

# NEWSLETTER

## 知产快报

- Since China has experienced and will continue to experience rapid development of patent monetization, it is appropriate for patent entities to position patent monetization around universities and science institutions, as well as providing the consulting monetization service with government and enterprise. It is an irresistible trend to help universities to do a good job in patent transfer and transformation and help the universities to meet the requirements of governments and enterprises.
- Furthermore, China's industry development is mainly driven by national policies, therefore the fields vigorously developed and supported by the government have huge potential for patent monetization. It is necessary to pay close attention to policy changes made by the government in order to make the correct choices concerning the fields of patent monetization.



## Some Thoughts about Technology Transfer of Top Universities in UK and Chinese Patent Monetization Style

### I. University of Oxford technology transfer institution and style

In 1987, University of Oxford established Oxford University Research and Development Ltd., an institution specializing in technology transfer. One year later the institute changed its name to Isis Innovation Ltd. ISIS is a multi-functional technology transfer company and is responsible of transferring the research output of University Oxford into real commercial practice. ISIS is wholly owned by University Oxford and is in charge of the management of technology transfer and academic advisory of the university, meanwhile, ISIS could also provide consulting services of technology transfer with clients around the world.

ISIS's management is directly governed by the board of University of Oxford. The CEO oversees the business including technology licensing and transfer. ISIS's business activities include the following:

- (1) assisting University Oxford to obtain patents;
- (2) licensing patents to enterprises or growing patents into business;
- (3) managing ISIS's angel fund;
- (4) providing consulting services to startup companies through its consulting arm Oxford University Consulting Ltd.;
- (5) running Oxford Innovation Society. This society dedicates to be a premier technology transfer institution by transforming business through innovations and technologies, supporting the Oxford academics by providing consulting services and assisting its client to achieve the highest social and economic benefits.

ISIS has sets up different branches pursuant to different goals including:

- (1) Central Technology Transfer Group: This group focuses on patent information disclosure and patent application filing for researchers at Oxford University;

(2) Oxford University Consulting(OUC): OUC provides advisory services to the third party, helping its clients' by providing consulting services to understand their contracts, and reducing the management's burden. ISIS provides external advisory services to private companies to help them manage their contracts and financials. The areas where OUC provides services for includes: problem solving, data analysis, expert evaluation, due diligence, management and business development.

(3) ISIS Enterprise is an enterprise providing consulting services and training services for technology transfer. ISIS Enterprise also works with other universities, research institutions and governments globally in order to ensure smooth technology transfer, and assist companies on R&D and locate targeted technologies.

(4) Oxford Innovation Society provides an open forum regularly inviting R&D personnel, derivative enterprise, technology transfer experts, domestic enterprises, venture capital investors and multinational companies. Oxford Innovation Society is a valuable link bridging businesses and Universities. It also helps its members in product route design, business development strategies and how to conduct roadshows.

(5) ISIS Outcomes is responsible for the management of copyrights and licenses involving clinical trial results of diseases.

(6) ISIS Startups Incubator provides the support for software Startups by students, faculties and alumni of Oxford. The incubator also provides workplace, IT infrastructure, business mentoring, financial support and necessary networking facilities.

In addition, University Oxford set up a special institution named Oxford Spin-Out Equity Management (OSEM), working closely with ISIS and the finance department of Oxford University to manage shares from enterprises derived from its technologies aiming to optimize the return of

investment from the university. OSEM provides funding support for technology transfer as well.

ISIS technology innovation has three business activities:

ISIS technology transfer department assists Oxford University to commercialize their IP results including patent application filings, patent licensing and derivative enterprises, etc.

ISIS enterprise department provides consulting services for public institutes and enterprise concerning technology transfer and innovation management. Its footprints cover more than 60 countries in the world and has grown rapidly in Asia. In addition to establishing communications between technology providers and technology seekers, ISIS enterprise department provides advisory and consulting services to governments, science parks, investors and research founding institutions.

