

An Inventor's Guide to

TECHNOLOGY TRANSFER

at Cork Institute of Technology



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The Inventor's Guide to Technology Transfer outlines the essential elements of technology transfer at Cork Institute of Technology.

This guide sets out to answer the most common questions we are asked and is designed to provide a broad overview of the technology transfer process and services available for researchers.

For more information, visit www.cit.ie/industryliasion/technology-transfer or call the Industry Liaison Office at (021) 4335571.

The formal CIT Intellectual Property Policy concerning technology transfer can also be obtained on the website www.cit.ie/aboutcit/reports_plansandpolicies. The Intellectual Property Policy supersedes any differences between it and material contained in this Inventor's Guide.

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Note: This booklet is based on the Massachusetts Institute of Technology and the University of Michigan's "Inventor's Guide to Technology Transfer," with adaptations for CIT and the CIT Industry Liaison Office. We are very grateful to Jack Turner and Peter Bebergal in the MIT's Technology Licensing Office for their kind permission to use their excellent material and to the University of Michigan for permission to use its copyright.

TECHNOLOGY TRANSFER OVERVIEW

What is technology transfer?

Technology transfer is the flow of knowledge and discoveries to the general public. It can occur through publications, graduates entering the workforce, exchanges at conferences, and relationships with industry. For the purposes of this guide, however, technology transfer refers to the formal licensing of technology to third parties.

What is the Industry Liaison Office (ILO)?

The ILO is a Central Services Function in CIT and is composed of specialists in licensing, business development and legal matters, all of whom are widely experienced in transferring technologies across a broad range of fields, including the physical sciences, life sciences, and information technology. The ILO is responsible for managing and licensing inventions owned by CIT.

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

The reasons are unique to each researcher and may include:

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

How is technology transferred?

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



TECHNOLOGY TRANSFER PROCESS

How do I work with the Industry Liaison Office?

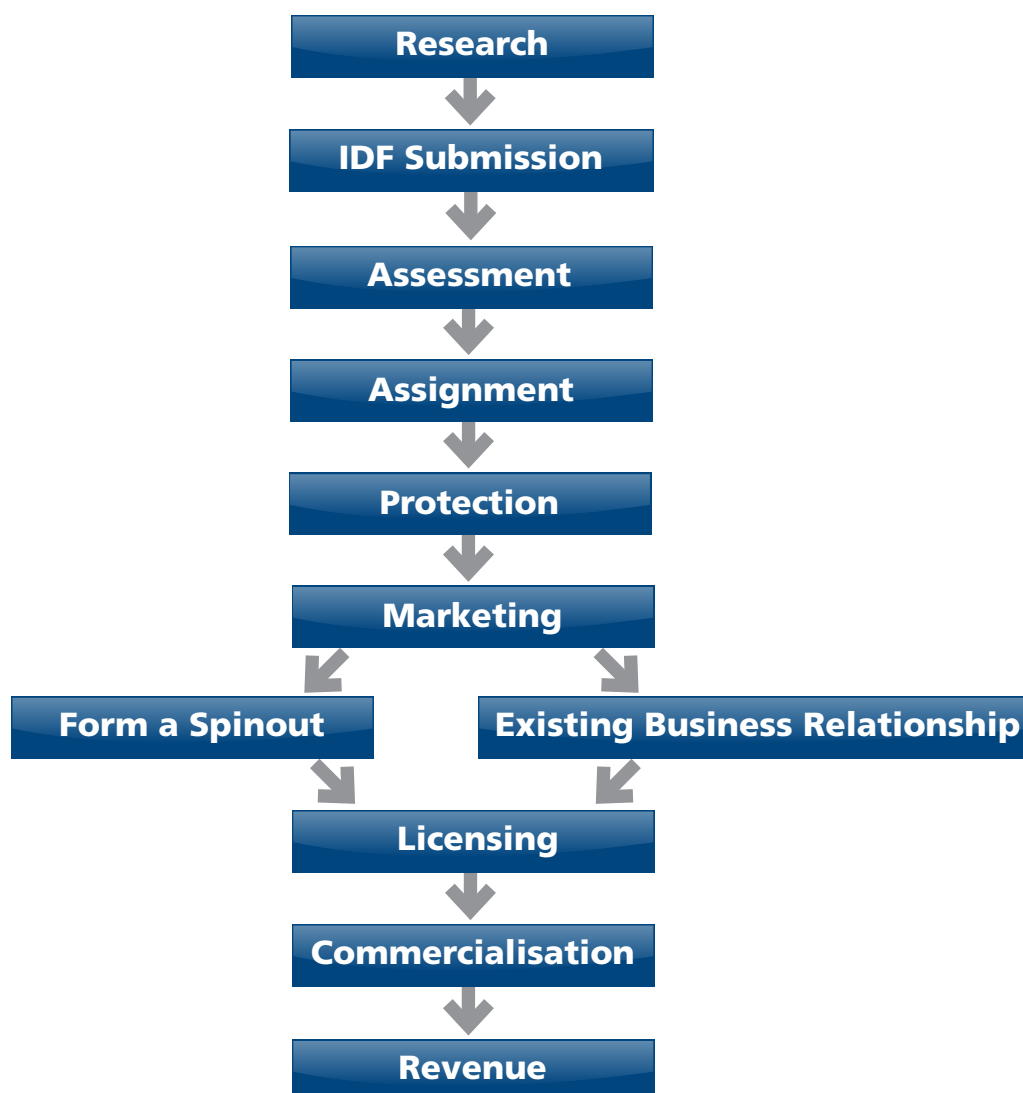
We encourage you to contact the Industry Liaison Office (ILO) during your discovery process to ensure you are aware of the options that will best leverage the commercial potential of your research. ILO staff members are trained to assist you with queries related to marketability, funding sources, commercial partners, patenting and other protection methods, new spinout company

