

University of Nottingham Ningbo China

A Practical Guide to Intellectual Property Management and Commercialisation

The following is a brief overview of Intellectual Property management and commercialisation focusing on patents, the most common form of commercially viable IP within The University.

1. INTELLECTUAL PROPERTY (IP) AND INTELLECTUAL PROPERTY RIGHTS (IPR)

According to the State Intellectual Property Office of the P.R.C., Intellectual Property is a collection of ideas and information in a broadly commercial context which the law recognises as having a value by providing protection. IP includes, but is not limited to, the results of research in the form of data, inventions, notes, records, books, papers, designs, art works, music, software, business methods, schemes for processing and assessing information and mathematical formulae.

The four main types of IP:

- 1) Patents for inventions – new and improved products and processes that are capable of industrial application
- 2) Trade marks for brand identity – of goods and services allowing distinctions to be made between different traders
- 3) Design for product appearance – of the whole or a part of a product resulting from the features of, the lines, contours, colours, shape, texture and/or materials of the product itself and/or its ornamentation.
- 4) Copyright for material – literary and artistic material, music, films, sound recordings and broadcasts, including software and multimedia

However, IP is much broader than this extending to confidentiality (or trade secrets), plant varieties, performers rights and so on.

2. PATENTS

2.1 Is my invention patentable?

A patent protects the inventive nature of an idea and must fulfil each of the following criteria:

Novelty: before the date of filing, no identical invention or utility model has been publicly disclosed in publications in the country or abroad or has been publicly used or made known to the public by any other means in the country, nor has any other person field previously with the patent administrative office under the State Council an application which described the identical invention or utility model and was published after the said date of filing.

Inventiveness: as compared with the technology existing before the date of filing the invention has prominent substantive features and represents a notable progress and that the utility model has substantive features and represents progress.

Practical applicability: that the invention or utility model can be made or used and can produce effective results.

An invention-creation for which a patent is applied for does not lose its novelty where, within six months before the date of filing, one of the following events occurred:

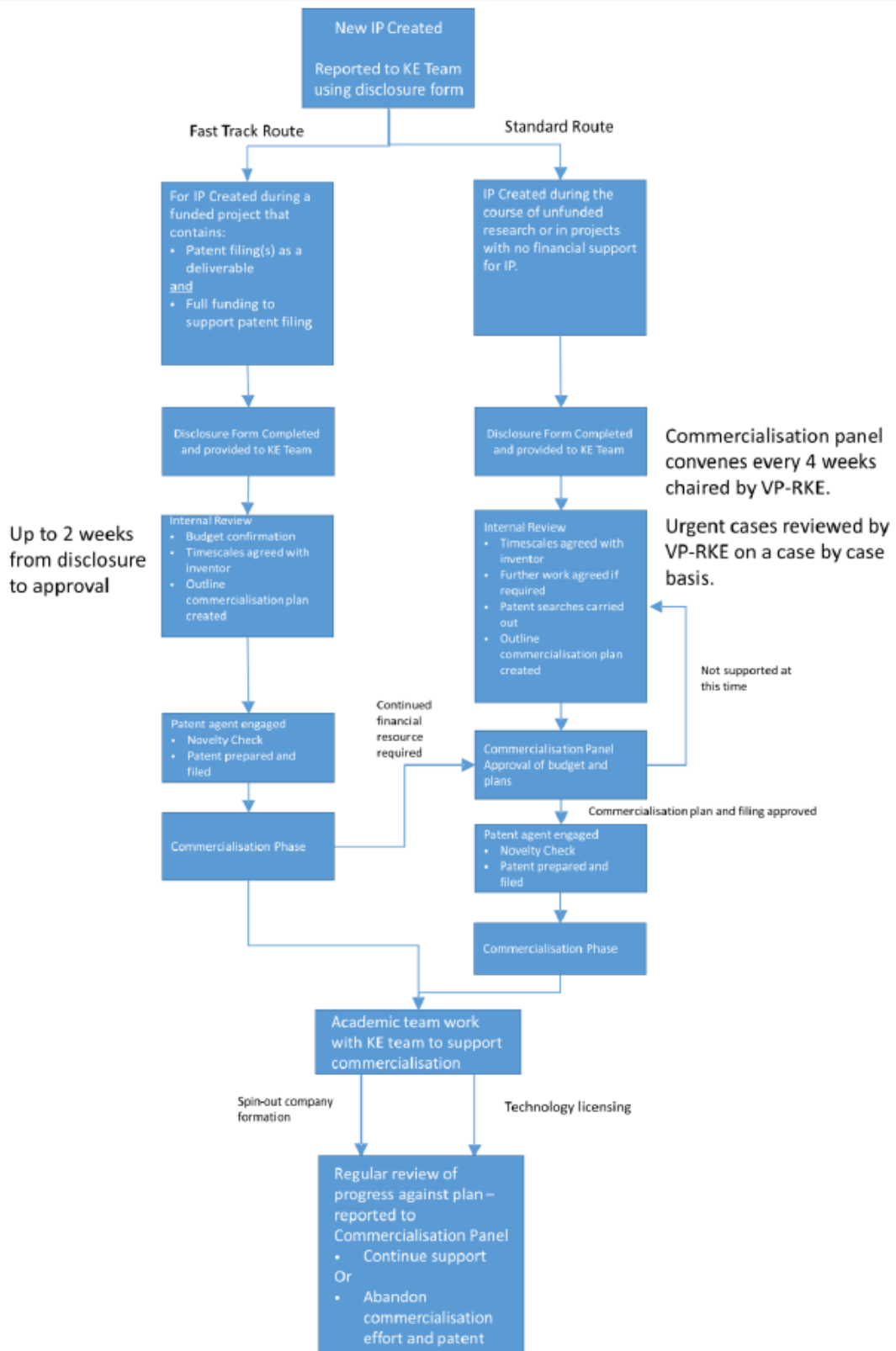
- 1) Being exhibited for the first time in a Chinese government-organised exhibition or international exhibition (Chinese government recognised).
- 2) Being published for the first time in academic conference or tech-fair.
- 3) The invention has been leaked by other people without being agreed by the inventor.