The primary responsibility of Oxford University consulting department (OUC), run by ISIS, is to help the researchers of Oxford university seek for consulting business opportunities, in the meanwhile, OUC assists its clients to gain access the world-class interdisciplinary experts in Oxford University.

ISIS sets up three subject groups to provide its service including obtaining patent rights, licensing and startup services. This set-up makes the tasks in those groups extremely clear and the professional training therefore is improved. The tasks that ISIS group performs are as follows:

ISIS can be responsible for transferring R&D outcomes to property rights for Oxford University, these rights mainly are referred to patent right, copy rights, and trade secret.

ISIS designates a responsible person in charge of marketing, legal consultation and other assistances including working with angel funds to help grow innovation startups.

ISIS will return part of its profits back to Oxford University, and involving angel funds, and its innovation club, in order to continue supporting its ongoing research and new technology R&D at Oxford University.

Furthermore, Oxford University has a large incubator for new technologies. In 1991, ISIS assisted Oxford University to establish three

different levels of high-tech industrial parks surrounding Oxford University. Milton Park provides incubators for innovative projects from large enterprises. while Magdalen Science Park and Beghroke Science Park provide work spaces for small and midsize enterprises. All of these innovation parks prioritize the needs of enterprises spun off from University of Oxford, but they are also available to non-oxford startups. ISIS has brought this incubation model to China. It first set up its subsidiary at HongKong, which is responsible its business in China and Eastern Asia. Later on it has promoted its business by setting up JVs at Changzhou and Suzhou(Jiangsu Province), Liuzhou (Guangxi Province), Shenzhen (Guangdong Province).

ISIS has generated more than 118 million Yuan(RMB), reached more than 100 licensing agreements annually and established more than 100 startups. Since 2000, these startups have attracted more than 5 billion RMB investment funds and many of which are listed on London stock exchange.

ISIS has created more than 70 enterprises, in total worth more than 20 billion pounds (market cap) including NatureMotion (film and video game developer), Intelligent Sustainable Energy (measurement and analysis software company), Oxford GlycoScience (Biotech), Oxford Emergent Tuberculosis Consortium (TB vaccine), Oxitec (biotech in pest control).

What Differentiate Oxford from American style technology transfer by American universities are, the characters of Oxford technology transfer model are summarized as follows:

(1) Based on a large amount of IP, Oxford has clear property right policy, clear internal division of labor and responsibility system and effective internal and external communication mechanism;

(2) The technology could be sold to members or non-members of the Oxford innovation club, but the members have the first right of purchase. Simultaneously, ISIS will consider the relationship between the licensee and Oxford University. If conflict of interest exists, ISIS has the right forbidding such licensing.

(3) The shareholders of the startups are

composed of the research team, the university, the investors and the actual operators of the company. The researchers share the same equity as the university, the proportion of the investor's equity will be in accordance with the contractual agreement, and the share of the company's managers will be between 5-15% in order to ensure management and incentives.

## II. Cambridge University technology transfer institution and the style

Cambridge University has only established a fully independent company named Cambridge Enterprise Limited Company (hereinafter referred to as "Cambridge Enterprise") to replace incubators and technology transfer offices set up within the university. The decisions are made by Cambridge Enterprise's board of directors, the majority of whom are the faculties of Cambridge University, including nine vice Presidents and senior professors, the other three are experts in technology incubation and entrepreneurship. One of the board directors is selected as the CEO.

When Cambridge Enterprise was founded, it integrated two functions of technology licensing and incubation into one, combining with its technology consulting services and venture capitals, its business was divided into three divisions, including:

(1) Consulting services: this division provides services for signing contracts between the university and other institutions worldwide;

(2) Technology Transfer Services: this division focuses on strategies including IP protection, IP portfolio management and IP operational strategies in order to provide supports R&D and monetize the research results of the University.

