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The Handbook of

EUROPEAN INTELLECTUAL PROPERTY MANAGEMENT

2ND EDITION

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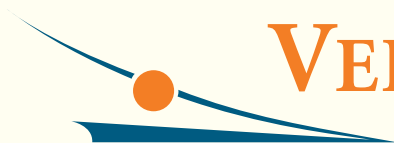
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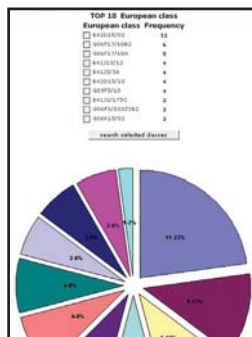


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On the IP World Stage

In the current financial climate, maintaining one's assets becomes far more important and indeed strategic than expansion and acquisition. This kind of consolidation and management is perhaps even more vital when considering a company's intellectual property assets, including branding and good will.

Intellectual Property Expertise for a World Market

Similarly, in the academic environment, concentrated expertise becomes an invaluable resource in addressing both the commercial and legal aspects of maintaining and exploiting intellectual property. The development of dedicated intellectual property research, teaching and training at Queen Mary, University of London has been an important and long-standing area in the School of Law. This breadth and diversity in intellectual property research and teaching expertise is an important and invaluable resource for all the students at Queen Mary, whether seeking professional training through the Certificate and MSc programmes, undertaking further study in the LLM or pursuing original research through the Masters by Research and PhD programmes.

The Queen Mary Intellectual Property Research Institute (QMIPRI), part of the Queen Mary Centre for Commercial Law Studies (CCLS), is one of the foremost dedicated intellectual property research centres in Europe. With a vibrant and diverse research community of international experts in intellectual property law and policy, QMIPRI is the result of a wonderful history of intellectual property law teaching and research at Queen Mary, University of London and a favoured destination for researchers around the world.

A Bit of History

In 1980, Sir Roy Goode QC established the world-renowned CCLS at Queen Mary, at the same time establishing some of the first courses on intellectual property law in the United Kingdom. With a generous private endowment from noted inventor Dr Herchel Smith, the Herchel Smith Chair in Intellectual Property Law was established. The Chair has been held by a noted list of leaders in the intellectual property field, including Professor James Lahore, Professor Gerald Dworkin and Professor Michael Blakeney. In 2007, Professor Johanna Gibson became the first woman to hold the Herchel Smith Chair.

Academic Excellence and Commercial Relevance

QMIPRI, under the directorship of the Herchel Smith Professor, establishes the reputation of CCLS Queen Mary as one of the world's leading centres for the teaching and research of commercial and intellectual property law. At the time of establishing CCLS, Sir Roy Goode and the Chartered Institute of Patent Attorneys (CIPA) began what is now a well-established relationship in the education of trainee patent attorneys and those seeking to enter the

profession. As well as the Certificate and MSc programmes, QMIPRI assists with training for the EQE and is consulting to CIPA on pilot programmes for advanced training.

The Queen Mary Community

As a dedicated research centre of CCLS, QMIPRI is an important community for the many international scholars studying and visiting Queen Mary, offering a particularly stimulating and motivating environment for all those researching and working in intellectual property at Queen Mary. At a recent presentation at MIPRI, Antony Taubman (WIPO Secretariat) 'It is always an honour and pleasure to speak at Queen Mary and take part in the important work of QMIPRI.' QMIPRI hosts regular intellectual property events and professional development seminars, including the noted Herchel Smith Series in Intellectual Property. And in 2010, Queen Mary will launch its first journal dedicated to intellectual property research and scholarship.

World Intellectual Property Organization and Queen Mary

This international standing of QMIPRI was in fact acknowledged in 2007 with the accreditation of QMIPRI as a permanent observer to the United Nations (UN) World Intellectual Property Organization (WIPO). WIPO is the UN specialised agency responsible for all matters of intellectual property law and policy, including the setting of standards in intellectual property and the development of new protection in emerging areas and technologies.

WIPO accreditation is granted in view of QMIPRI's established work and reputation in intellectual property research, teaching and development. QMIPRI was one of only three non-governmental organizations to be accredited in 2007 and is the only education institution in the UK and one of only two in the world to sit as observers to WIPO. Accreditation is an important achievement for the institute.

As well as important recognition for the standard of scholarship, influence and research activity of its members on the intellectual property world stage, accreditation provides QMIPRI with unprecedented access to WIPO meetings and specialist committees. Members of QMIPRI, including student members and visiting fellows, may attend all meetings including the General Assembly of Member States. The first QMIPRI delegation went to Geneva in February 2008 to attend the intergovernmental committee on intellectual property and genetic resources, traditional knowledge and folklore. The delegation including five student members from the LLM, of which three have continued at Queen Mary to undertake their doctoral research as Herchel Smith scholars. Accreditation gives students an unrivalled opportunity to attend WIPO meetings and network with government delegates, the WIPO Secretariat as well as representatives of intergovernmental and various non-governmental organisations from around the world. As future leaders in intellectual property research and practice, this is an invaluable experience for students and provides the opportunity to observe international policy-making and legal development first-hand.

Looking to the Future

This wealth of expertise and involvement is testament to the original vision of Sir Roy Goode QC and continues the legacy of Dr Herchel Smith, firmly establishing Queen Mary, University of London at the forefront of intellectual property law.

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Foreword

We are in the grip of the global economic turmoil which struck in 2008, and whose effects will be with us for some time to come. Markets are shrinking, confidence is failing and credit is harder to find. Costs need to be cut if businesses are to stay afloat, and they should be looking to their intangible assets – their intellectual property (IP) – to see what can be pruned and what can be better exploited.

Building and maintaining a patent portfolio is costly, but the revenues those patents generate in licensing income or which they protect by blocking rivals should justify those costs. Frequent reviews of the portfolio are necessary to ensure that unproductive assets are not being maintained unnecessarily, but that no gaps in protection have been left.

In looking to reduce costs it could be cheaper to licence-in patented technology rather than develop a solution in-house. The development of new products often requires a mixture of technologies and skills not found all in one place, so multi-disciplinary teams need to be assembled. Such collaboration is the future of innovation, and agreement on the ownership of the resulting IP is key to successful relationships.

Equally the way in which innovative projects are presented to wary investors is vital for securing the elusive financial backing in the cautious money markets. The IP in any project, and how it is managed, can be the deal-maker: in the early stages of a new venture it might be the only thing on which finance can be secured.

The businesses which will ride out the current storm are those which know that IP has many uses. It can be far more than just a barrier to keep rivals out – even if one could afford to litigate. Rather it can be the basis for fruitful collaboration, build brand value, secure finance and be a source of vital commercial intelligence. IP is an asset, but also a tool.

Alison Brimelow
President, European Patent Office

IP potential

Europe's IP architecture

IP in Europe remains a work in progress, reports Professor Laurent Manderieux, L Bocconi University, Milan.

For business operators, the European IP environment is still a 'work in progress area'. Yet, even in the absence of a one-stop shop, many opportunities can be grasped at the level of the continent, by cleverly using the incomplete but expanding toolkit offered by European legislators.

Europe's mechanisms, although sometimes excellent for business and easy to use, are still often buried in red tape. To better catch all opportunities offered by the features of the European IP system, it is necessary to fully understand why and how Europe's IP integration system has evolved and is still being built.

Even 35 years ago, whereas some industry sectors were already integrated in Europe, IP laws, procedures and practices were left to national authorities. Each country had its own rules for each IP right (patent, trade mark, industrial design, copyright) and this represented a cumbersome complication for business operators in search of easy procedures.

It was becoming more and more clear that this bundle of national procedures was slowing down the innovation potential and competitiveness of companies in Europe, particularly if compared to the US environment, where operators could enjoy a single Federal IP system applicable to most IP rights. Like any government, European governments dislike abandoning any kind of sovereignty. However, pressure from European industry and economists forced them to consider European harmonization of IP law.

