Intellectual Property Protection Process

A User's Guide

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1 Introduction

Results from University research activity are generally owned by the University, which creates a responsibility to find the best route for their exploitation. The University follows standard processes for the identification and protection of inventions considered to have commercial potential. The identification and protection processes are an integral part of the overall commercial exploitation of University Intellectual Property (IP).

This document outlines the stages to exploit University IP including;

- the processes operated by Technology Transfer (TT) for the identification, protection and subsequent exploitation of ideas and inventions;
- the roles of the TT team, the Inventors and other entities involved in IP protection and exploitation;
- what help and assistance the TT team requires from an Inventor during the protection process; and
- how to start the protection and exploitation process with an initial disclosure to the TT team.

2 What does the University seek to protect?

The University seeks to protect any outcomes of research where University staff and/or researchers have created outputs capable of wider external application and which have the potential of recovering the costs of protection and generating significant revenue through subsequent exploitation – whether through licensing, spin-outs, or other mechanisms. As the first stage of that exploitation process all academic and research staff should assist in the identification of research results of wider benefit to 3rd parties.

In this document;

- 'Invention' is used in the broadest sense and is intended to cover a set of creative ideas that are thought to be original and of potential value, whether these arise from engineering, physical sciences, education, social sciences or other disciplines.
- 'Commercialisation' is also used in the broadest sense to mean the application of the ideas in the wider world and includes aspects of policy impact, social benefit and research impact as well as financial return. Even if an invention is not sold as a product or service on an open market having a protected invention or know how that people wish to access can often be leveraged to bring additional funding into the University – whether through grants, industrial funding of facilities, KTPs, PhDs, EngDs or other mechanisms. These benefits will also be considered in the commercial assessment of an invention.

The protection of research results frequently requires the spending of money at the early stages of an Invention's gestation and long before its commercial viability is proven. RIS manages the relevant University budgets and is responsible for obtaining the best value IP protection appropriate for specific research results. As the number of ideas generated within the University is high and the cost of obtaining full protection can be both expensive and lengthy the University needs to;

- be highly selective in the ideas it initially selects for protection.
- protect the invention appropriately and at the minimum initial outlay for its nature and potential applications.
- co-ordinate the IP protection with activities to ensure the commercial value of the invention is established and potential exploitation routes identified.
- abandon the later, more expensive, stages of protection if commercial interest is not established with potential partners or licensees.
- recover any patent costs and a contribution from successful commercial exploitations to ensure that funds to protect ideas are available for later inventions.
- prioritise limited resources onto inventions with the greatest established commercial potential.

The nature of the invention, the field it is in, prior publications etc. will all affect the method and scope of protection so the TT team always welcomes early contact with inventors. In the event that you consider your research outcomes to be of future commercial interest please keep results confidential and do not disseminate them beyond your immediate research group until they have been discussed with a member of the TT team.

3 Why protect inventions?

Direct financial benefits

- The University seeks to obtain direct financial income from licences, assignments, joint ventures, the creation of spin-outs etc. The creation of financial value is normally only possible when a unique invention has been protected.
- The income generated through such processes is shared between the academic and the University, the academic's department, the faculty and the University Crescent Fund in accordance with the Intellectual Property Policy (Ordinance 22).

Other benefits

- Patents are often used as the method of IP protection and contribute to the University's Research Excellence Framework (REF) assessment.
- Increasingly 'Impact' is being assessed as part of REF and commercial exploitations contributing to this largely depend on protection for an invention having been obtained.
- Copyright and trademark protection help ensure that ideas originating at the University are recognised externally as originating here; creating impact, publicity and stimulating opportunities for collaborative research and consultancy.

4 The Invention Disclosure

4.1 When should I start the process?

The process starts with the identification of a possible idea with commercial potential. Often people engaged in research or development do not realise they have created an invention.

Any time you overcome a technical problem or performed a creative act it's worth considering whether you have created something new. If you have it may be an 'Invention' and is potentially worth protecting.