(3) Seed Funds and New Venture Services: this division assist to raise funds for the venture investment and provides advisory services about use of proceeds.

Under the management of CEO, Cambridge Enterprise is composed of four divisions including director of consulting services, director of seed funds and director of marketing, as well as an internal regulatory unit: director of finance.

The purpose of rolling the previously

separated two units into Cambridge Enterprise is to build an integrated system which helps incubate technologies systematically instead of having legal services, technology and finance work separately. Cambridge Enterprise not only grows a single technology individually, but tries to add the highest value by combining cases into portfolios. This is to ensure that the markets, innovators, and manufacturers all work together in order to achieve the highest value of the technology. Following this mandate, Cambridge Enterprise strives to expand its customer base and tries to complete and systemize its service covering both the upstream and downstream of different industries. Cambridge Enterprise's business attributes are as follows:

*Consulting service:* Cambridge Enterprise actively engages in evaluating expected market return, success probability and related cost in order to be ensure fair play by both technology buyers and sellers and create a win-win situation for each case.

*Technology transfer service:* Cambridge Enterprise divides the technology licensing into three phases in the following sequence: technical evaluation, acquisition of rights, and signing agreement. Licensing agreement for different technologies have different timelines, ranging from 6 months to 20 years. It also deliberately designs the contracts to allow flexibility so that technology can be further developed and licensed in the future.

*Seed and venture service:* There are two types of funds, one is Challenge Fund which is 100% owned by Cambridge University, the other one is Venture capital funds, which a combination of UK lottery proceeds, regional Cambridge Angel fund and multiple private venture funds. Both types of funds are managed by venture professionals.

The turn-key service by Cambridge Enterprise is a completely different model used by American universities which separate technology transfer and incubation. On the contrary, Cambridge style allows a full chain of services from consulting to signing parties to managing the venture funds. This mechanism allows a technology to grow from a research result to a real enterprise smoothly without going out seeking other resources.



### III. Current situation, problems and opportunities of patent monetization in China

#### *Current situation of patent monetization in China*

Chinese universities have a good science research environment at present. The support for patent protection, patent monetization from government is continuously improving. The driving force of the market requires multiple involving elements to play along, including globalization, continuous input of venture capital and increasing awareness of the importance of innovation among entrepreneurs, continuous education of professionals. According to the statistics, Chinese and foreign venture capital and private equity investments have 50 IP focused funds in total, among which 36 funds are said to raise 19.697 billion RMB. Up to now, there are nearly 8000 IP monetization entities in China and nearly 60% of which have been established only less than 50 years ago. The majority of these entities were formerly patent agencies. At the meantime, although Chinese universities are active in filing patent applications and have more applications granted, they are far less active than international leading universities in patent monetization and commercialization, therefore their patent influence is not comparable to that of Stanford University or even Korea Science Technology Institution. China has to work hard to enhance its technology transfer worldwide.

#### *Problems that China is facing in terms of patent monetization.*

First, patents are disconnected from the technology requirements. In practice, the most common and real demands exist in technology acquisition and investment, rather than the acquisition and investment of a patent or patent portfolio. A Patent portfolio is always considered as an appendant to the technology project, rather than a complete subject matter.

Secondly, it is difficult to conduct the patent evaluation. The patent evaluation is the starting point of patent monetization, however, in practice, there is neither practical way to quantify nor any accepted standard to conduct patent evaluation.

Thirdly, the quality of patent filing is poor. Compared with developed countries in Europe

and America, the patent writing and patent strategy of the Chinese patent agents are far behind. Many patent applications are filed only for the sake of filing, and disregard patent quality issues such as the scope of the patent protection. Lots of patents have very little commercial value.

Lastly, China lacks patent monetization professionals. There are few professionals who are proficient in technology, patent law, patent writing and patent strategies. Patent monetization is still in the its infancy stage and short of patent monetization professionals who have rich practical expertise.