The European Union – but not only the European Union

The European Union is the main actor of European IP integration but it is not the sole one. Indeed, governments quickly abandoned the option of creating a comprehensive and global European IP system: owing to the slowness of EU law-making, they had to accept the need to proceed step by step as soon as the political climate permitted advancement in one field or another, mostly within the EU structure but at times aside from it.

The EU 'ASAP approach'

In conceiving its IP agenda with a view to boosting competitiveness, the European Union had to opt for a multidirectional/multiple-speed method of work. It did so in:

- creating more IP rights, useful for business and for research labs, and rendering stronger the existing rights;
- acting in all IP fields: trade marks, copyright, patents etc, but acting only as and when possible;
- accepting not being the sole IP integration body on the European continent.

A weak EU legal mandate which is being enhanced

The EU legislator faces a major pitfall: IP was not mentioned in the EU founding treaties, and still is not. As a result, any 'supranational IP' has to be the product of a legal construction still in progress: the legislator can use only non-IP-specific provisions of the EC Treaty (mainly Art. 308 and 95) as a basis for its IP Regulations and Directives. This is, of course, not ideal, and regulation also relies on political EU government declarations, eg the EU Charter of Fundamental Rights of 2000, which declared IP a protected freedom (Art. 17.2), and the EU Lisbon Declaration of 2000 and the Barcelona Declaration of 2002, which established target objectives for boosting Europe's research activities and competitiveness.

Fortunately, this relatively fragile mandate for action is being greatly reinforced by the consistent approach of the European Court of Justice (since Case C-350-92: *Spain v EU Council* [1996] I- E.C.R. 1985 on term of patents), establishing that on most IP issues, the European Union is empowered to unify and harmonize as it may decide.

Still, the European Union could not always progress in unifying or even simply harmonizing rights: on several important issues it had to leave to national governments the task of signing separate arrangements aside from the European Union. This happened in particular for patent granting, for which a European Patent Convention (EPC) was adopted.

Three levels of integration

As a result, business operators in Europe face three levels of European IP integration:

1. full integration (with single EU rights granted and enforceable across the European Union): mostly for **trade marks** and **designs**;
2. partial integration/harmonization under the EU aegis: mostly for **copyright**;
3. partial integration/harmonization under the aegis of the European Patent Organisation: for **patent granting**.

So, why bother discussing the issue further if there is such apparent IP disorder? Simply because, despite the imperfections of the present European IP landscape, the existing integrated IP rights and even often the partly integrated IP rights are so convenient and so useful for business operators, and bring such significant savings, that it really is worth looking at them in detail.

The new EU-wide integrated IPRs: big success and much use

The masterpieces of IP integration: trade marks and designs

EU Regulations creating the Community Trade Mark (CTM: Regulation 40/94) and the Community Industrial Design (Regulation 6/2002) have met with real success, as they established IPRs which are key to businesses and much used.

Both enable operators to obtain a single EU trade mark or a single industrial design right, which is valid and easily enforceable in the 27 EU countries. National marks and designs do survive in parallel but, in case of conflict, the EU-wide right is always superior to the national right. There is a single procedure for obtaining and defending the right for all countries, which is safe and inexpensive. As a result, the growth rate of these EU IPRs has been remarkable: in the field of trade marks in 2008, less than 15 years after the launch of the Community Trade Mark, the European Union reached the milestone of the 500,000th registration; and the system is so successful and well administered that a 40 per cent reduction in the current registration fees took place as of May 2009.

Cheap, safe – and always EU-wide

It should be underlined that in the European IP architecture a fully integrated IP right is *always* under the aegis of the European Union: that is, the right is a single one, granted for the whole European Union (*all* its 27 countries in one right), applicable and enforceable EU-wide. If the right is judged void or invalid, it is cancelled by an EU court for the whole European Union. Such categories of IPRs can only be created by an EU Regulation. EU Regulations apply without any further validation by national parliaments. An integrated EU IPR is therefore very strong and useful to business.

European – but connected with the rest of the world

To make the integrated Community Trade Mark and Industrial Design systems even more attractive for business, the European Union has recently established links between its own systems and the international registration systems for marks and industrial designs. The systems, respectively the Madrid System for the International Registration of Marks and the Hague System for the International Registration of Industrial Designs, are administered by a Geneva-based United Nations intergovernmental agency: the World Intellectual Property Organization (WIPO). They are less integrated than the EU registration systems but they are still very useful, as their main advantage is that they also cover many non-EU countries. European companies make frequent use of the links facilitating the extension of their CTM to non-EU countries, and in turn non-European companies make frequent use of the links facilitating the extension of their International Mark under the Madrid System to the 27 EU countries thanks to the CTM.

Beyond marks and designs: domain names, IP enforcement and geographical indications

In addition to the successful CTM and the EU Design, fully integrated IP legislation relates to:

- anti-cybersquatting of the domain name ‘.eu’ (Regulation 733/2002);
- fighting counterfeiting and piracy, thanks to a Regulation (1383/2003) on the enforcement of intellectual property rights, mostly during customs operations;
- protection of geographical indications (eg ‘champagne’, ‘camembert’, ‘parmesan’), a subject of importance but of less direct concern to most businesses.

In summary, there are not many EU integrated activities, but they are useful to business and often easy to handle.

Partly integrated rights: harmonized rights can sometimes be of real help to companies

Whenever full integration is not yet mature, European national laws can still be brought closer to each other, and this is what lawmakers have tried to do many times over the past decades: harmonized IPRs are still governed at national level and remain national IPRs, but the related national laws only marginally diverge from one country to another.

Harmonized IP policies and rights are either under the EU system or, for patents only, mostly under the European Patent Organisation (EPO), the specialized organization created by the EPC to facilitate patent granting.

EU harmonization: the Directive as a legal tool

Under the EU system, an EU Directive is the tool used to bring closer the IP rights governed by national laws. Unlike a Regulation, which unifies rights, a Directive is *never* directly applicable. It always has to be translated into national law by each of the 27 national parliaments within a certain time. The Directive may contain various optional provisions, and sometimes Directives contain dozen of options/exceptions, eg the EU Copyright Directive offered national legislators more than 20 different options. If a Directive contains too many options which are left to national legislators, EU harmonization remains an unrealized dream.

The inventory of Directives often covers items unrelated to each other: they can be of key importance, or of a less central nature.

Masterpieces: the copyright-related legislation

For business, the main Directives creating harmonized legislation and a useful, clear EU legal environment are:

- the Database Directive (1996/9), establishing *sui generis* rights for protection of new databases that cannot be protected by copyright;
- the Directive on the legal protection of computer programs (1991/250), establishing the key principle of protection of computer programs in the European Union by copyright law;
- the Directive on the harmonization of certain aspects of copyright and related rights in the information society (2001/29), commonly called the EU Copyright Directive or EUCD, paving the way to copyright protection of the digital environment in all EU countries.

Chess games: the Directives on enforcement and on biotechnology

Sometimes, rather than creating a right, the European Union found that it needed to strengthen existing rights through harmonizing Directives. This has happened in two cases in this broad field. One concerns enforcement: constitutional complications and disagreements between governments did not permit the European Union to adopt any Regulation that further reinforced Regulation 1383/83 against counterfeiting. The European Union decided to limit its ambitions, by adopting only supplementary Directives, starting in 2004 with Directive 2004/48. Alternatively, while no strong legislation has yet been adopted, the European Union has established a watch list covering third countries suspected of insufficiently fighting counterfeiting, as well as mechanisms enabling IP rights holders to alert EU national customs authorities of possible arrivals at EU borders of goods from third countries suspected to be counterfeit.

The second instance involved biotechnology: by enacting a Directive on Biotechnological Inventions (1998/44), the EU Member States intended to promote the take-off of the biotechnology industry in Europe. On the contrary, for a decade the

Directive was a source of friction between the European Union and its Member States as a result of differences in the national laws implementing it.

