The Pitt Innovator’s Guide to Starting a Company

So you’ve decided that you might want to start a company around your University-developed innovation. Amidst all of the invention disclosures, patent application filings, and other paperwork that you have to face, where on earth do you turn to take the giant step -- no, leap -- into the entrepreneurial life with your technology?

Without question, the process will prove challenging, but it also can offer significant rewards for the successful. Now what?

In general, the innovation commercialization process begins once you submit an invention disclosure to the Office of Technology Management (OTM) for commercial consideration. The OTM, along with the Office of Enterprise Development (OED) and ultimately the University’s Technology Transfer Committee, will review the disclosure for patenting and commercial merit. We also look for innovations that might offer start-up potential.

When trying to identify potential start-up opportunities, we look closely at a number of criteria, including:

• strength of your science
• strength of your intellectual property
• the size of the commercial market and how your innovation might fare in that marketplace or competitive environment
• your research and development team

Pitt Innovators and PITT VENTURES

Whether you’re planning to run out and start your own technology company or simply want to help transform your innovation into a start-up company, you don’t have to take the journey alone at the University of Pittsburgh.

Pitt’s Office of Technology Management (OTM) and Office of Enterprise Development (OED) have introduced an initiative to bring together the right resources, events, and partners to successfully transform your innovation into a new company. We call it PITT VENTURES.

As part of this program, the OED will take you through a formal process that will help with value proposition development, market research and competitive analysis, partner match-making, fund-raising, and ongoing advisory services – all aimed at building a new company.

Along the way, the PITT VENTURES program will provide plenty of educational opportunities, entrepreneurial mentoring, and interactive forums that will allow you to present your business case to entrepreneurs, investors, economic development leaders and other potential partners.

You’ll have an opportunity, for instance, to participate in Innovator Speed-Dating programs; technology showcases on campus and beyond; “elevator pitch” competitions; and student business plan competitions.

All the while, the OTM and OED will connect you with our dynamic and active PITT VENTURES network, made up of: experienced serial entrepreneurs; investors looking for the next big idea; mentors who donate their time to counsel Pitt Innovators; technology-based economic development organizations; and other service providers who can provide start-up assistance.

Contact the OED at 412-624-3138 to get started. We look forward to working with you.
• whether your innovation can serve as a 
  *platform* on which multiple products can be 
  developed for commercial consideration.

If your innovation promises significant market 
potential with several potential commercial 
applications that could allow you to pursue more 
than one market or a whole line of products – what 
we refer to as a *platform* technology, you might just 
have an innovation with start-up potential.

If that’s the case, our offices will proactively assist 
you every step of the way, helping you to develop 
business and marketing plans, identify financial, 
management, legal and other resources, and, 
ultimately, form a company.

Your role? You decide…

Once we determine that your innovation has start-
up potential, you will have to decide for yourself 
what role you will play in that company. That’s 
where University policies come into play – 
depending on your decision. It really comes down 
to three fundamental choices:

1. **Leave the university** – This, while risky, 
   would give you the most freedom to build a 
   company, maintain a level of fiduciary 
   responsibility and control, and possibly earn 
   the kind of reward that would be 
   commensurate with your risk. However, you 
   also would have to give up your academic 
   appointment to avoid conflicts of interest with 
   the University.

2. **Take an entrepreneurial leave of 
   absence** – The Faculty Handbook addresses 
   the issue of faculty leaves of absence. As 
   stated in the handbook, the temporary pursuit 
   of an entrepreneurial endeavor is deemed an 
   acceptable reason to cite in your request for a 
   leave of absence.

   Typically, you could take a leave of up to 2 
   years to participate in launching and/or running 
   a new start-up company, pending approval 
   from your department chair, your school’s 
   dean, and the provost. Please note that any 
   exemption you may receive by Pitt’s Conflict 
of Interest Committee from restrictions on 
holding equity or a management role in the 
start-up remains in effect only for the period of 
your entrepreneurial leave.

3. **Maintain your academic 
   appointment** – The “Pitt Innovator’s Guide 
to Technology Commercialization” lists start-
up-related activities that are permitted and 
prohibited for those of you who choose to 
remain in your academic appointment as others 
build a new company around your University-
based innovation.