considerations, CIT policies, and much more.

What are the typical steps in the process?

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

10 STEPS TO COMMERCIALISATION



1 Research

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

2 Invention Disclosure Form (IDF) Submission

The written notice of invention to the ILO that begins the formal technology transfer process. An IDF remains a confidential document, and should fully document your invention so that the options for commercialisation can be evaluated and pursued.

3 Assessment

The period in which your Commercialisation Specialist reviews (with your input) the invention disclosure, conducts patent searches (if applicable), and analyses the market and competitive technologies to determine the invention's commercialisation potential. The evaluation process will guide our strategy on whether to focus on licensing or creating a spinout company.

4 Assignment

Legal transfer of the ownership of the invention to CIT from the inventor(s). This will only be requested if the ILO deems that there is commercial potential for the invention and/or if a partner company, with existing rights to the invention, requests that the invention is assigned or licensed to them.

5 Protection

The process in which protection for an invention is pursued to encourage third party interest in commercialisation. Patent protection, a common legal protection method, begins with the filing of a patent application with a European patent office and, when appropriate, non-European patent offices. Once a patent application has been filed, it will require several years and tens of thousands of euro (typically paid for by the licensee) to obtain legal issued European and foreign patents. Other protection options include copyright and trademark.

6 Marketing

With your involvement, the ILO identifies candidate companies that have the expertise, resources, and business networks to bring the technology to market. This may involve partnering with an existing company or forming a spinout. Your active involvement can dramatically enhance this process.

7a Form a Spinout

If creation of a new spinout company has been established as the optimal commercialisation path, the ILO and the Rubicon Centre will work to assist the founders in the planning, creating, and finding funding for the spinout company.

7b Existing Business Relationship

If the invention will best be commercialised by one or more existing companies, the commercialisation specialist will seek potential licensees and will work to identify mutual interests, goals, and plans to fully commercialise this technology.

8 Licensing

A licence agreement is a contract between CIT and a third party in which CIT's rights to a technology are licensed (without relinquishing ownership) for financial and other benefits. A licence agreement is used with both a new spinout company and an established company. An option agreement is sometimes used to evaluate the technology and its market potential for a limited time before licensing, and is automatically included in all Enterprise Ireland Innovation Partnership and Science Foundation Ireland Research Centre research agreements.

9 Commercialisation

The licensee company continues the advancement of the technology and makes other business investments to develop the product or service. This step may entail further development, regulatory approvals (Conformité Européene (CE), Food and Drug Administration (FDA), ElectroMagnetic Compatibility (EMC), etc), sales and marketing, support, training and other activities.

10 Revenue

Revenues received by CIT from licensees are distributed to inventors and to departments, centres, and the CIT Technology Transfer Fund.

How long does the technology transfer process take?

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



How can I help in this process?