The EU deadlock on patents

This issue is even more problematic. The EU law-making machinery was and is still completely blocked on one key issue for business: the Community patent. Such a tool would be extremely convenient for business as it would reduce granting and litigation costs, and streamline patent procedures in general, just as the CTM does for trade marks. Unfortunately, negotiations have been continuing for more than 30 years and there is still no effective EU consensus. At present, issues relating to translation of patents into national languages are blocking any creation of an EU-wide patent right: several countries wish their language to be an official one for patents, but if too many translations are compulsory, operators would have no cost advantage compared to the present system, and thus they would show no interest in the new system. Also, several states have reservations on how to establish an EU-wide jurisdiction which could decide on questions regarding an EU-wide patent right.

Fortunately, a substitutive mechanism for patent granting exists outside of the EU structure: the European Patent Organisation (EPO) system, which is growing independently.

The EPO: a convenient European alternative route for getting patents

In view of the business world's self-evident need for a simple Europe-wide patent system, in 1973 a few European Member States created the European Patent Organisation. Most European countries progressively joined them and today the organization includes all EU members and several additional countries key to inventors, such as Switzerland and Turkey. Therefore, the EPC is not EU legislation, and the EPO is not a body of the European Union: basically, patents can still be granted by each country through a national procedure but, thanks to the EPO, companies can alternatively follow a convenient route through a single European centrally administered procedure to obtain national patent protection in numerous European countries. The centralized procedure may cover some or all countries in the European Patent Organisation, has contained costs compared to multiple use of national routes for the protection of an invention, is efficient, takes place in only one of the three official working languages (English, French, German) and allows the granting of patents of high quality. There is also a centralized opposition procedure immediately after grant that facilitates challenges to new patents before they proliferate into a bundle of national rights.

The European Patent Organisation system still has several shortcomings. Once a 'European patent' has been granted by the EPO, its 'European' character evaporates as its unitary form ends. In every single country in which protection is to be enjoyed,

the patentee may have to renew patent rights annually in accordance with the various applicable national fees, and in addition, in many European countries the patentee still needs to file costly translations of the full patent at the national patent office so that the patent may apply nationally.

Patent translations costs were recently alleviated: the London Agreement of 2000, which permits EPC states to waive, entirely or largely, the requirement for translations of European patents to be filed in their national language, became effective in 2008, further to its ratification by a quorum of EPC states. This is good news for business: for example, the Agreement already applies in the United Kingdom, France and Germany. However, to date, the Agreement does not yet apply to all EPC states, as a dozen countries (including a few large ones) are still engaged in the slow process of ratifying it.

Also, the patentee remains subject to the jurisdiction of national courts for patent disputes (including licensing disputes), and to court decisions that diverge from one country to another. In particular, each country has its own case law and its own legal system, which in some cases is based on common law (as in the United Kingdom) and in others on civil law (as in Italy).

In summary, patent granting is easier in Europe thanks to the existence of the EPC, but this system remains incomplete, as it does not govern the life of the patent, which remains subject to national formalities, legal systems and courts.

And what of the future?

In Europe, trade marks and industrial designs are now widely integrated. Thus the next big integration challenges are for patents and copyright. In particular, there is urgency for patents: protection for the same invention in, for example, the eight largest EU markets still costs on average five times more than in the United States, largely due to translation costs.

Who will be the first to fully integrate the European patent landscape: the European Union or the EPO?

To date, it is unpredictable what will happen first, and when. There might be a political 'miracle' or a big trade-off (such trade-offs litter the history of the European Union): the European Union could adopt a 'Regulation establishing the unified Community Patent', with a single jurisdiction which can decide on questions regarding an EU-wide patent right and a cost-effective language regime. Alternatively, solutions to the EU deadlock might be found outside the EU legal framework, by further enhancing the effectiveness of the EPO system and reducing the impact of its current weaknesses: the translation burden for patents granted, and nationally judged litigation.

Over the past decade, the EPC states have worked on two solutions. The first, relating to alleviation of the translation burden, is already a reality: as already indi-

cated, the London Agreement of 2000 entered into force in 2008 subsequent to its ratification by a number of EPC states. This is a promising result. However, a dozen countries (including a few large ones) have not yet ratified it: for business, there will be full benefits of the translation waivers permitted by the London Agreement only when its ratification is generalized. The second possible solution is the European Patent Litigation Agreement (EPLA), which would establish a central European Patent Court for the EPO member states, working mostly in English, French and German, and empowered to handle patent infringement and revocation actions at a Europe-wide level instead of at a national level. The EPLA is still in draft form.

Both an EU single patent system and an enhanced EPC system would in the end have many similarities for end-users. What is important for them is advancing on patent integration in Europe: despite the success of the EPC, patenting trends in Europe, even if positive, remain unimpressive compared to those of the United States, Japan and above all the northeast Asian countries.

Will EU copyright remain an open agenda?

Copyright is the other main field of IPRs that remains either largely not integrated in Europe or still too imperfectly harmonized. The current Directives contain good fundamental principles, but also too many *à la carte* options and exceptions. This is slowing down the creation of a vast EU market for the copyright industries, certainly to the prejudice of EU consumers' interests, and most likely to the disadvantage of the copyright industries in Europe. Efforts are taking place in order to advance: for example, as a result of lobbying by the copyright industries, it is envisaged that, at European Union level, protection will be extended to 95 years for performers and sound recordings. However, the implementation of this single proposal might take several years. More generally, in copyright matters, the step-by-step harmonization approach is likely to remain slow: the commercial development of the internet, a medium that can be accessed from any connected computer in the world, makes even minor revisions (in the European Union as well as elsewhere in the world) of most copyright legislation more complex, as such legislation is based on a territorial right. Also, the economic interests of different EU Member States cannot easily be reconciled, and differences between continental Europe's authors' rights system and British-influenced copyright systems complicate harmonization projects.

How and when will the European Court of Justice (ECJ) further contribute to streamlining IP?

Many hopes rest on the ECJ. Its integration role will have to be further tested and will probably increase over the next few years, including better determination of the boundaries between IP legal harmonization and other EU harmonization processes (internal market, unfair competition, internal and external trade policy, promotion of EU R&D, consumer protection); indeed, such issues served too often in the past as a pretext to hamper IP law-making.

One last word of caution: EU IP law applies only in the European Union and its Member States

Even if the European Union has a market comparable in size to the United States, IPRs do not necessarily function in the same way in the United States and the European Union; for example:

- EU trade mark law is different from US trade mark law, although a skilled trade mark lawyer would always find ways of combining the advantages of both legal environments, for the success of the mark.
- In patent law in Europe, the inventor who is the 'first to file' an application is the one entitled to a patent, whereas in the United States it is the person who is 'first to invent' who is entitled to the patent, even if a later inventor was the first to file.

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Turning IP into assets

Ben Goodger at Rouse discusses how to manage your IP to create sources of value.

Where does the true value of a business lie? The brand name and associated reputation? Innovations and designs? Skills and talents of employees? Clever pricing or other business techniques? These are all ‘intellectual assets’, and properly managed they keep their value even in a downturn.

Your IP strategy as part of your overall business strategy

Many business have an intellectual property (IP) strategy which is fairly opportunistic, eg ‘we’ve invented something – let’s patent it’. In a fast-changing business and economic environment this is not enough. Value can be significantly created and conserved through having a properly planned IP strategy.

Below is a step-plan to address this:

Step 1: knowing what you want your IP to do for you

- Is the business clear about its overall business strategy?
- Does the business have an IP strategy?
- If so, is it closely aligned with that overall business strategy?
- Is it understood in the key parts of the organization where it matters?

- If there is no real IP strategy, or the existing IP strategy could be improved, a review should be carried out, perhaps using objective outsiders to facilitate.