- In Physical or Life Sciences the invention is often a new or better technique, a novel use of technology, a new material, chemical or process.
- In Social or Economic Sciences the 'Invention' could be a new analytical model or tool or a cartoon character used in educational material.
- In Computer Science or Mechanical Engineering the 'invention' may be a 'look and feel' styling of a physical product, an interaction method, a database, software, or novel iconography.
- Reports, diagrams and creative works including software will automatically be covered by copyright but it is good practice to enhance external recognition and traceability by including "© University of Bath" and the year on such material.
- Not all inventions can be protected in the same way - in the list above the former ones are possible candidates for patents whilst the latter ones may be subject of other forms of protection.

Note: Some forms of protection cannot be obtained if ideas have been disclosed to anybody outside the University staff unless specifically covered by non-disclosure or confidentiality agreements. This includes submission of abstracts or paper drafts and even the sending of application forms to some funding bodies. A check whether significant un-published results are being disclosed should be made by all staff involved in the drafting, reviewing or approval of publications.

Therefore, the TT Team in RIS would like to hear from you at the earliest point - even if you are not sure whether your research results constitute an invention or not. You can find the TT Team through the RIS, the TT section of the University website or by emailing research-commercialisation@bath.ac.uk

4.2 Recording the idea and providing initial feedback

Irrespective of who you contact in TT details of your idea and contact information will be routed to the most appropriate member of the TT Team depending on the invention's field.

The member of the TT team handling the case will log the idea and give it a unique reference number so it can be tracked internally and will meet with you to discuss the idea further and capture a minimum set of details.

They are responsible for understanding the idea, investigating further and clearly communicating whether they see potential for going further.

Many ideas will progress no further than this stage.

4.3 Identification of protection Method

The TT Manager will recommend an appropriate method of protection. Normally this will be one of:

1. Copyright
2. Design Registration
3. Trade Mark Registration
4. Database Rights
5. Trade Secret
6. Patent Protection

5 IP protection other than from patents

Irrespective of the protection technique chosen the TTM will provide the necessary forms, select any necessary external advisor, handle all contractual matters relating to the external advisors, assist in completion of all forms and ensure the protection process is completed.

A variety of protection mechanisms can be used (often in parallel) as shown in Table 1 below:

	Copyright	UK Registered Design	UK Design Right	Registered Community Design	Unregistered Community Design	Trademark	Trade Secret	Database Right
Suitability	Protects literary, audio & graphical works from wholesale copying and reproduction. Does not protect an 'idea' only the way the idea is laid down / recorded. Can be used to protect web content, training programmes, course material etc.	Protects the physical appearance of physical products with a distinct character. (Includes protection for 2D and 3D designs, including surface patterns)	Protection for the internal or external shape or configuration of an original 3D design. (Excludes protection for 2D designs, including surface patterns)	Protects Overall appearance of a Design from copying.	Protects overall appearance of a Design from copying.	Protects marks and signs identifying products, goods or services as originating from a specific source organisation.	Ensures knowledge of processes, methods or techniques that cannot be backwardly deduced by inspection, and are not generally known by the public are retained as knowledge assets of the organisation.	Prevents copying of structured data content present in web-sites, sets of data, records etc from being copied in whole or to a significant extent where effort has gone into compiling the database.
Cost	Free	<£100	Free	From £300. Costs can be found on European Trade Marks Directory OHIM	Free	Medium £500 to £2,000 depending on scope of protection obtained.	Low- depends on cost of ensuring all communications are under NDA	Free
Time to protect	Automatic	3-4 Weeks	Automatic	Register with OHIM	Automatic	3-4 Weeks	Fast	Automatic
Duration	Typically 25 years from publication of published works. 70 years from author's death for literary & musical works (inc. software).	25 years provided renewal is done every 5 years	10 years from end of year of first sale, 15 years from design- whichever is earlier. Last 5 years others entitled to a licence	25 years if renewed every 5 years	3 years from first public availability in EEA country	Perpetual subject to payment of renewal fee every 10 years and use in protected classes within 5 years of application.	As long as confidentiality / Non Disclosure agreements remain in force.	15 years from last major modification
Territorial scope of protection	Berne Convention countries (over 160 world- wide)	UK and some Commonwealth countries	UK and some Commonwealth countries	EU	EU	UK or UK leading to Europe wide.	All jurisdictions where breach of confidentiality actions can be prosecuted.	Europe wide. No US equivalent.

