date, new material has the filing date of the CIP

**Diligence:** continuous effort by the inventor to complete and perfect an invention

**Disclosure:** a statement indicating the character of an invention, its construction, operation, and application; full disclosure includes data sufficient to allow a skilled person to practice the invention

**Divisional application:** an application during the pendency of a prior application
continuing the same disclosure but with claims directed to an invention that differs from the original application; usually filed in response to a Restriction Requirement from USPTO

**Exclusive license:** an agreement granting one party the exclusive rights under a specific issued patent restricting the licensor from granting license to another party

**General Agreement on Tariffs and Trade (GATT):** signed by President Clinton on Dec. 8, 1994; one resulting change is a U.S. patent granted on an application filed after June 8, 1995, will have a term of 20 years from the filing date rather than the previous standard of 17 years from the date the patent was granted; GATT also provided for provisional applications

**Infringement:** commercially using an invention protected by a valid patent without the consent of the patent owner

**Interference:** a proceeding for the purpose of determining which of two or more applications for the same invention is from the legally recognized inventor

**License:** an agreement allowing another party to commercially use an invention

**Non-exclusive license:** an agreement for use by a licensee in which the licensor reserves the right to make similar agreements with other parties

**Notice of Allowance:** indicates that the patent examiner has determined a patent application has met the statutory requirements for patentability and the patent will issue at some future date

**Patent Cooperation Treaty (PCT):** a multilateral treaty effective in 1978 that eliminates some of the duplication involved when obtaining patent protection for the same invention in several countries; more than 100 nations are signatories of PCT; with PCT it is possible to file and prosecute a single international application, which has the same effect as filing a separate application in each PCT nation that the inventor designates at the time of filing the application; PCT neither creates an international patent nor changes the substantive requirements of patentability in any individual PCT nation (including the United States), it merely reduces the duplication of effort required to file and process parallel applications in several nations simultaneously

**Prior art:** similar work in literature, issued patents, or published patent applications throughout the world; this body of information in combination with any other public knowledge

**Provisional patent application:** accepted since 1995, the provisional patent application provides an early priority date without counting against the 20-year patent life. Requirements for filing are specifications, drawings (if necessary), filing fee, and assignee; no claims are submitted with the provisional application

**Public disclosure examples:** e-mail, newsgroups, seminars at universities or companies, Web pages, student theses, conference posters, and published papers

**Publication:** any disclosure in a form distributed to or accessible to the public that provides enabling information

**Reduction to practice:** completion and actual operation of an invention, including testing; not required for patentability

**Royalty:** payment for use of an invention, usually a stated percentage of product sales
The University of Pittsburgh, as an educational institution and as an employer, values equality of opportunity, human dignity, and racial/ethnic and cultural diversity. Accordingly, the University prohibits and will not engage in discrimination or harassment on the basis of race, color, religion, national origin, ancestry, sex, age, marital status, familial status, sexual orientation, gender identity or expression, disability, or status as a disabled veteran or a veteran of the Vietnam era. Further, the University will continue to take affirmative steps to support and advance these values consistent with the University’s mission. This policy applies to admissions, employment, and access to and treatment in University programs and activities. This is a commitment made by the University and is in accordance with federal, state, and/or local laws and regulations.

For information on University equal opportunity and affirmative action programs and complaint/grievance procedures, please contact the University of Pittsburgh; Office of Affirmative Action, Diversity, and Inclusion; Carol W. Mohamed, Director (and Title IX, 504 and ADA Coordinator); 412 Bellefield Hall; 315 South Bellefield Avenue; Pittsburgh, PA 15260; 412-648-7860.

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The Pitt Innovator’s Guide to Technology Commercialization

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