



Discovery: Technology transfer starts with the process of discovery by a university researcher. Catalysts for initiating technology transfer typically begin with a federal research, industry or foundation grant. Whether purposefully or serendipitously, the research reveals a new product or process that might have market potential.

Disclosure: As stipulated by federal law, a researcher who recognizes or discovers new technology through federal funds that has potential for commercialization is required to disclose the invention to the university’s tech-transfer office.

Evaluation: The tech-transfer office facilitates commercial knowledge transfers through the licensing of inventions or other forms of intellectual property resulting from university research. All rights to negotiate licenses are delegated to the tech-transfer office. In deciding whether to begin the patent process, the office evaluates the invention on several levels including revenue potential, licensing potential and academic field of the invention.

Intellectual property protection: If the tech-transfer office decides to move an invention disclosure forward, the patent application process begins. There is often a lag between the time the tech-transfer office applies for a patent and when the patent is actually issued (currently averaging 24 months). Accordingly, this step could last several years before the tech-transfer office is in a position to begin to market the technology. Legal fees to protect intellectual property represent a major cost for technology transfer offices. Applying for a patent and protecting that patent can result in significant legal and other fees. A large portion of the technology transfer office’s budget is made up of legal and other patent related fees.

Marketing: A major endeavor for tech-transfer offices is connecting inventions to businesses to utilize. By providing a search mechanism to find the most appropriate sources for the sale of knowledge, the tech-transfer office helps reduce uncertainty for firms. Tech-transfer offices also serve as educators for academic entrepreneurs and as information brokers for investors. A technology transfer office’s primary role is to safeguard the university’s intellectual property while marketing it to private firms.

Licensing/royalties: Once the tech-transfer office connects with an appropriate organization or entrepreneur, they begin negotiating the license agreement. Negotiation is usually based on a subjective estimate of the expected value of the innovation since formal technology transfer agreements may be negotiated before research

is complete and commercial value is known.

Product development: Once the license is executed and the technology is transferred, it is developed for commercialization. Licensing is typically exclusive in order to maintain proprietary control of the technology, but a non-exclusive license may be granted as well. The university will often license the technology before it is protected by a patent. Licensees can be an existing firm, a new company, a spin-off or a start-up company.

Public use: The firm can now adapt the university's technology for commercial use. Successful technology transfer does not necessarily end when the technology is handed over to industry. It may require maintained cooperation between the researcher and licensee in order to develop a commercially viable product. Faculty experienced in the demands of commercialization will help encourage the willingness of firms to license and develop early stage technologies.

Start-ups and spin-offs: Spin-off and start-up companies provide academic entrepreneurs with another avenue to disseminate and commercialize research. Due to the embryonic nature of the technology, the creation of a new entity may be the only available pathway to commercial viability. Start-up companies also provide private capital with the means to assign a value to the innovation and provide opportunities for additional funding to advance the research.