Process	Automatic right. Use of © symbol and University of Bath 20xx helps assert ownership and recognition	Application for a Design Registration can be made to the Intellectual Property Office up to 12 months after first public display/	Automatic but good practice is to date designs to show creation date	Requires registration with OHIM	Automatic	Separate classes of products or services must be nominated for protection. Application for registration is submitted to Intellectual Property Office.	Requires significant efforts to identify the IP and ensure it is recognised and understood to be confidential. Anyone it is disclosed to should be put under Non Disclosure Agreements. Enforcement is via breach of confidentiality actions. It offers no protection against independent development of the same techniques by others where confidentiality is not breached.	Automatic
Monetisation	Multiple low cost, non-exclusive licences with standard (non-negotiable) terms and conditions	Unique products, Licences to reproduce.	Unique products, Licences to reproduce.	Unique products, Licences to reproduce.	Unique products, Licences to reproduce.	Licences to use, part of copyright licence packs	Competitive advantage, Licences, Consultancy services agreements.	Licences to reproduce.

Table 1: Forms of non-patent IP Protection

Where in the above;

- 'Design' relates to the outward appearance of a Product or part of it, resulting from the lines, contours, colours, shape, texture, materials and/or its ornamentation. Note that protecting a Design cannot protect the function of a Product, nor prevent cases where genuine independent development (with no copying from the Product) has resulted in the same or similar Designs.
- A Product can be any industrial or handicraft item including packaging, graphic symbols and typefaces but excluding computer programmes. It also includes products that are composed of multiple components, which may be disassembled and reassembled.

6 The Patenting Process

Where the TTM recommends obtaining IP protection by means of a patent application a more formal process is required. To be able to secure the budget for the patent application the invention and potential commercialization path will need to be approved by the Technology Transfer Group (TTG).

Once approved by the TTG the patenting process generally takes 3 to 4 months before an application is filed at the patent office (from which point your invention is protected). It typically takes 6 to 7 years for a patent to be granted although protection applies from the date of application. The formal patenting process is as follows:

6.1 What can be protected through patents?

The UK Patent Office Guidance is that; "Patents generally cover products or processes that contain 'new' functional or technical aspects."

They are concerned with:

- how things work;
- how they are made; or
- what they are made of

They must also be:

- new – not already known to the public before the date a patent is applied for;
- inventive – not an obvious modification of what is already known; and
- capable of industrial application, that is to say they can be made or used in any kind of industry.

In other words, your invention must make a 'technical contribution'.

This means you can't, for example, patent a business method unless it involves some technical innovation. Inventions relating to computer software may be patentable, but only if they involve something more than just software running on a computer in a technically ordinary way.

Other ideas that cannot be patented are:

- scientific or mathematical discoveries, theories or methods;
- literary, dramatic, musical or artistic works;
- schemes, rules or methods for performing a mental act; and
- methods of medical treatment.