Procedures for IP Reporting and Management

All new IP should be reported to the KE Team using the disclosure form. All disclosures are then reported to VP-RKE. Where a new patent application is requested then the request is managed in one of two ways.

1. Where a funded research project contains specific objectives and a budget to file new patent applications then a fast track route is followed.
2. Where the Intellectual Property has been developed within research that has no direct financial support for patent filings then an alternative approach is followed that allows VP-RKE to approve new patent applications in consultation with commercialisation panel when needed.

Procedure for IP Management and Commercialisation Flow Chart



2.2 Confidentiality and disclosure

Details must not be disclosed orally or in writing, other than under cover of a confidentiality agreement, until a patent has been filed. Any form of publication, including poster or abstract submissions at conferences, constitutes disclosure. Thorough searches of both academic and patent literature must be undertaken to confirm novelty.

2.3 What are the key stages to obtaining a patent?

2.3.1 Preparation and filing of the patent specification

The university will engage a Patent Agent to assist with drafting. Standard practice is to start by filing in the China. The drafting process requires **considerable input from the inventors** and may go through several drafts before filing.

If it is a patent application of invention or utility model, the draft should include application form, instruction, abstract, claims etc. The application form should state the name of the invention or utility model, the name of the inventor, applicant's name, address and other details. The instruction should clearly state and explain the invention or the utility model according to the practical techniques. Figures are required if they are necessary. The abstract should focus on the techniques of the invention or utility model. The claims should state the right clearly and briefly according to the instruction.

If it is a patent of design, the draft should include application form, the picture of design and a basic instruction etc. the picture needs to be clear enough to show the design.

2.4 How much does a new Chinese patent application cost?

The following table summarises the approximate cost to prepare and file a new Chinese patent application.

Patent of Invention in China (Unit: RMB)	
Application Fee (charged by SIPO)	950 (with discount)
Agency Fee	3400
Patent Defence Fee (pre-charged)	1000
TOTAL	5350
Patent of Utility Model in China	
Application Fee (charged by SIPO)	535 (with discount)
Agency Fee	2100
TOTAL	2635

2.5 Indicative Costs for International Patent Protection

For some technologies the commercial opportunity might be significant enough to justify wider patent coverage. With agreement from the Commercialisation Panel the Chinese patent application can be progressed in international markets. Indicative costs are summarised in the table below.