Step 2: review

- Look at what IP **assets** the business has, whether registered (patents, trade marks) or unregistered (know-how, relationships, ‘brand reputation’, methods of doing business).
- Assess how well aligned these are with the current and future plans for the business: often there are gaps/irrelevancies.
- Consider **risks**, by looking at:
 - the relevant technology landscape (if applicable) to see what is current and on the horizon;
 - the competition: speed of change, freedom to operate;
 - dangers of IP leakage or loss through poor management/lack of awareness;
 - dangers if key personnel leave.

Step 3: pulling this into a plan

- Based on the outcomes of Steps 1 and 2, the business can develop an IP roadmap. It is vital that this is done with all key stakeholders through an interactive process. How this roadmap looks will depend on each case, but it is likely to cover:
 - improvements to internal processes, eg invention spotting and evaluation;
 - regular review of IP issues at board level;
 - steps to manage cost and efficiencies – are you getting the best from your service providers?
 - review of IP assets accumulated from acquisitions in order to generate benefits from putting assets together, or identifying where assets can be disposed of.
- A key part of ensuring that the roadmap is a success is to get buy-in from senior management and key decision makers within the organization, and to ensure that recommended changes and processes are practical, realistic and ‘real’ to those who will implement them.

Step 4: regular follow-up reviews

- It is vital to ensure that an objective assessment is made periodically, to ensure that the IP strategy remains on track.
- It also enables adjustments to be made in the light of changing circumstances.
- Depending on the specific business objectives, these can be every three months, six months, or yearly.



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The rest of this chapter looks in more detail at some of the issues raised in the above outline.

Knowing what you've got

It is surprisingly common for businesses not to be aware of the IP assets they own. Any business should have a full list of registered rights at its fingertips. If assets have to be enforced, or if they are to form part of a transaction, having well-organized assets saves valuable time.

But there is far more to IP than merely registered rights: copyright, business methods, trade secrets and confidential information, domain names etc. It is best practice to try to assess what these are and how they are unique/proprietary, and then to maintain an inventory of the most important of these intellectual assets.

Getting it right from creation

Just doing today the same thing that worked 10 or even 2 years ago exposes any business to being left on the sidelines. So if innovation is key, managers should ensure that there are effective systems in place to capture new innovations when they are created. In the case of technical innovation these should be evaluated for patentability. Even if it is decided that an invention is not strategically worth patenting, records of the invention should be kept. This may be handy for later invalidating a competitor's patent over functionally identical technology.

Choosing a brand name is critical. However good marketing departments think a descriptive name is, it is an uphill struggle to gain any kind of legal protection. Many companies waste money developing a brand which they then have to abandon after launch in the face of threatened litigation.

In other areas of business, particularly where software, packaging or graphics are created, the key IP right is copyright. If creation is outsourced to third parties, businesses will not own the IP unless it is assigned to them in writing.

Manage your portfolio efficiently

Many businesses take a reactive and 'defensive-only' approach to their IP portfolios, often based on the assumption that IP is a required cost but not much more. The problem with this is that a 'bare minimum' approach can often lead to inefficiencies, such as the continued maintenance of trade marks or patents which have ceased to have any commercial value, and (more importantly) the failure to spend the time to consider what new protections need to be added as the business grows, develops and changes.

It is essential that your external service providers (eg patent and trade mark attorneys) are in touch with your plans so that their outputs are responsive and what your

business needs. Also, using multiple agents can be inefficient – in the current market volume discounts are eminently on the table.

Leverage your IP to generate revenue

Businesses need to be alive to potential sources of revenue from leveraging assets that they have, or can acquire, in order to make sure that if mainstream sources of revenue decline or are threatened, they have other sources to fall back on, or future avenues for growth. Thus, a business which has built up a famous brand in one particular area, eg earth-moving vehicles such as Caterpillar, can very successfully open up a rich seam of alternative revenue through licensing the trade mark for completely different goods – eg clothing. The beauty of licensing is that it can, for very low effort and cost to the original IP owner, generate revenue from business areas where the IP owner is simply not active.

Cross-licensing is particularly valuable in the technology field. Where you are (or may be) attacked by another patent holder, the best form of defence is to counter-attack by showing that the other party itself infringes key patents which you own. You cannot make this argument unless you have built up a strategic portfolio. But with such an armoury a cross-licensing deal can then be negotiated, which can be highly beneficial for both parties.

Outright sale can be even more attractive. Many companies, if they are moving out of a particular sector, simply allow their registered intellectual property rights to lapse. This is a terrible waste of a potential selling opportunity. Indeed, there are specialist deal brokers who can find opportunities for the sale or disposal of IP portfolios. This results in a clean break and a lump sum all at once, rather than spread-out royalty payments.

Be prepared to enforce – intelligently

Intellectual property rights prevent other people from doing things or copying things. The commercial value is in either blocking the progress of your competitors, or getting them to pay you to grant a (limited) relaxation of those absolute restrictions – ie licences.

If you are in the type of business which gains intellectual property rights but never enforces them, you are very likely to be eroding the value of your company over the long term. If competitors copy your valuable assets and you do not stop them doing so, you will lose your uniqueness in the marketplace. Well-advised IP owners budget for a certain amount of intellectual property enforcement in any year. The key is to decide which matters are so mission-critical that they must be defended at all costs, which ones may be worth fighting, and importantly, which ones should be ignored.

Enforcement of your IP rights sends a message to the marketplace: ‘keep off our grass’; this may be enough to send copycats over to your competitors who may be less prepared to stand up for their rights.

Look ahead

Enlightened IP planning involves looking ahead. Where is the marketplace going in your particular sector or sectors? What territories which could buy your products are coming on stream or are you looking to expand into?

Thinking several years ahead can prompt you to make sure that your IP is protected well in advance. It is a bad idea to enter a market and *then* think about protecting your brands and patents. In the case of patents it may be too late. Equally, with the threat of cheap foreign imitations of Western products, often a strong IP position in your home markets can be the only way to prevent the economic erosion of your position in the marketplace. If the imitators cannot sell their products in your key markets or have to pay licence fees in order to do so, their key price advantage may be eliminated. IP may be the only way to withstand the threat from cheap competitors in developing markets.

In the patenting context, if you have the vision to see where technology is moving and if you strategically secure patents at what are called the 'choke points' so that all those in the future who develop technology or products in this territory will need to obtain a licence from you, you can increase the value of your business by a huge multiple.

Conclusion

A well-thought-out IP strategy to manage and extract the most from intellectual assets should be high on the agenda of any business.

Ben Goodger is Global Head of Rouse's IP Commercialization Group and a partner of its affiliated UK IP law firm, Rouse Legal.

Rouse is a specialist intellectual property consultancy with a team of over 350 IP professionals representing many of the world's leading IP owners. Rouse offers a comprehensive range of IP legal services: patent and trade mark registration; commercial deal structuring; enforcement and litigation; international anti-counterfeiting strategies (backed by its strong presence in China); and also offers consultancy and brokerage services designed to leverage the value of IP assets, whether through licensing, joint ventures, acquisition or disposal.

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Open innovation

Open innovation represents a new era in IP strategy planning, argue Karri Leskinen and Sampo Ylätalo at Borenus & Co.

Open innovation is the hot topic in innovation management at the moment. It is a new form of cooperation in business-to-business interactions. According to a related view, companies cannot survive merely by themselves any more. Therefore companies should find external sources to create new innovations instead of doing everything within the company. Purchasing and licensing technology are typical external sources for innovations, but the real hot topic in open innovation is opening up the research and development (R&D) activities to other organizations. This requires mutual trust, balanced by the potential benefit to the businesses, and tenable agreements to define the rights and obligations of the parties.

In the past, large companies were often thought to be potentially able to benefit more than small companies from the open innovation concept. However, by consortiating with large companies, small companies themselves could gain mass over the critical size and thus be better noticed in the market. A small company can grow on its own, but also via forming consortia with other small companies. Orientation towards an open environment could be a carefully considered strategy choice for small companies having an area of common interest. Overlapping areas should be defined, agreed upon and shared between the joining parties and, most importantly, the whole concept needs to be conducted, according to a predetermined scheme, by a driver who will hold the reins in strong hands.