- Contact the ILO at **(021) 4335571** or send an email to **ronan.coleman@cit.ie** when you believe you have a scientific or technical observation with potential commercial or research value.
- Complete and submit the CIT IDF in sufficient time to file a patent application before publicly disclosing your technology or publishing a manuscript – preferably before submitting the manuscript for publication. Be aware of any publication restrictions placed by the funder(s) of the research. It is now the norm in most funding contracts that researchers are obliged to maintain the commercial integrity of the invention.
- To avoid risking your patent rights and possibly hindering the opportunity to market your invention, contact the ILO before holding any discussions with people outside the CIT community; if a patent application has not yet been filed, we will give you a Non-Disclosure Agreement (NDA) for the party to sign before you describe your invention to them.
- On the CIT IDF, include companies and contacts you believe might be interested in your intellectual property (IP) or who may have already contacted you about your invention. Studies have shown that over 70% of all licences are executed with commercial entities known by the inventor so your contacts can be extremely useful.
- Respond to the ILO and outside patent agent requests. While some aspects of the patent and licensing process will require significant participation on your part, we will strive to make efficient use of your valuable time.
- Keep the ILO informed of upcoming publications or interactions with companies related to your intellectual property.



RESEARCH CONSIDERATIONS

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

Yes, but since patent rights are affected by these activities, it is best to submit an IDF well before any public communication or disclosure of the invention. There are differences between Europe and the USA as to how early publication affects a potential patent. Once an invention is publicly disclosed (published or presented in some form), there may be no further potential for patent protection. Be sure to inform the commercialisation specialist of any imminent or prior presentation, lecture, poster, abstract, website description, research proposal submission, dissertation/masters thesis, publication or other public presentation of the invention.

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

Yes, but it is important to document carefully the date and conditions of use so that the ILO can determine if this use may influence the commercialisation potential of your subsequent research results. If you wish to obtain materials from outside collaborators, an incoming Material Transfer Agreement (MTA) should be completed. Contact the ILO for more information on incoming MTAs. The implications and licensing obligations need to be carefully considered before using Open Source or free software.

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

Yes. However it is imperative to document items that are to be shared with others and the conditions of use. If you wish to send materials to an outside collaborator, an outgoing MTA should be completed for this purpose. It also may be necessary to have a NDA completed to protect your research results or intellectual property. The associated legal contracts are handled by the ILO. Contact the ILO Administrative Assistant at (021) 4335094 to assist you in completing MTAs or NDAs.

What rights do a researcher collaborator/sponsor have to any discoveries associated with my research?

The Research Agreement should specify the intellectual property (IP) rights of the collaborator/sponsor. There are a number of different scenarios that may arise depending on the type of research project undertaken:

» Collaborative Research

CIT generally retains ownership of the patent rights and other intellectual property resulting from collaborative research. However, collaborators may have rights to obtain a licence to the intellectual property arising from the research. Often, collaborative research contracts allow the sponsor a limited time (an Option) to negotiate a licence for any patent or intellectual property rights developed as the result of the research. Even so, the collaborator(s) generally will not have contractual rights to discoveries that are clearly outside of the scope of the research (and which do not use funds from the research agreement). Therefore, it is important to define the scope of work within a research agreement.

» Direct Funded (Sponsored) Research

The sponsor generally retains ownership of the patent rights and other intellectual property resulting from sponsored research and CIT will be obliged to assign the ownership of all IP produced in the project to the funder. This means that the researcher will not be able to use the IP in future projects without the sponsor's permission. Researchers need to be aware of these stipulations and must be extra vigilant in defining the scope of work within a research agreement for this type of project. Research agreements containing IP issues are handled by the ILO. If you have questions about sponsored research agreements please contact the ILO Administrative Assistant at (021) 4335094.



INVENTION DISCLOSURES

What is an Invention Disclosure?

An Invention Disclosure is a description of your invention or development that is provided to the ILO. The Disclosure should also list all the funders/sponsors of the research and should include any other information necessary to begin pursuing protection and commercialisation activities. It is crucial that you note the date of any upcoming publication or other public disclosure describing the invention. To initiate the process post the completed and signed IDF to the ILO. This document will be treated as "CIT Confidential". You will be contacted by the commercialisation specialist shortly after your submission of the IDF to discuss the invention and its potential commercial applications.

Why should I submit an Invention Disclosure Form (IDF)?

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

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

You are encouraged to submit an IDF for all developments that you feel may solve a significant problem and/or have significant value. If you are in doubt, contact the Industry Liaison Office to discuss the potential invention. The ILO may also advise on alternatives to licensing.

When should I complete an IDF?

You should complete an IDF whenever you feel you have discovered something unique with possible commercial value. This should be done well before presenting the discovery through publications, poster sessions, conferences, press releases or other communications. Once publicly disclosed i.e. published or presented in some form, an invention may have no potential for patent protection.