An overview of the patenting process is given in Figure 1 and explained below:

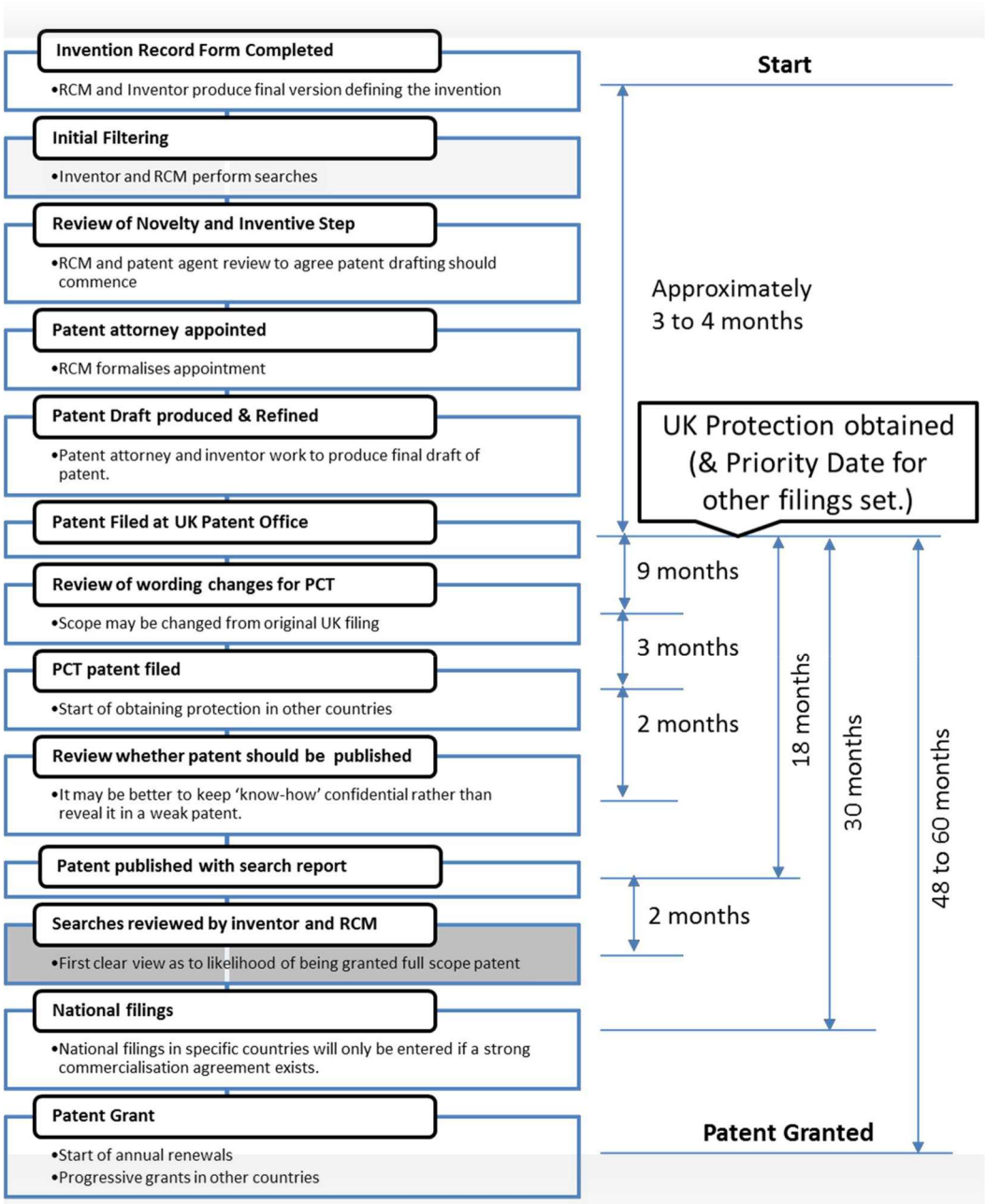

Fig. 1 Patent Process Timeline

6.2 Capturing the idea in detail

All innovations to be considered for patenting must be captured using a concise standard form – "Innovation Disclosure Form (IDF)".

The IDF briefly summarises the innovation and covers:

- a description of the innovation including a pertinent diagram
- background to the innovation

- commercial significance of the innovation
- known prior art and sources searched
- any timing constraints defining when a patent filing must be completed (conference paper submission deadline etc.)
- categorisation of the innovation as 'method' or 'design'

A blank form can be downloaded from the RIS section of the University web site.