In all three scenarios, University conflict-of-interest 
policies do apply. Consider the following:

• In March 2010, University of Pittsburgh 
  Chancellor Mark Nordenberg signed a 
  renamed and revised conflict of interest (COI) 
  policy for the University of Pittsburgh. The 
  new Policy, 11-01-03 “Conflict of Interest 
  Policy for Faculty, Scholars, Researchers, 
  Research Staff/Coordinators”, replaced the 
  previous version of 11-01-03, “Conflict of 
  Interest – Faculty/Researchers” and Policy 
  11-02-03 “Commercialization of Inventions 
  Through Independent Companies.”

• As a result, the Entrepreneurial Oversight 
  Committee (EOC), which had been a standing 
  subcommittee-of-the-whole of the Conflict of 
  Interest Committee (COIC), was eliminated. 
  Oversight of University relationships with 
  Licensed Start-up Companies (formerly 
  referred to as “EOC Companies”) is now a 
  function of the COIC.

In addition, all of the COIC’s “Working 
Policies” adopted in the past few years for 
managing conflicts of interest in research 
overseen by the Institutional Review Board 
(human subjects), Institutional Animal Care 
and Use Committee, Committee for Oversight 
of Research and Clinical Training Involving 
Decedents, Human Stem Cell Research 
Oversight, and Institutional Biosafety have 
been incorporated into the following new 
policy:
The University's Conflict of Interest (COI) Office will work with you to try to manage or reduce a conflict to an acceptable level.

POLICY 11-01-03 Conflict of Interest Policy for Faculty, Scholars, Researchers, Research Staff/Coordinators (http://www.cfo.pitt.edu/policies/policy/11/11-01-03.html)

- **University policy 11-02-01 “Patent Rights and Technology Transfer”** (http://www.cfo.pitt.edu/policies/policy/11/11-02-01.html) This policy establishes the rights and responsibilities of all faculty, staff, and students under the circumstances specifically outlined in the policy who discover or invent a device, product, or method, while associated with the University, whether or not University time or facilities are used.

  This policy also applies to all pending invention disclosures, patent applications, and patents not yet licensed or transferred as of July 1, 2005. The policy also discusses Pitt’s policy on the distribution of income from the licensing of patent rights or other intellectual property rights.

- **University Policy 11-02-02 “Copyrights”** (http://www.cfo.pitt.edu/policies/policy/11/11-02-02.html) This policy establishes the rights and responsibilities of the University and of faculty, staff, postdoctoral associates, students and others regarding the creation, use and ownership of works protected by copyright, and the distribution of royalties generated from the licensing and exploitation of those copyrights.

  Keep in mind that starting a company based on your University research automatically creates the perception of a conflict of interest, considering your interest in advancing the value of your scholarly work and the value of your start-up company. However, not all conflicts of interest are unethical or impermissible.

  The University’s Conflict of Interest (COI) Office will work with you to try to manage or reduce a conflict to an acceptable level. You, along with a representative from the OED, should meet with the COI office to discuss your start-up company, your anticipated role, funding considerations, and resulting conflicts that will need to be disclosed and managed.

  You can find additional resources and information on the COI Office’s Web site at www.coi.pitt.edu. The site also includes case studies aimed at helping you better understand specific conflict scenarios.

**Equity ownership or royalties?**

In addition to conflicts of interest, you also will have to consider your options when it comes to compensation for the success of your innovation in the marketplace. If a start-up company, for instance, is established based on your technology, you may have an opportunity to hold significant ownership in that company.

If you pursue that opportunity, however, University policy requires that you waive your rights to receiving licensing royalty proceeds that otherwise would be due under University Policy 11-02-01. This policy addresses equity or equity options that:
• represent more than 5 percent of the outstanding equity of the new company at the time of the license; or

• are equal to or greater than the amount of equity taken by the University for partial consideration of the license.

So, in a start-up situation, you basically have to choose the form of compensation you will receive for the commercialization of your innovation. You could, for example, receive “founder’s equity” in the company or equity (or options to acquire equity) as a result of performing work for the start-up under a consulting agreement. As a shareholder, you then could expect to receive a share of the proceeds if the company is acquired or initiates a public stock offering.

At the same time, though, you could receive 30 percent of the “balance of proceeds from any license, sale, or other amounts derived from the transfer of patent rights or unpatented intellectual property,” as Pitt’s licensing royalty policy allows.

However, owning equity and receiving compensation through the licensing proceeds could bring about a conflict of interest because, for instance, you as a company shareholder now may want to make sure that the fees paid back to the University are as low as possible.