What about research tools?

Typically, research tools are materials such as antibodies, vectors, plasmids, cell lines, and other materials used as "tools" in the research process. Research tools do not necessarily need to be protected by patents in order to be licensed to commercial third parties and generate revenue. Other research tools (such as new separation processes) may need to be patented in order for a company to invest in the engineering development to make the process broadly useful. If you have research tools that you believe to be valuable, the ILO will work with you to develop the appropriate protection, licensed and distribution strategy. The ILO may also help you in distributing research materials at zero or minimal charge to other academic collaborators while preserving the materials' commercial potential.

How do I submit an IDF?

You can download an IDF from http://www.cit.ie/aboutcit/reports_plansandpolicies/. If you have any questions, call the ILO at (021) 4335571 or email ronan.coleman@cit.ie.

CONSIDERATIONS FOR OF INTELLECTUAL PROPERTY (IP)

What is “intellectual property”?

Intellectual property is inventions and/or material that may be protected under the patent, design rights, trademark and/or copyright laws. It may also be secret “know-how” which cannot be protected by law and is not disclosed to the public by the inventor(s).

Who owns what I create?

As a general rule, CIT owns inventions made by its staff/researchers while working under a grant or contract to CIT or using CIT resources. When in doubt, it is best to contact the ILO for clarification and advice.

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

The policy is stated in the Intellectual Property Policy of CIT which can be located on the CIT website at: http://www.cit.ie/aboutcit/reports_plansandpolicies/

Who owns the rights to discoveries made while I am consulting?

The ownership of inventions made while consulting for an outside company depends on the terms of your consulting contract with the company. It is important to clearly define the scope of work within consulting contracts to minimise any issues with inventions from CIT research. If you have questions, the ILO is available for informal advice.

Should I list visiting students, visiting researchers, other visitors, and consultants (Relevant Third Parties) on my IDF?

All contributors to the ideas leading to a discovery should be mentioned in your disclosure, even if they are not CIT researchers/employees.

The Industry Liaison Office, along with legal advisors, will determine the rights of such persons and institutions. It is prudent to discuss with the Industry Liaison Office all working relationships (preferably before they begin) to understand the implications for any subsequent inventions. All Relevant Third Parties must be asked to sign a contract with an IP Assignment clause or an IP Assignment agreement which states that they will assign any inventions produced by them during the course of their time working in CIT to CIT. If you have questions, please contact the ILO.

Can an undergraduate student contribute to an invention?

Yes, a student can even be the sole contributor or inventor. The policy for ownership of an invention developed with or by an undergraduate student is different than for other personnel in CIT. The invention can be fully or partially owned by the student (partially owned where other people contributed to the invention). CIT can offer supports to protect and commercialise the invention and will discuss this on a case by case basis.

Undergraduate students should not work on sponsored/direct funded research projects unless they are willing to sign an IP Assignment Agreement which states that they will assign any inventions produced by them during the course of their time working on the project to CIT, prior to starting work on the project.



ASSESSMENT OF AN IDF

How does the ILO assess IDFs?

The commercialisation specialist, often with the help of inventors, market specialists, and/or a literature search specialist, examines each invention disclosure to review the novelty of the invention, competing technologies, protectability and marketability of potential products or services, relationship to related intellectual property, size and growth potential of the relevant market, amount of time and money required for further development, pre-existing rights associated with the IP and potential competition from other products/technologies. This assessment may also include consideration of whether the IP can be the basis for a new spinout company.

Can IP be licensed non-exclusively to all potential users for the public good?

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

How do we decide whether to commercialise with a traditional or an "open source" licence for software?

The ILO supports those CIT software developers who choose to essentially give their programmes away through open source mechanisms, provided CIT retains the right to distribute the programme freely and that "open sourcing" is consistent with

obligations to third parties, such as sponsors. However, since there are many different varieties of "open sourcing", it is recommended that you contact the ILO to obtain advice on appropriate notices to put on your open-source software. As a general rule, open-sourced software should not be used where the objective of a sponsored/externally funded project is to commercialise the outputs of the project.

Is an invention ever reassigned to an inventor?

If the Institute decides not to pursue patent protection and/or chooses not to actively market the invention, CIT may, upon request by the inventor(s), reassign (transfer ownership) to the inventor(s). Among the key factors in CIT deciding to reassign are whether additional CIT resources or private resources could best improve marketability and whether all inventors agree with the reassignment plan. Upon reassignment, the inventor(s) are responsible for payment of prior patent costs and all further development, patenting and marketing expenses. CIT may also require you to share with CIT some (if any) of the revenue you derive from the commercialisation of the invention. If additional CIT resources are used to further develop the invention, CIT may reassert ownership interest in the invention.