The completed form should be considered as HIGHLY CONFIDENTIAL as disclosure of the information on the form to third parties will prevent patenting.

It is recommended that significant effort is put into describing the invention and through self-performed searches (see below) identifying and describing the nearest 'prior art' and patentable differences from that prior art before completing the supporting sections.

6.3 Establishing the invention is patentable

6.3.1 Criteria for patentability

Some forms of software invention and genetic inventions are hard to patent and specialist advice will be sought by the TTM as needed.

Outside these areas the main criteria for patentability are that the invention is 'novel' and 'inventive' where;

- Novel - means the inventive steps have not been described previously or disclosed to any third party.
- Inventive - from the closest pieces of publicly available information as to the 'state of the art' immediately prior to the invention there must have been a creative step that would have arguably been non-obvious to 'a person skilled in the art.'

6.3.2 Initial filtering by self-performed searches

To avoid wasting time on attempting to protect inventions where we can easily establish that these criteria cannot be met the TTM and the Inventor shall spend a reasonable period searching whether similar inventions have been previously described by anyone else.

- The Inventor shall use commercial search engines, SciFinder, relevant conference proceedings and other sources at their disposal.
- The TTM shall, in addition, use the patent databases to perform initial prior art patent searches. The results for this search will be prepared into a patentability report and discussed with Inventor.

The TTM and the Inventor shall discuss the results and summarise areas of difference and areas where similar inventions may already exist. A joint decision may be made at this stage to withdraw the invention at this stage.

6.3.3 Patent budget approval at the Technology Transfer Group

If the TTM is satisfied that no 'show stopping prior art' is evident and that the invention as disclosed is i) adequately describable to a patent attorney and ii) is innovative; then internal clearance to commit IP protection budget will be sought along with an instruction to commence filing.

For a patent application to get the go ahead to be drafted it will need to be presented, discussed and approved at the regular Technology Transfer Group meeting. Once approval has been given the TTM will be allowed to proceed to patenting.

6.4 Appointing a Patent Agent

If the initial investigations indicate that the invention may be patentable a Patent Agent will be appointed to work on drafting a patent. The selection of a Patent Agent will be through discussion with the Inventor (who may have preferences based on previous patents) and TTM's experience. The TTM will ensure a Patent Agent is appointed and instructed and will support the Inventor through the process.

The Patent Agent shall;

1. Confirm that the Patent route is the appropriate protection method for the innovation (i.e. not "know-how" or "other".)
2. Assess the scope of patent protection likely to be available for the innovation (on the basis of patent novelty search results).
3. Assess the need (if any) for more detailed search reports or further information from the Innovator in order to determine whether to proceed with seeking patent protection.
4. Assess the cost of protection.
5. Agree fees, obtain University clearance to proceed, instruct the Patent Agent and administrate the subsequent steps.
6. Assign a unique patent family number

6.5 UK Patent Drafting and Filing

- The patent application will be based on the IDF and possibly further discussion with the inventor.
- The initial patent draft will be reviewed by the inventor and their input invited. The inventor might be required to provide additional information and drawings to the Patent Agent.
- The final draft, prepared taking the inventor's input into account, will be reviewed by the Inventor and the TTM and amended as required to be approved for filing.
- The application will then be filed in the UK thereby establishing a 'priority date' for the patent family. If the patent is granted this date is the one that the protection from copying etc under the patent laws runs from.

Note: Only once confirmation has been received of successful filing is it safe to disclose information on the patented inventions - a Confidential Disclosure Agreement (CDA) or Non-Disclosure Agreement (NDA) is still advisable in many discussions as the patented inventions will not be published by the Patent Office for 18 months and it helps maintain and protect your technical lead.