What’s your story?

If you decide to launch a new company or participate in a start-up, one of the first things you’ll need to do is forge ahead with developing a compelling story to tell, especially if you’re trying to raise capital, recruit business leaders, or attract other partners.

Over time, you will need to convince many people that you have a viable technical solution to a significant market problem that not only is realistic, economical, and achievable, but also has the potential for great profits.

Thus, among other propaganda, you’ll need to prepare an “elevator pitch” to succinctly tell that story. This is a 1 – 3 minute description of what you are doing — including features and benefits -- and why someone should work with you.

It describes the challenge: "How would you explain your business and make a sale if fate placed you in an elevator with your dream prospect and you only had the time it takes to get from the top of the building to the bottom?"

Your pitch should address the following:

• Describe the problem that you’re solving, or the pain that you’re alleviating.

• Describe your solution clearly and simply, explaining how it works -- in layman’s terms.

• Describe your business model. Explain how you plan to make money around your solution, who will pay you, how you plan to distribute your solution, and your anticipated gross margins.
• **Describe your competitive advantage.** How is your solution exponentially better, faster, smaller, cheaper, and otherwise that much more novel than existing or potential solutions?

• **Describe your competition.** Make sure you provide a complete view of the competitive landscape. Even if you can’t identify direct competitors to your unique solution, include those with other approaches to solving the same problem.

• **Describe your customers and how you plan to reach them.** How will you distribute your product? Discuss your proposed distribution channels and marketing leverage points.

• **Describe your management team.** Include the key players, as well as members of your board of directors, current investors, and even your scientific advisory board members.

• **Provide reasonable financial projections** and other key metrics. Include a five-year forecast (for our audience, would you really give a five year forecast in an elevator pitch…maybe for a more established company?) not only in revenue, income, and expenses, but also in other measurable figures such as number of customers, new products, and sales conversion rates.

• **Describe your product’s current development status,** as well as your accomplishments to date, and a timeline of future development efforts, and how you plan to use the funds that you’re trying to raise to improve the potential for commercial success.

**Who’s on your team?**

If you haven’t already reached this conclusion, you’ll come to realize quickly that technology transfer – especially the launching of new companies – rarely can be accomplished alone. The good news, especially in the Pittsburgh region and within the University itself, is that plenty of good help exists to guide and support your entrepreneurial aspirations.

Support, of course, begins with the OTM and OED, whose job is to facilitate the commercialization of your innovation, including new company development. From there, the OTM and OED will connect you with an abundance of regional support. With such help, you should be able to focus your own attention more directly on technology risk reduction and the creation of value around your innovation.

Among the most important roles of local support organizations will be to help you develop your value proposition and business opportunity. They also serve as a vital connection to many other support organizations, including angel and venture capital investors who will look to those organizations to vet and evaluate the most promising of start-up opportunities. Consider the following local organizations:
• **The Idea Foundry** ([www.ideafoundry.org](http://www.ideafoundry.org)) - This non-profit organization supplies the critical ingredients for transforming an entrepreneur’s information technology- and engineering-oriented business idea into a Pennsylvania-based, fundable, start-up company.

• **Innovation Works** ([www.innovationworks.org](http://www.innovationworks.org)) -- For more than 20 years, Innovation Works has played a vital role in Southwestern Pennsylvania’s technology economy, investing capital, business expertise, and other resources into high-potential companies. IW is part of Pennsylvania’s Ben Franklin Partnership.

• **Pittsburgh Life Sciences Greenhouse** ([www.plsg.com](http://www.plsg.com)) - This organization provides capital, customized company formation, and business growth services to our region’s life sciences enterprises, with concentrations in: biotechnology tools, diagnostics, healthcare IT, medical devices, and therapeutics.

• **The Technology Collaborative** ([www.techcollaborative.org](http://www.techcollaborative.org)) -- This nonprofit, member-driven organization focuses on starting, attracting, and growing robotics, cyber-security and digital technology companies.

• **Pennsylvania NanoMaterials Commercialization Center** ([www.pananocenter.org](http://www.pananocenter.org)) – This organization is a worldwide leader in facilitating the commercialization of nanomaterial-based technologies and builds upon Pennsylvania’s excellence in advanced-materials research, development and manufacturing.