#### *Development opportunities of patent monetization in China*

The mechanism for transforming scientific and technological achievements has been constantly improved. In the past a few years, with the issuance of the law on promoting the transformation of scientific and technological achievements, it has formed the legal foundation for the organization and implementation of the transformation of scientific and technological achievements, technological benefits, legal liabilities and other aspects and it has promoted the further systematization of patent monetization in China in the fields of ideology, evaluation mechanism, running mode, incentive system, environmental support and cultural atmosphere.

The technology innovation transformation and transfer will be the opportunities for all Chinese universities. A large number of basic scientific research results in Chinese universities and science institutions remain to be mined. The granted rate of patent applications of Tsinghua University in foreign countries is close to 90%, but only 35% of the patents have a high probability of commercialization. This shows that there is a lot of room of improvement for patent commercialization.

China has carried out extensive pilot and demonstration work on IPR commercialization and has accumulated quite a lot of experience, and has established numbers of monetization entities and a highly trained talent pool. These entities actively respond to the market demands and explore the service model. The number of employees and their abilities in patent commercialization. This has made it possible for

China to continuously develop new methods, new model and new business forms of IP monetization.

### **Thinking on the development path of patent monetization in China in the future**

As mentioned above, since China has experienced and will continue to experience rapid development of patent monetization, it is appropriate for patent entities to position patent monetization around universities and science institutions, as well as providing the consulting monetization service with government and enterprise. It is an irresistible trend to help universities to do a good job in patent transfer and transformation and help the universities to meet the requirements of governments and enterprises.

Furthermore, China's industry development is mainly driven by national policies, therefore the fields vigorously developed and supported by the government have huge potential for patent monetization. It is necessary to pay close attention to policy changes made by the government in order to make the correct choices concerning the fields of patent monetization.

In future, patent monetization should always focus on the following three aspects:

Firstly, patent monetization should focus on building high-quality patent. Patent monetization should start from the real technical and requirements of the industry and market and

seek for good invention ideas or patents and the precise planning of invention and innovation, so as to form a patent asset reservation which has the control over the future development of different industries.

Secondly, China needs to new types of agents. In the process of linking technology pain points and requirements/demands from the markets, it is necessary to create a new breed of agencies which organically combine lawyers, investors and techies. The interdisciplinary professionals are going to be the foundation of patent commercialization. It is also important to expand the scope of the communications between the monetization entities and universities/science research institutions in order to integrate various resources from each party and to ensure to obtain good quality patent assets with high value.

Thirdly, we need to find an operational model that actually works for patent commercialization. The novel monetization agencies need to change the way how universities, enterprises and technology transfer and patent monetization agencies combine together. The ideal relationship structure should allow mutual benefits and be goal driven. Patent monetization agencies need to play a more important role in order to lead in technology commercialization for universities and enterprises, this will further improve the efficiency in terms of achieving a more smooth monetization procedure.

The newsletter is not intended to constitute legal advice. Special legal advice should be taken before acting on any of the topics addressed here.

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Mr. LI, Ruifeng was a former patent examiner of the Patent Office of the State Intellectual Property Office and an associate research fellow of the development research center of the State Intellectual Property Office. And now he works in the lungtin Intellectual Property Value Co., Ltd. as a director of the Patent of Competitive Intelligence Analysis Department. He has been engaged in and taken responsibility for organizing and carrying out studies and analyses on theoretical and practical research projects such as patent analysis and early warning, patent analysis and evaluation, technical due diligence, patent navigation and patent valuation programs, which are more than 35, for the governments and enterprises. And he has published more than 10 articles on industrial patent analysis and intellectual property management, and participated in the editing and publishing of high value patent screening in 2018 as well.

Mr. Li was licensed to practice as a Chinese Patent Attorney in 2013 and was qualified as a Chinese Patent Information Analyst in 2017, and also has acquired TRIZ attestation approved by the International TRIZ Association (MATRIZ).