6.6 Next Stages in Obtaining Patent Protection

The UK filing is the entry point into further filings to obtain protection in different jurisdictions. The typical timetable for the following stages of the patent process are:

- 12 months after filing an international application is made under the Patent Co- operation Treaty (PCT) with a request for an official search. This is a gateway step to enable filing in different countries.
- 18 months after filing the UK patent is published with the initial search reports (containing details of possible prior art identified by the patent office

search professionals.)

There will be some discussions relating to each of these steps between the TTM, Patent Agent and Inventor who drafted the UK priority application:

At the PCT stage

- If there has been significant technical progression, or additional inventive steps made since the initial application it is possible that better evidence of the effectiveness or results obtainable from the invention's use have become available. The initially claimed areas of protection may then no longer be the ones originally thought most promising.
- It is also possible that since the initial filing new prior art has come to light etc. For the reasons above a review will be made between the TTM and the inventor prior to commencing a PCT application. The PCT filing may be a significantly redrafted document and in some cases the changes are so major that the UK patent is abandoned, but in most cases the two will run in parallel.

Prior to publication of UK patent

- If evidence shows the patent is to be weak (following commercial feedback, industry review, search results etc.) or the technology involves processes which would be hard to detect infringement of or could be worked around then it is sometimes better to withdraw a patent prior to publication so that the 'know how' stays within the University.

After publication of the UK patent with official search report

- The TTM and typically the Patent Agent will discuss whether any of the prior art uncovered by the UK Patent Office searches affects the likelihood of success for the UK and PCT filings and whether amendments or abandonment are required.

6.7 National/Regional Phase Applications

The National/Regional phase applications are where specific territories are selected in which to obtain protection. The costs rise significantly at this stage and except under exceptional circumstances, no national/regional phase patent applications will be filed on expiry of the PCT application at 30/31 months from the initial UK patent application filing date unless the patent applications are the subject of a satisfactory commercial agreement.

6.8 Termination of protection due to the lack of commercial exploitation

The TTM will work with the Inventor in parallel with the patenting process to assess the potential for exploitation and the best routes to bring this about. Patenting should be seen as a tool to help create a unique area that can be commercialised and not an end of activities.

Not all inventions will have a commercial exploitation path and prior to the National/Regional phases, (or annual renewals of patents) a decision may be taken that the University cannot continue that patent family given the current level of commercial interest.

The patents will then be offered back to the Inventors in line with University Ordinances. If

the Inventors wish for the patents to be assigned to them they become responsible for all the future costs of protection including annual renewals. In the event of income being generated by them a mechanism is typically built into the assignment document and through which the University will also share in these revenues.

7 Steps to the Successful Exploitation of our Protected IP

For each invention successfully protected using one of the methods described above the TTM is responsible to help explore and put in place steps towards commercial exploitation of the protected IP. In most cases the discussions of the possible options will be conducted in parallel with the IP protection process so the latter is appropriate for the nature of the exploitation envisaged.

No two pieces of IP will go through the same processes but the typical methods RIS uses are to:-

- Act as a gateway, where additional work is needed to translate the invention into a proof of concept demonstrator that can be assessed by industry.
- To produce marketing documents that encapsulate the invention in an easily digestible format.
- To carry out market surveys, value chain analyses and studies of route to market.
- Establish contact with relevant experts and introduce potential investors.

The TTMs will identify the best route to market and drive forward the exploitation. Typical methods are:-

- To licence the Invention to a commercial organisation in return for a percentage of the sales revenues of products containing the protected IP. Depending on the technology and the terms of the deal this may be an exclusive world-wide deal, non- exclusive or territorially limited.
- To transfer know-how to a company through Knowledge Transfer Partnerships, Innovate UK collaborative projects, or other translational funding aimed at bridging between industry and academic work.
- To use the protected IP as an asset of defined value and licence or assign it as part of the University's contribution to a 'spin out company' along with possible University venture funding investment.
- For the TTM to champion a commercialisation case through the internal investment decision processes including through the UCEB and to introduce relevant commercial expertise, venture capitalists and angel investors.
- Establish a route to sell the protected IP as a product or service directly through the University.