PATENTS AND OTHER LEGAL PROTECTION

What is a patent?

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

What type of subject matter can be patented?

Patentable subject matter includes processes, machines, compositions of matter, articles, some computer programmes and methods (including methods of making compositions and methods of making articles).

Can someone patent a naturally occurring substance?

Not in its natural state. However, a natural substance that has never before been isolated or known may be patentable in some instances, but only in its isolated form (since the isolated form had never been known before). A variation of a naturally occurring substance may be patentable if an inventor is able to demonstrate substantial non-obvious modifications that offer significant advantages in using the variant.

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

An inventor is a person who takes part in the conception of the ideas in the patent claims of a patent application. Thus, inventorship of a patent application may change as the patent claims are changed during prosecution of the application. Inventorship may require an intricate legal determination by the patent agent prosecuting the application.

Who is responsible for patenting?

The ILO uses outside patent agents for patent protection, thus assuring access to patent specialists in diverse technology areas. Inventors work with the patent agent in drafting the patent applications and responses to patent offices in the countries in which patents are filed.

Is there such a thing as a provisional patent?

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

What is the difference between a provisional patent application and a regular patent application?

Provisional patent applications can provide a tool for preserving patent rights while temporarily reducing costs and perhaps providing extra time to prepare a regular application. This occurs because the application is not examined during the year in which it is pending and claims are not required. A regular patent application and related foreign applications must be filed within one year of the provisional filing in order to receive the benefit of the provisional application's early filing date. However, since an applicant only receives the benefit of the earlier filing date for material that is adequately described and enabled in the provisional application, the ILO may still need you to work with a patent agent even when an application is filed as a provisional.

What's different about foreign patent protection?

Foreign patent protection is subject to the laws of each individual country, although in a general sense the process works much the same in each country. However, in most countries including Ireland, an inventor will lose any patent rights if

he or she publicly discloses the invention prior to filing of the first (or “priority”) application in one country. In contrast, the USA has a one-year grace period after publication in which a patent may be filed.

Is there such a thing as an international patent?

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

What is gained by filing an application under the PCT?

The PCT application provides three advantages:

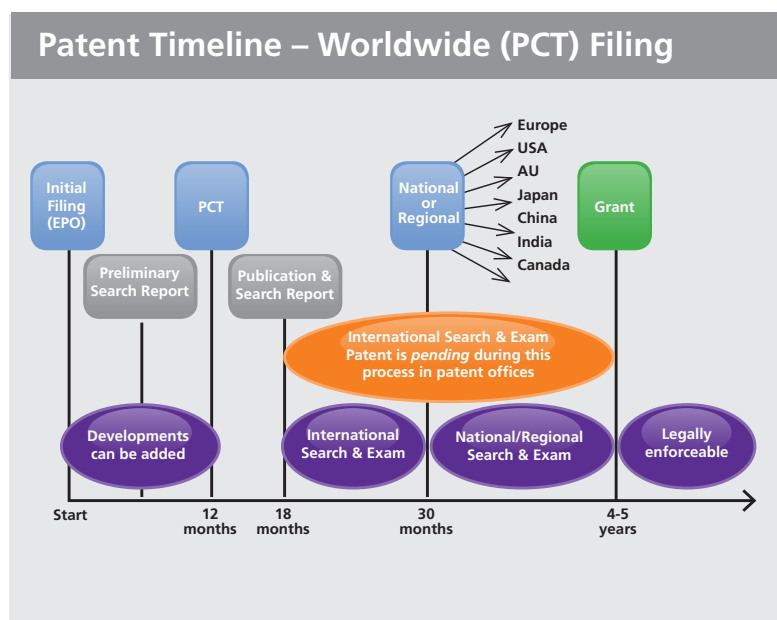
1. It delays the need to file costly foreign applications until the 30-month date, often after an applicant has the opportunity to further develop, evaluate and/or market the invention for licensing;
2. The preliminary examination often allows an applicant to simplify the patent prosecution process by having a single examiner speak to the patentability of the claims. This can save significant costs in prosecuting foreign patent applications; and
3. The patent office issues a search report, 6 months after the PCT application is filed, which gives a preliminary opinion from the patent office on whether or not the filed application is patentable. This allows the ILO, in consultation with the inventor(s) and the patent agent, to make a decision on whether or not to proceed to filing national patents.