Globalisation and outsourcing has rapidly changed the nature of business. When all R&D and production work is outsourced, what remains?



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What is open innovation?

Recently the concept of ‘open innovation’ has gained a lot of attention in both the academic and business worlds. Open innovation is a term promoted by Henry Chesbrough, who wrote the book *Open Innovation: The new imperative for creating and profiting from technology*,¹ where he puts forward a more open way of innovating.

The key idea behind open innovation is that in a world where the amount of information and knowledge is enormous but widely distributed, companies cannot afford to rely entirely on their internal R&D to create new ideas, but should instead buy or license technologies (eg patents) from other companies or universities. In addition, the results from internal R&D projects which are not used in a firm’s business should be offered to others through licensing, joint ventures or spin-offs.

Open innovation principles

Ever since the legislation aspects of intellectual property rights (IPR) were internationally agreed upon, large companies have acknowledged the benefit of IPR in controlling the elements of production and sales as well as the business activities. Large companies traditionally scale themselves into consortia and other concerns, so as to comprise standalone units which do business independently, but which also support the other units of the entity in production and/or in IP rights.

Meanwhile, in small and medium-sized enterprises (SMEs), which are often used to concentrating on the essentials of their business, there is little resource for IP in the fight for everyday survival. Recently, open innovation concepts have opened interesting doors to networking and have also provided opportunities for small companies to operate as if they were parts of a larger concern, in some senses, while still preserving independence and control in regard to their own management.

Small companies operating on their own are sensitive to sudden changes in a market. The timescale between product generations is shortening even more, as the demands on productivity and quality increase. The R&D of small companies suffers from sudden turns of business as they are unable to fully follow all the nuances on their own. This phenomenon is especially apparent with new products. In such a scenario, open innovation concepts have become a new and attractive option as a form of cooperation. A benefit of the scheme is that it is not necessary to produce all the R&D material, business models and other ideas within the company, nor is it necessary to further develop all the ideas produced within the company.

Open innovation requires a different mindset and company culture from traditional or closed innovation. The major differences between the principles of traditional innovation and open innovation are discussed in the following, where open innovation process (OPIP) and closed innovation processes (CLIP) are compared.²

According to traditional CLIP principles, the company should control its innovation process so that competitors do not profit from the company's ideas. Creating the most and the best ideas within the industry itself is believed to be the key for success. With OPIP a company should profit from the use of its own innovation process by others and the company should buy IP created by others whenever it is about to advance its business model. Thus, making the best use of internal and external ideas will bring profit.

Another typical CLIP principle is that being the first in the market with new innovations is important and discoveries of one's own are needed to guarantee success. According to OPIP principles, it is not necessary to be the creator of the discovery to profit from it, and it is believed that better business models overrule the idea of being the first in the market.

The fundamental principle in closed innovation processes is that profits from R&D are gained only if the R&D is a result of one's own discoveries, development and production, and therefore all the smart people in the field should work in the company. The open innovation process is based on the idea that internal R&D is needed to claim some value, in addition to which, external R&D can make a significant contribution, and therefore it is working with smart people both inside and outside the company that is needed. The puzzle in Figure 1.3.1 demonstrates reciprocal but also larger protection in an open innovation pool into which Companies A, B, C and D have placed their own IPR. Each of the pieces illustrates an individual IPR portfolio share of the corresponding company in the pool. As the pattern scheme selection further illustrates, the consortium of companies has a larger scope of protection than any of the individuals could gain alone and thus they all have a possibility of larger freedom to operate. The interlocking parts in the mutual connection of the pieces demonstrate the cooperation of the partner companies, such as joint R&D, or other forms of technology transfer. The free interlocking parts, notches and projections, demonstrate the corresponding opportunities for further companies to join the pool. The idea is to utilize effectively the possibly remaining unused IPR of the companies in the pool.

Open innovation: IP strategy planning for SMEs

In IP strategy planning, it is the business model of each firm that should determine which external innovations should be brought inside, and what internal innovations should be offered to others. Even within the open licences concept, the companies should define what the word 'open' actually means: how open, to whom and at what price.

As in the closed business-making tradition, in open innovation managing each company's own IP rights is also very important. These can be in common IP pools. In the open innovation field, the IP strategy must be thoroughly considered. The parties should integrate jointly and/or independently created patents, utility models, designs and trade marks into an IPR toolbox. Agreements and contracts stand in a key posi-

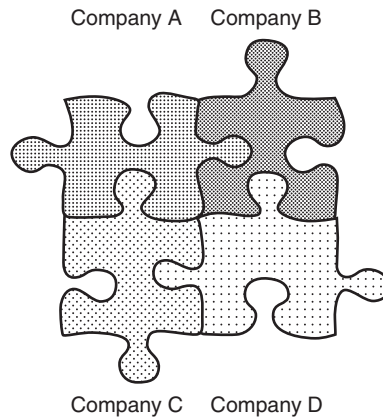


Figure 1.3.1 Reciprocal but also larger protection in an open innovation pool

tion in the control of IPRs. The evolution of products and customers should be taken into account. All kinds of dimensions, such as geographic, legislative and time aspects relating to the various situations, should be considered: what kind of IPRs should be licensed, to whom and for how long; should the rights be privileged or shared; how should the costs and incomes be apportioned etc.

The attraction of open innovation concepts may increase when an opportunity to save costs is available or when something extra can be sold or licensed as a consequence of cooperation between companies. It may be possible to disassemble and/or reorganize overlapping R&D activities, thus increase productivity.

The aim of open innovation is to gain advantages for the consortium as a whole, which often entails seeking IP protection against third parties, ie parties external to the consortium. However, it may be just as important to secure one's own rights in inter-party cooperation. Thus, the consortium may decide to allow the preserving of at least the pre-consortium rights and freedoms to operate. A certain protection for all the parties in the spirit of equality is needed for taking into consideration the interests of the parties. Such internal insurances or guarantees can be very difficult to discuss afterwards and therefore these should be handled at the very beginning of the cooperation.

Conclusion

In many cases it is wiser and more beneficial to build rather than destroy. Thus, open innovation concepts offer an interesting platform to pursue for commercial gain together with other companies in closely associated fields, as protection is still needed against third parties and in order to secure one's own rights, and the strategic use of the open innovation system may provide wider IP protection with lower costs.

Notes

- 1 Chesbrough, H (2003) *Open Innovation: The new imperative for creating and profiting from technology*, Harvard Business School Press, Boston
- 2 Torkkeli, M, Hilmola, O, Salmi, P, Viskari, S, Käki, H, Ahonen, M and Inkinen, S (2007) *Open Innovation: Gossamer cooperation structures*, research report 190, Technical University of Lappeenranta, Finland (in Finnish: Avoin innovaatio: Liiketoiminnan seitinohuet yhteistyörakenteet, tutkimusraportti 190 Lappeenranta)

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Borenium & Co is an expert organization that has been practising intellectual property law in Finland since 1928. Borenium & Co offers worldwide protection of intellectual property rights and comprehensive insight and profound IPR know-how to support its clients' strategic decision making.

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DESIGNED TO

INNOVATE

We **define innovation broadly**, in terms of what it is, where it comes from, and who's responsible for it.

We **invest in innovation** at industry-leading levels with ongoing productivity savings.

We **manage innovation** with discipline.

We **deliver innovation** that builds consumer trust and loyalty over time.

We **lead innovation** on leading global brands and with an outstanding team of innovation leaders.

P&G is **Designed to Innovate** ... and to grow.

Procter & Gamble – designed to innovate

P&G is designed to innovate consistently and successfully in every part of our business.