International Patent Protection (Unit: RMB)	
Patent Co-operation Treaty (PCT) stage	20000
National Phase Entry	
UK Total	50000
US Total	60000
EU Total	90000
JAPAN TOTAL	50000

3. Commercialisation

Commercialisation is the process of introducing a new product, production method or service into the commercial market. Patents are filed to support the commercialisation of new technologies. A good quality patent enables the owner of the patent to stop others copying the invention. There are a variety of mechanisms by which technology offerings are made to potential licensees. These include:

- Meeting and building relationships with relevant companies through personal networks
- Attending technology related conferences or exhibitions
- Publishing articles in trade journals
- Mailshots to companies identified as potential licenses
- Mailshots to technology transfer/consultancy organizations
- Organizing seminars and workshops for potential industrial partners

Types of Commercial Deals for IPR

The nature of IPR means that there are a specific set of deal structures which are normally constructed around IPR trading. The consideration for entering into such agreements may include an up-front fee, milestone payments, royalties or equity in the form of shareholding.

Option (Evaluation License) Agreements

Technologies emerging from academic institutions are frequently very early stage and may therefore represent a large risk to a licensee. Potential licensees may be reluctant to commit to a full license and may wish to license the technology only for a short period to enable them to evaluate it fully. The Option is usually exclusive, for a period

of time which is long enough either to test the technology in house, or to sponsor research at a University or private lab to test and validate the technology. It is normal for the Option holder to contribute towards the cost of the patent during the period of the Option.

License Agreements

License agreements are extremely flexible contracts which can be relatively simple or extremely complex depending on the nature of the technology and its stage of development.

Non-exclusive license: the same technology is licensed for the same use to a number of different licensees

Exclusive license: the single licensee is the only company/person who can exploit the invention

Exclusive by Field of use: the invention is licensed to a licensee for one use, but possibly to another licensee for a different use. For example one license in Aerospace and one license in Automotive.

Assignment

In some instances, the party interested in the technology may want to take assignment of the technology rather than a license. This is the transfer of legal title i.e. of ownership. The University will always require a license to the technology for research and teaching purposes.

Spin-out company formation

In certain cases the IPR might be best exploited through the formation of a new company. Opportunities that might be suitable for commercialisation include 'platform technologies' where the technology or product might have multiple applications in a number of market sectors. Spin-out companies usually use investment funding to fully commercialise the technology. The University will retain a shareholding in the company.

The KE team will work with inventors to explore the potential for a spin-out company formation during the development of a new disclosure.

Appendix 1

Notes on the Patent prosecution process

After receiving an application for a patent for invention, the Patent Administration Department under the State Council, upon preliminary examination, finds the application to be in conformity with the requirements of Patent Law; it shall publish the application promptly after the expiration of **18 months** from the date of filing. Upon the request of the applicant, the Patent Administration Department under the State Council will publish the application earlier.

Upon the request of the applicant for a patent of invention, made at any time within three years from the date of filing, the Patent Administration Department under the State Council will proceed to examine the application as to its substance. If, without any justified reason, the applicant fails to meet the time limit for requesting examination as to substance, the application shall be deemed to have been withdrawn. The Patent Administration Department under the State Council may, on its own initiative, proceed to examine any application for a patent of invention as to its substance when it is necessary.

When the applicant for a patent of invention requests examination as to substance, he or she shall provide materials that were relevant to the invention before the filing date. For an application for a patent of invention that has been already filed in a foreign country, the Patent Administration Department under the State Council may ask the applicant to provide documents concerning any research made before for the application and the results within a prescribed time limit. Without any justified reasons, the application will be withdrawn if the above documents could not be provided in time.

After the applicant has made the observations or amendments, if the Patent Administration Department under the State Council found the application of patent for invention is still not in conformity with the provisions of Patent Law, the application shall be rejected.

For patent of invention: after the examination of substance, if it is found that there is no cause for rejection of the application, the Patent Administration Department under the State Council shall make a decision to grant the patent right of invention, issue the certificate, register and announce it. The patent right shall come into force upon the date of announcement.

For patent of utility model or design, after the preliminary examination, if it is found that there is no cause for rejection, the Patent Administration Department under the State Council shall make a decision to grant the patent right, issue the relevant patent certificate, register and announce it. The patent right shall come into force upon the date of announcement.

The Patent Administration Department under the State Council shall set up a Patent Re-examination Board. If the applicant were not satisfied with the decision of the Patent Administration Department under the State Council, he/she could request the Patent Re-examination Board to make a re-examination within three months from the date he/she received the notification. After re-examination, the Patent Re-examination Board shall make a decision and notify the applicant for patent. If the applicant is not

satisfied with the decision of the Patent Re-examination Board, he or she could file suit in People's Court within three months from the date that he or she received the notification.

The patent of inventions lasts for 20 years from the filing date and the patents of utility models and design last for ten years from the filing date.