Another important international treaty called the Paris Convention permits a patent application filed in a second country (or a PCT application) to claim the benefit of the filing date of an

application filed in a first country, provided that a so-called “convention applications” is filed in foreign countries (or as PCT) within one year of the first filing date of the preliminary application.

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

Currently, the average patent application is pending for about 4-5 years, though inventors in the biotech and computer fields should plan on a longer waiting period. Once a patent is issued, it is enforceable for 20 years from the initial filing of the application that resulted in the patent, assuming that patent offices mandated maintenance fees are paid.



Why does CIT protect some intellectual property through patenting?

Potential commercialisation partners (licensees) often require patent protection to protect the commercial partner’s often sizable investment required to bring the technology to market. Due to the cost, patent applications are not possible for all CIT intellectual property. The ILO carefully reviews the commercial potential for an invention before investing in the patent process. However, because the need for commencing a patent filing usually precedes finding a licensee, the ILO looks for creative and cost-effective ways to seek early protection for as many promising inventions as possible.

Who decides what gets protected?

The ILO and the inventor(s) together discuss relevant factors in deciding whether to file a patent application. Ultimately, the ILO makes the final decision on whether to file.

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

Filing a regular simultaneous Irish & UK patent application usually cost around €4,000. A PCT application usually costs €10,000. A national application in the USA and Europe costs €12,000 to €15,000 followed by individual national filing costs in each European country (and translations where required). Also, once a patent is issued in each country, certain maintenance fees are required to keep the patent alive in that country. Over its lifetime a patent filed in most western countries can easily cost €150,000 assuming there is no litigation.

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

Generally, the invention will be jointly owned between CIT and the other institution or company. Each inventor will assign his or her rights to their employer. The ILO will work with the other institution to decide on management of the invention. Usually, if the other institution is a university or research institution, the ILO will draft an “inter-institutional” agreement that provides for one of the institutions to take the lead in protecting and licensing the invention, sharing of expenses associated with the patenting process and allocating any licensing revenues.

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

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

What is copyright and how is it useful?

Copyright is a form of protection provided by the law to the authors of “original works of authorship”. This includes literary, dramatic, musical, artistic, and certain other intellectual works as well as computer software. This protection is available to both published and unpublished works. The Irish Copyright & Related Rights Act, 2000-2007 generally gives the owner of the copyright the exclusive right to reproduction, public performance and making derivative works. Copyright protection is automatically secured when a work is fixed into a tangible medium such as a book, software code, video, etc. Copyright protection lasts for life of the author plus 70 years.

How do I represent a proper CIT copyright notice?

Although copyrights do not require a copyright notice, we do recommend that you use one. This shows potential infringers that you are aware of copyright law. For works owned by CIT, use the following notice: “© 201X Cork Institute of Technology. All rights reserved.”

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

A trademark includes any word, name, symbol, device, or combination that is used in commerce to identify and distinguish the goods of one manufacturer or seller from those manufactured or sold by others, and also to indicate the source of the goods. In short, a trademark is a brand name. A service mark is any word, name, symbol, device, or combination that is used, or intended to be used, in commerce to identify and distinguish the services of one provider from those of others, and to indicate the source of the services. They last indefinitely after filing if the maintenance fees are paid.

What is trademark registration?

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

You can carry out preliminary searches to check the availability of the trademarks using the below links. Before deciding to use a company or product name commercially you should get a professional trademark search done on the name(s). You should also ensure that associated website domain names are available.

TRADEMARK SEARCH WEBSITES

Europe

euipo.europa.eu/eSearch

USA

www.uspto.gov/trademarks/index.jsp

Select "Trademark Search" in the box on the top left hand side of the screen.

China

www.chinatrademarkoffice.com

Select "Trademark Search" in the box on the middle of the screen.

Japan

<https://www.j-platpat.inpit.go.jp/web/all/top/BTmTopEnglishPage>

What is a design right?

A design right is used to protect the style or aesthetic features of a product, but not its functional features. Two types exist: registered and unregistered designs. Registered designs must be filed at a patent office, are examined and then granted with corresponding costs. They last for 25 years after filing if maintenance fees are paid every 5 years. Unregistered design rights (EU only) are obtained automatically, like copyright, and do not have any costs associated with them. They last for 3 years after placing the product on the market.

What is know-how (trade secret)?