Innovation is at the heart of P&G's business model. It is the primary way we delight consumers, create value with retailer partners, and create new business models to deliver consistent, sustainable growth. Over decades, P&G has demonstrated the capability to innovate consistently, reliably and successfully. We have a long list of innovation firsts in our industry; for example Pampers, the first affordable mass-marketed disposable diaper. P&G also continues to be one of the few companies in our industry that creates new categories and brands, new performance standards, and new definitions of consumer value. Recent examples of this are Swiffer and Febreze that created entirely new product categories.

Investing in innovation

We invest more than \$2 billion a year in R&D. This investment means that we have a competitive advantage in at least a dozen core technologies. In Western Europe we employ almost 3,000 scientists (8,000 globally) who have deep expertise in many different technologies. They lead the way in everything from enzymes to fragrances. We multiply the power of our internal innovation capability by connecting it to a vast external network of scientists from some of the best institutes and companies around the world – an approach we call 'Connect + Develop'. Today, more than half of all P&G innovation includes an external partner.

Leveraging global scale and scope

The most differentiating aspect of P&G's approach to innovation is the scale and scope of our business and brand portfolio, science and technology platforms, and geographic reach. The diversity of P&G's brand portfolio gives us the opportunity to innovate in more aspects of consumers' lives than nearly any other company. We also use our diverse mix of sciences and technologies to make innovation connections that other companies cannot make on their own. P&G's global scale allows us to quickly flow innovation across developing countries.

Innovating to delight the consumer

What matters most, however, is the innovation that consumers experience day after day and year after year. Consumers are active participants in P&G's innovation process and we keep them involved in every step that guides a new product or idea from concept to launch. By connecting what consumers want with what technology can deliver, we come up with some of the best product innovation in the world. We tailor marketing and communications to specific consumer needs. And, we earn consumer trust and loyalty over time by delivering an unending stream of innovation that consumers learn to expect from P&G brands.

The importance of protecting our intellectual property

P&G places a high value in protecting its innovation in all domains, including technology and design. Over 150 patent and trade mark attorneys located in North America, Latin America, Asia and Europe are employed in P&G's global Intellectual Property Division, of whom 60 operate in Europe only.

P&G's IP attorneys are closely connected to Research & Development, Marketing and the Design Function. They play a proactive and instrumental role in creating and implementing holistic IP strategies for all major initiatives. All aspects of product initiatives are covered under the holistic protection approach, from upstream technology to final product artwork, advertising and commercial executions. And all types of IP rights are leveraged to establish an optimized IP protection, commensurate with the extent of innovation in the above aspects.

Connect + Develop

We embrace Connect + Develop as an essential strategy of our innovation process. This means that we also look at ways to improve our IP strategy by connecting with external partners. Here's an example: Our Hair Care business turned to one of our Knowledge Partners to understand the patent art centred on a field of chemistry outside of P&G's competency. We tapped a network of retired, veteran scientists and engineers providing their clients with proven experience to help accelerate the pace of innovation. We were able to connect with a retired chemist, who had specialized in the field of licensing artwork, who analysed our hair care patent art and provided input to P&G's overall project direction and Intellectual Property strategy. The expert taught us a great deal about the area, broadened our focus, and strengthened our IP strategy. As a result, we will have a bigger impact on the market.

To learn more about P&G's Connect + Develop approach, visit www.pgconnectdevelop.com. We encourage all small and medium-sized enterprises to make use of our Connect + Develop network and submit their innovation at our website.

The market for ideas

IP allows you to generate revenues well in advance of reaching the market. Li Westerlund of Bavarian Nordic explains how this market for ideas works in biopharmaceuticals and beyond.

In this day and age, corporate value for many businesses is built predominantly on intangible assets. For example, in the biopharmaceutical industry, it is not uncommon for start-up players to achieve company valuations approaching \$1 billion or more several years before they actually can sell their first product.

As such, knowledge-based businesses should focus early on, utilizing their intangible assets to generate value to support the business operations as they pursue longer-term objectives. Depending on how intellectual assets such as patents, ideas, know-how and research data are nurtured, the intangible value can be unlocked through intellectual property (IP) licensing opportunities.

Early value and revenue for biopharmaceutical companies can thus be created through commercial licence agreements, involving upfront and milestone payments as well as royalties on future product sales. Even so, the ultimate success of a business using this strategy depends largely on the concrete IP situation.

The market of ideas

Pioneering firms in the market of ideas range from one-stop global consulting firms to investment banking firms, focusing on businesses that largely rely on strong patent portfolios as their true value base. The mission of these IP-focused firms, such as OceanTomo or Intellectual Ventures, varies but the common denominator appears

Delivering the vaccine promise



to be to tie ingenuity of innovators with investors. The gist of some consulting firms' strategies is to create global forums for businesses and individuals to buy and sell ideas, be it by direct acquisition or sale, or through licensing.

Depending on the nature of the business, industries rely to a varying degree on patents. Fast-moving industries such as software and electronics might rely more on trade secrets and less on patents, which also make the idea public, since the patent might already be obsolete by the time it is granted. If the cost of procuring or enforcing patents proves high relative to the benefit of exclusivity in the market for a limited period of time, the incentive to apply for patents is reduced. Innovators can instead opt for keeping their ideas as trade secrets, thereby assuming the risk of unmitigated competition.

The patent system certainly remains the crucial safeguard for innovators to maintain exclusivity against competitors for selected industries. The biopharmaceutical industry is one example of an industry which relies heavily on patents to mitigate the vigorous competitive risks of pursuing costly development pipelines of, relatively speaking, easily copied products. Even with the considerable cost of obtaining and enforcing patents globally, a strong patent portfolio covering the core pipeline paves the way for businesses to develop their commercial strategy to best support the long-term mission.

The transaction costs of commercial IP agreements that may include future rights to sell products are not negligible whether ideas are manifested in patents or kept as trade secrets, such as clinical data or manufacturing know-how. Considerations include third-party patents and, although the risk allocation differs, agreements typically involve provisions accounting for future possible royalty obligations as a precaution against patent infringement claims on unlicensed third-party patents. Businesses that proactively coordinate various commercialization approaches of innovative ideas can thereby beneficially use that basic idea for profit.

The biopharmaceutical industry

As the key asset in the biopharmaceutical business, strong patent portfolios (along with clinical trial data) have value in the context of fundraising. Start-ups typically have to rely on outside fundraising activities to support their development pipeline for a lengthy period before they have product sales creating revenue to fund the business. Typical fundraising activities involve issuance of stock, bonds, notes or other debt or equity instruments. Another common way to fund research and development, and clinical trials, is through grants obtained from government or other kinds of institutions or organizations. Joint development agreements with larger pharmaceutical partners having equity components can also partly fall within this category.

The regulatory process for pharmaceuticals and biologics is a long-term and costly endeavour, requiring vast amounts of money to cover the costs for pre-clinical and clinical trials. Nevertheless, its completion is necessary to receive market approval in advance of commercial sales of products to patients. Consequently, the obvious strat-

egy for smaller biopharmaceutical companies is to monetize their intellectual assets through commercial licences prior to market launch.

Financial terms of such agreements typically include upfront and milestone payments as well as royalties on future product sales. The IP holder may give rights to the licensee to sub-license, detailing royalty obligations, on any upfront and milestone payment, received from the sub-licensee as well as royalties on product sales. A successful deal can bestow on the business an influx of funds to support ongoing development and the general business by providing substantial compensation for present and future sales, or for future rights to sell, manufacture, import or use the product in development.

The 'value' of patents

The market for ideas as it pertains to patents includes licensing, as well as direct sale or acquisition of individual patents or whole portfolios. There is a profound misunderstanding among certain practitioners that the only value that can be attributed to patents are what patents can subsequently generate in terms of damages in successful litigation. In the biopharmaceutical field, certainly, the perceived value of a patent portfolio or core patents can directly impact a company's ability to achieve valuation targets and/or complete a fundraising effort.