• **Pantherlab Works** ([www.pittentrepreneur.com/pantherlabworks/index.php](http://www.pittentrepreneur.com/pantherlabworks/index.php)) -- This Pitt-based initiative guides highly creative and motivated innovators through an accelerated process of product development, market validation and team creation.

---

**Ready to negotiate?**

Once you’ve begun to put together your management team, advisers and other regional support, it’s time for you to do the deal. And that means formalizing the formation of your start-up company, receiving a term sheet, and negotiating with the OTM to secure either an option or license agreement with the University for the right to build the company around your innovation.

Remember, if you chose to remain a University of Pittsburgh employee, you cannot participate personally in negotiations. Here’s what you need to know:

• **Option agreement** – This is a short-term agreement that will prohibit the University from marketing and/or licensing your innovation to others for a specific period, say 6 to 12 months. This type of agreement will give you and your team an opportunity to further investigate the market potential, prepare a business plan, and secure additional funding before finalizing a longer-term license agreement.

Keep in mind that some financial consideration will be required to strike an option agreement with the University.
License agreement – This is a long-term agreement with the University that formally conveys to you and your company the rights to use, further develop, manufacture, and sell your innovation in the marketplace.

As with the option agreement, financial consideration will be required that will include the following:

- initial license fee
- maintenance fees
- minimum royalty and royalty percentage
- reporting requirements
- patent reimbursement costs

Other basic terms that you’ll have to consider include:

- granting of rights to use the patent
- due diligence clause(s) relating to commercialization milestones
- possible territorial restrictions
- patent protection
- default provisions

Where’s the money?

You should plan for the notion that your initial start-up funding likely will have to come from a variety of sources, including personal savings, family, friends, TBEDs, angel investors and even venture capital funds.

That’s why it’s so important to build a strong value proposition or business case for your start-up venture and be able to articulate that value simply and clearly even to those who won’t understand the science behind your innovation.

You also should consider government grants, including state and federal programs -- the most common of which is the federal Small Business Innovation Research (SBIR) program (http://www.sbir.gov).

The SBIR program and the similar Small Business Technology Transfer (STTR) program are the largest and conceivably the most important, yet often overlooked, sources of early-stage technology R&D financing for America’s entrepreneurs.

The SBIR and STTR programs were created through the 1982 SBIR Act and its reauthorizations. Their purposes are to increase private-sector commercialization of technology developed through Federal R&D and increase small-business participation in Federal R&D. The OED can help you apply for such grants.

Annually, more than $2 billion is set aside for small-business concerns to engage in federally funded R&D with potential for commercialization. For-profit companies with strong research or R&D capabilities in science and engineering and a vision for commercialization are eligible.
Although companies with up to 500 employees are eligible, SBIR is designed as a small-company program. Nearly 70 percent of awardees have 30 or fewer employees at the time of their Phase I awards.

In general, participating federal agencies issue solicitations at least once a year, listing research topics or problem areas for which they would welcome grant proposals from small companies.

The grants are awarded in two phases. In Phase I, your company could receive up to $150,000 in funding typically for a six-month technical feasibility study. Only Phase I winners may submit Phase II proposals. Phase II awards of up to $1 million are designed for full-scale R&D, with one- to two-year terms.

Note that SBIR/STTR is not debt; there’s no loan to service, nor are there repayment terms. It’s a straight injection of money to enable a small company to afford the people, equipment, time and other resources required to bring an idea to market. SBIR and STTR also are not assistance programs.

It’s a highly competitive process, and you’re actually contracting with a federal agency to perform high-quality R&D leading to business development and product commercialization. And only those companies demonstrating this capability in a proposal will win.

When circumstances align

Throughout this whole start-up process, keep in mind that a great innovation with strong intellectual property protection will take you only so far in the process; it won’t automatically carry you to commercial success.

That’s where a good value proposition with clear and substantial technical and market advantages, an attention-getting elevator pitch, an experienced entrepreneurial team and other partners, savvy investors, and a marketplace teeming with commercial opportunity come into play in building a successful company.

Oh, and there’s one more thing. Some call it serendipity, where your idea, careful planning, and market circumstances all seem to come together in your favor at just the right place and time.

Others might call it luck. But we’re not talking about dumb luck. As Thomas Jefferson once said, “I’m a great believer in luck, and I find the harder I work, the more I have of it.”

Best of luck, as you embark on your entrepreneurial adventure.