Know-how is secret or proprietary information on producing products and is not registered or disclosed. It's protected by the fact that it's kept secret. Transfer of know-how from one organisation to another is done by secrecy or confidentiality agreements. These require the receiving party to treat the information with the same care as if they had devised it themselves. It can include any information on manufacturing or marketing products and services and is probably the most important form of protection and transfer of technology even though it seldom appears in public. Licence term is usually 5-7 years.

CONSIDERATIONS FOR *A SPINOUT COMPANY*

What is a spinout company and why choose to create one?

A CIT spinout company is a new business entity formed to commercialise one or more related IPs that were created in CIT. Forming a spinout company is an alternative to licensing the IP to an established business. A few key factors when considering a spinout company:

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

The ILO with the support of the Rubicon Centre can help evaluate these and other factors.

Who decides whether to form a spinout?

The choice to establish a new company for commercialising intellectual property is a joint decision made by the ILO and the inventors and requires approval from the CIT Governing Body. If a new spinout company is chosen as the preferred commercialisation path, the commercialisation specialist can assist you and the other founders in sourcing finance, consultants, entrepreneurs, and accessing other resources at CIT to help you in establishing the company. Once a decision has been made to create a spinout, the Rubicon Centre will appoint a case manager to work with the founders and the commercialisation specialist to set up the company and provide necessary supports and training.

The ILO will negotiate with a representative of the company to reach agreement on a licence to the new company. It is wise for inventors to have agreements/contracts regarding their roles within the spinout reviewed by their own legal advisor to ensure that all personal ramifications – including taxation and liabilities – are clearly understood. (Refer to CIT Spinout policy and accompanying guide).



MARKETING TO *FIND A LICENSEE*

How does the Industry Liaison Office market my inventions?

The commercialisation specialist uses many sources and strategies to identify potential licensees and market inventions. Sometimes existing relationships of the inventors, the ILO and other researchers are useful in marketing an invention. Market research can also assist in identifying prospective licensees. In addition, the ILO also examines other complementary technologies and agreements to assist its efforts. CIT publications and presentations are often excellent marketing tools as well. The bulk of CIT research projects have external commercial collaborators and/or funders who are often given first option to negotiate a licence of the technology produced in these projects in return for their participation in/funding of the project.

How are most licensees found?

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

How long does it take to find a potential licensee?

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



How can I assist in marketing my invention?

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

Can there be more than one licensee?

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

LICENCE AGREEMENTS

What is a licence?

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

What is a licence agreement?

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

How is a business chosen to be a licensee?

A licensee is chosen based on its ability to commercialise the technology for the benefit of the general public. Sometimes an established business with experience in similar technologies and markets is the best choice. In other cases, the focus and intensity of a spinout company is a better option. Typically, CIT does not have multiple potential licensees bidding on an invention.

What can I expect to gain if my IP is licensed?

CIT's Intellectual Property Policy sets out how the share of any financial return from a licence is distributed to the inventor(s). For more information, see http://www.cit.ie/aboutcit/reports_plansandpolicies/. In addition, inventors enjoy the satisfaction of knowing their inventions are being deployed for the benefit of the general public. New and enhanced relationships with businesses are another outcome that can augment one's teaching, research and engagement.

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

Most licensees need some active assistance by the inventor to facilitate their commercialisation efforts. This can range from infrequent, informal contacts to a more formal consulting relationship. Working with a new spinout company can require substantially more time, depending on your role in or with the company and your continuing role within CIT and needs to be discussed and agreed with your department head in advance of starting the business.

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

- Non-Disclosure Agreements (NDAs) are often used to protect the confidentiality of an invention during evaluation by potential licensees. NDAs also protect proprietary information of third parties that CIT researchers need to review in order to conduct research or evaluate research opportunities. The ILO manages all NDAs for CIT proprietary information shared with someone outside of CIT, related to research contracts and potential research relationships.
- Material Transfer Agreements (MTAs) used for incoming and outgoing materials at CIT are administered by the ILO (outgoing or incoming materials). These agreements describe the terms under which CIT researchers and outside researchers may share materials, typically for research evaluation purposes. Intellectual property rights can be endangered if materials are used without a proper MTA.
- Consortium Agreements include the terms under which two or more institutions (e.g. two universities) will collaborate to assess, protect, market, licence, and share in the revenues received from licensing jointly-owned intellectual property. (H2020, SFI, EI, etc.)



- Option Agreements or Option Clauses within research agreements, describe the conditions under which CIT preserves the opportunity for a third party to negotiate a licence for intellectual property.