Businesses should thus strategically translate relevant IP into patents to maximize their early monetization opportunities in addition to ensuring exclusivity in the market for their products. Further, the ideas considered for patenting should not be limited to the internal research and development activities. Businesses should have a broader perspective, taking into consideration that the IP platform can be further strengthened through acquisition and in-licensing of relevant patents complementary to those generated in-house.

Summary

Successful commercial licence agreements on products and developments in the pipeline manifest the value of intellectual property. This strategy further translates ideas into marketable assets, allowing biopharmaceutical businesses to monetize their intellectual property before market approval and sales of its products. However, within this strategy, it is necessary to investigate and clarify the freedom to operate in view of third-party patents.

A realistic risk assessment of the need to in-license relevant patents or to proactively allocate the risk of patent infringement claims in the agreement is critical to the success of the agreement. Potential risks of third-party claims can even jeopardize the ultimate financial results of what initially appeared to be a profitable venture, exposing the business to indemnification claims from its licensee and shareholder concerns.

Because of the substantial value attributed to patents in the biopharmaceutical industry, the one reality that needs to be factored into any commercial deal is that competitors will be forced to enforce their patents in cases of infringement, to preserve the value of their portfolio. At the end of the day, the ultimate success depends largely on the concrete IP situation, including how third-party rights are addressed.

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IP in a downturn

When credit is tight, intangibles represent the surest path to growth. David Knight at Field Fisher Waterhouse reports on how to make the most of your IP.

In a tough financial climate, companies have to be more innovative to achieve global growth. Market leaders look towards intangible assets such as intellectual property (IP) rights as the richest opportunity for growth. In particular, IP has the advantage of being much less capital intensive than acquiring new companies and is both flexible and scalable.

A survey conducted in 2008 examined how companies exploit their IP and the various approaches used to internationalize in a downturn. This chapter considers the results of the survey, explores some of the challenges experienced in IP exploitation and reviews how IP can be used to its best advantage to achieve international expansion even through economically challenging times.¹

Global expansion – with IP at the forefront

Even though we are experiencing one of the severest recessions of our time, nearly two-thirds of companies interviewed still plan to expand abroad in the next three years, with India and China identified as the top expansion targets.

With the lack of available credit, two-thirds of companies interviewed are turning to intangible assets as a path to growth. Sixty-eight per cent look upon IP rights as vital for growth, and furthermore 56 per cent agree, or strongly agree, that their IP will increase in value. Seventy-nine per cent agree that intangible assets are even more important in the current downturn.

Challenges to the effective management and use of IP

Despite this consensus on the importance of IP, the survey found that 78 per cent of companies feel that they are failing to manage it effectively. The survey results identified six main challenges that they face.

1. Failure to audit and plan for IP

Fewer than half of companies interviewed have carried out an audit to establish the assets they own and, of those who have, only 52 per cent have an up-to-date plan for these.

Without even a basic plan, companies are not always focusing on the most exploitable IP. These asset audits should be undertaken and plans reviewed on a regular basis to allow for the company's strategic focus and legal developments. For example, UK authorities have over the past year started to adopt a more lenient approach to the patentability of computer implemented inventions, and this could represent an important new avenue for revenue generation.

2. Lack of IP expertise

Sixty-one per cent of respondents cited a general lack of expertise in managing IP rights as a barrier to leveraging full value, highlighting a potential knowledge gap between the employees responsible for IP and the rest of the company. In particular, Sales & Marketing and Finance, the departments most concerned with driving growth, are the least informed according to the survey results. A general improvement in communication between these different areas of the business, and training on the role that IP takes in each, is required to put this right.

3. Failure to maximize potential of IP

The survey found that companies still have a defensive attitude to managing their IP rights and are choosing to safeguard existing revenue streams instead of seeking new ones, such as licensing. For example, patent cross-licensing enables two competing entities to exploit the patents that each needs for the purposes of their business, although care must be taken not to impinge on competition rules.

4. Reliance on the traditional approach to international expansion

For the two-thirds of respondents that intend to enter new markets in the next three years, expansion abroad is mainly planned through more traditional methods such as subsidiaries and joint ventures or partnerships. Only 35 per cent aim to use licensing and 11 per cent plan to use franchising, even though both can be far more cost effective and involve less risk.

5. Companies are worried about regulatory complexity

Another factor preventing companies from maximizing benefit from their IP is concern regarding the complexity of the legal systems in countries where they propose to expand, with almost three-quarters of the respondents seeing this as a barrier to exploiting IP. In particular, 49 per cent of respondents believe that the European patent system is too complex, even though it has a major advantage in that the European Patent Office grants rights that can cover 34 European states. Also, the European authorities are planning to implement a Unified Patent Litigation System, which should reduce the cost and complexity of dealing with patent disputes in Europe.

There is also a degree of mistrust about the treatment of IP rights by some countries, and this hampers expansion still further.

6. Companies have concerns about development and enforcement costs

The survey revealed that companies have a perception that development and enforcement of IP rights are too expensive, with 68 per cent of respondents viewing high filing and protection costs as barriers to exploiting IP.

One way of overcoming this problem would be to recognize intangible rights on the balance sheet by accountancy standards, as in the United States. Fifty-four per cent of companies interviewed were in favour of this.

Conclusions

IP offers companies a great opportunity for growth in a downturn, but some businesses are failing to maximize on this owing to their perceptions of IP as being too complex, with low returns on investment, and lack of relevant expertise.

IP can, however, be very powerful in the development of a business. Good legal and strategic IP advice, whether provided in-house or through a preferred firm, can provide a cost-effective means for growth, with benefits that far outweigh the cost and complexity of management.

Four basic recommendations

The following four recommendations should help companies in their use of IP to drive international growth.

1. Assess the IP rights owned and create an effective action plan for their exploitation

Ideally, businesses should start with a complete audit to confirm the extent of their portfolio and clarify any issues they may have around ownership. This should be followed by a review of their IP protection, to determine what is and is not needed in

line with their business strategy. This may mean further registrations, or in some cases allowing some IP rights to lapse. Once businesses have a clean, relevant and well-protected portfolio, they are then in a position to consider properly the best methods to maximize and exploit their assets.

2. Grow understanding of and drive engagement in IP throughout your business

This education process is not always easy and the best approach will vary depending on the type of organization. The key for whoever is championing the value and potential of IP is to demonstrate the tangible business benefits that it can bring, focusing on how the IP will support the strategic direction and growth of the firm.

3. Explore the full range of techniques available to maximize the potential of your IP

Technology-focused companies may already have a good record of patent filings, but they should not overlook the potential of other IP, such as copyright, trade marks and design rights. For example, new hi-tech companies might be quick to register patents, but may overlook the advantages of branding. Apple is a good example of how building a strong brand and image and leveraging off it can generate sales of second- and third-generation technology even though its competitors may subsequently produce equivalent, or more technically advanced, products – thus through branding a hi-tech company can in effect extract more value from its technology.

In addition, different types of licensing can maximize cost-effective growth, including co-ownership, cross-licensing and co-marketing agreements. These more innovative structures can help companies retain more control over existing IP rights and those generated during the relationship.

4. Select advisers with experience in dealing with different IP protection systems

Consideration should be given to the best way to protect your intangible assets and a combination of different means of protection is often the most appropriate. All companies benefit from proactive advice rather than advisers who merely carry on registering a company's IP in the same way they have been doing for the past 50 years.

Revisiting your IP protection strategy is something that should take place on an ongoing basis, and this is never truer than in a downturn.

Note

- 1 The survey was commissioned by Field Fisher Waterhouse and carried out in the summer of 2008 by Lighthouse Global, an independent business consultancy specializing in the legal sector.

One hundred and fifty interviews were conducted with lawyers and senior executives responsible for IP in Germany, France and the UK. There was a balanced distribution across the four sectors interviewed, which were: technology and telecoms; life sciences and pharmaceuticals; media and entertainment; and retail. Interviews were conducted with companies with annual revenues of between £20 million and £2 billion and included some of the largest companies in Europe.