Option clauses are often provided in:
 1. Collaboration Research Agreements with corporate research sponsors (such as Enterprise Ireland Innovation Partnerships);
 2. Option Agreements are entered into with potential licensees wishing to evaluate the technology prior to entering into a full licence agreement.
- Contract Research Agreements describe the terms under which sponsors provide research support to CIT. These are negotiated by the ILO.
- Assignment Agreements are used to transfer ownership of intellectual property from one party to another. CIT uses two different types of IP assignment:
 1. Inventors' IP Assignment Agreements are used to transfer ownership of an invention from the inventor(s) to CIT. The invention is already owned by CIT as the employer but this agreement makes due diligence evaluation process by perspective licensees of CIT IP a lot smoother. It's also required by the USPTO when filing a patent.
 2. IP Assignment Agreement to external parties are used to transfer ownership of CIT IP to an external party - usually when they have 100% funded the research project that lead to the discovery of the invention.

COMMERCIALISATION

What activities occur during commercialisation?

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

What is my role during commercialisation?

Your role can vary depending on your interest and involvement, the interest of the licensee in utilising your services for various assignments, and any sponsored research related to the licence or any personal agreements with related spin outs.

What revenues are generated for CIT if commercialisation is successful?

Most licences have licensing fees that can be very modest (for spinouts or situations in which the value of the licence is deemed to warrant a modest licence fee) or can reach hundreds of thousands of euros. Royalties on the eventual sales of the licensed products can generate similar or greater revenues, although this can take years to occur. Most licences do not yield substantial revenues. A recent study of licences at USA universities demonstrated that only 1% of all licences yield over \$1 million. However, the rewards of an invention reaching the market are often more significant than the financial considerations alone.

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

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



CONFLICT OF INTEREST

How does CIT define a conflict of interest?

A conflict of interest can occur when a CIT employee has a relationship with an outside organisation:

1. And this relationship can influence CIT's business, research or other areas that may lead to a direct or indirect personal financial gain;
2. When this relationship adversely impacts or influences his or her research or teaching responsibilities; or
3. When the relationship provides improper advantage to others, to the disadvantage of CIT.

When should I seek guidance on conflict of interest?

Whenever a question or uncertainty arises, you should seek guidance from your line manager or the ILO for commercialisation related issues.

There are two times in particular when guidance is required: when research proposals are submitted to external sponsors and when a licence, option or MTA is being considered for a company in which the faculty member has an equity or management interest. Certain EU and government contracts and grants have conflict of interest reporting requirements; the ILO can provide you with guidance in these instances.

What kind of issues concern conflict of interest reviewers?

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

What are examples of a conflict of commitment?

A conflict of commitment may exist if duties, assignments or responsibilities associated with a technology licence or outside business arrangement have a negative impact on your ability to meet commitments associated with your CIT employment or exceed the amount of time available to you for these activities. The best approach is to fully disclose your situation to your department head and discuss the implications for your job responsibilities. CIT's guidance notes on external work are available from the Human Resource Office and can also be found on the CIT Staff Gateway under Governance and Management/Human Resource Management/Employment/Terms and Conditions of Employment/External Work. It is the responsibility of the staff member to disclose and document any outside arrangements that constitute potential conflict of interest.

REVENUE DISTRIBUTIONS



How are licence revenues distributed?

The ILO is responsible for managing the expenses and revenues associated with technology agreements. CIT's Intellectual Property Policy outlines how revenues from licence fees, milestone payments and royalties – minus any reimbursed patenting and marketing expenses – are shared with the inventors. See section 11 of the "Intellectual Property Policy" which can be found at http://www.cit.ie/aboutcit/reports_plansandpolicies/. For purposes of revenue distribution, "Originators" are defined as named inventors on IDFs and patents or authors of copyrighted materials.

Do I receive equity in a CIT spinout company?

As an inventor you will not automatically receive any of the equity received by CIT in the spinout company. However, if you are directly involved in the spinout company you may negotiate an equity stake in the company in return for your participation in founding and growing the spinout company. Equity includes shares and/or share options.

What are the tax implications of any revenues I receive from CIT?

Income from patent royalty is no longer tax free under Irish law. Licence revenues paid to inventors are generally taxable. Consult a tax advisor for specific advice.

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

The "inventors' share" of royalties is divided equally among all inventors unless all inventors agree in writing to another distribution formula of their collective choice. This formula is usually based on their relative intellectual contribution to the initial conceiving of the idea followed by its reduction to practice and is agreed between the inventors.



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