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Creating value

At Borealis Polyolefine, IP is moving out of defence into a more central playmaking role. Erik Van Praet, manager technology commercialization, and Markus Gahleitner, the IPR group expert, report.

As a leading provider of innovative polymer solutions, Borealis has significantly improved its intellectual property rights (IPR) position in recent years. An important element for this was an integrated portfolio strategy aligned across both the central Innovation and Technology (InnoTech) department and the business units of the company. This system provides guidance for decisions regarding development, protection, licensing and oppositions, making sure that both InnoTech and IPR investments are well placed.

The international polymer production landscape has changed significantly in the past 15 years. In particular, the wave of mergers and acquisitions following the economic difficulties of the mid-1990s has created a small number of ‘big players’ with a usually wide range of IPR coverage across all stages of polymer production and application as outlined in Figure 1.6.1. In trying to become a leading provider of innovative polymer products and solutions, Borealis had to face the fact that its strategy of ‘Value Creation Through Innovation’ required IPR to become a core issue of the innovation strategy, both exploiting and protecting the output of InnoTech but also influencing and even defining its direction.

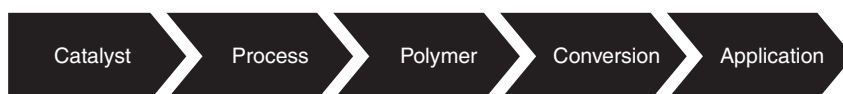


Figure 1.6.1 IPR-relevant parts of the value chain for the polymer industry

Exploring the possibilities...

From simple everyday products that make life easier to step-changing technological developments, Borealis is leading the way.

We are committed to addressing global challenges responsibly with innovative plastics solutions in infrastructure, automotive and advanced packaging.



From defensive IP strategy to competitive TC strategy

Chemical companies are quite conservative in their IP approach; they normally check very carefully if they have freedom to operate (FTO) for a new development, and file some patent applications to protect it. Only a few of them, however, consider the full value chain as represented in Figure 1.6.1 for polymers – the possibility to both protect own developments and interfere with competition activities at different levels. A new polymer used, for example, in the production of sterilizable pre-filled syringes for hospitals can thus be protected with several definitions – a catalyst minimizing low molecular weight fractions, a polymer of special purity and good processability, a final article tolerating radiation sterilization without becoming brittle, and probably several more. This allows a similar differentiation as in other areas of the chemical business, despite the fact that for an outsider all polymer molecules appear to be pretty much the same.

The first step for Borealis was the introduction of an integrated portfolio strategy aligned across both the InnoTech department and the business units (BUs) of the company. Both non-filed patent ideas (so-called ‘invention disclosures’, or IDs) and patents were assigned to a set of portfolios covering specific technology and/or application areas, at the same time creating decision forums in line with this structure. In quarterly reviews of mixed teams involving portfolio owners and IPR department representatives, both filing and retention decisions are made, but also the competitor landscape in the respective area is reviewed and opposition decisions taken. As a rule, BU representatives decide the future of a specific case, but the IPR department has a right of veto for strategic and long-term issues. While there is a general aligned company strategy, each business unit has the individual task of aligning their sub-portfolios to their products’ and their customers’ requirements, maximizing the overlap between these three as shown in Figure 1.6.2. And while strategic issues are cascaded up for decision even to the Executive Board, national filings are primarily based on specific business needs.

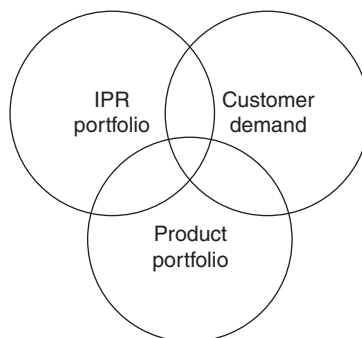


Figure 1.6.2 Portfolio alignment requires matching IPR with products and customers’ wishes

With the portfolio structure and the IPR strategy in place, the task of technology transfer – including licensing as well as IPR acquisition or sales – was added to the system. With a proprietary polymerization technology for both polyethylene and polypropylene, the Borstar™ process, and own catalyst developments the company can thus take full advantage of its portfolio. In a final stage strategic projects have also been added to the department's responsibilities, looking for new opportunities outside the Borealis core competence.

IPR value – a guideline for strategy

Having an IPR portfolio that protects your own catalysts, processes and products is one step – and an important one, as Figure 1.6.1 shows. Proactively evaluating the value potential of the company's IP assets, basically giving a monetary value to each patent family, is the next logical step. For doing this, Borealis has created an evaluation method both to facilitate discussion with the business units and to deliver objective guidelines for future innovation and protection strategies. It allows IPR to be seen as business assets, as sources of revenue rather than as pure cost factors in the company's balance sheet.

The calculation method is based on a royalty relief model, considering either the market position – in profit and volume – of protected products or the licensing value of protected catalysts and processes. In the end, all patents can be described by three numbers:

- the internal value determined by the aforementioned factors;
- the maximum potential, given by the overall market volume rather than the own market share in the respective segment; and
- the uncertainty factor, based on factors such as protection state and validity range, ease of infringement detection, possibility of enforcement and circumvention etc.

Resulting in a net present value (NPV) for each patent, this tool allows the company to determine overall portfolio values but also to compare its elements, including competitor patents in this area. It also gives an objective guideline for retaining, killing or licensing patents presently not in use – already delivering a rough target figure for licensing negotiations. And while the effort of NPV determination is significant for both the IPR department and their partners in the BU, the result of this team effort is far less disputable than individual value assessments.

Facing the world – licensing and enforcement

For project as well as investment planning at Borealis's InnoTech, overall NPV values of certain portfolios also provide an important direction. Selectively focusing research on areas of high market potential that can be well protected is certainly one

of the most important means of value creation. Reflecting the result of these efforts onto IPR requires an appropriate internal licensing scheme, the output of which can be utilized not only for further protection but also for ongoing research.

But there are, of course, two further important elements of value creation: external licensing and patent enforcement. For the former, Borealis has decided that maximization of IPR value can only be done by technology and catalyst licensing in the framework of joint venture projects. This gives full control of the new innovations brought into the value chain (again, keeping the guidance of Figure 1.6.1 above in mind). Selective licensing for specific polymer compositions and final applications is discussed case by case with intensive involvement of the BU concerned.

Regarding enforcement, the primary target of patents is, of course, infringement prevention, and the rather strict FTO position of most polymer producers achieves just that. In case of infringement, again, two options exist for value creation: legal dispute for compensation, or settlement for a swap of patent rights. While the latter option may be limited by the existence of a sufficiently attractive IPR portfolio on both sides, it is frequently more attractive than the time-consuming, costly and – especially in the polymer industry – often technically challenging legal procedure.

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Challenges in IP

Professor Marianne Levin at Stockholm University reviews the delicate balances now demanded of IP.

A system under multiple pressures

Intellectual property rights (IPR) in some form are almost universally recognized as an essential policy tool in market economies. However, even if the general purpose of IPR is to create incentives for innovation and creativity, empirical evidence on the role of IPR protection in promoting innovation and growth in general remains limited and inconclusive.¹ An historical analysis of economic literature reveals that the IPR system in general, and the patent system in particular, have been neither necessary nor sufficient for technical and/or economic progress at country and company level.² Some renowned researchers are, for instance, of the view that today's patent system stifles science and innovation.³ They argue that intellectual property is about knowledge and – although often compared to physical property rights – a public good which presupposes the two attributes, 'non-rivalrous competition' and non-excludability; both, of course, run counter to the whole idea of an IPR system.

On the other hand, a growing body of economic literature and empirical evidence, including the so-called OECD/BIAC patent survey,⁴ confirms the importance of the linkage between IPR and contractual arrangements or other market-oriented mechanisms to propel innovation.⁵ Even if the mere existence of IPR does not make undertakings invest in research and development or other creativity,⁶ IPRs *per se*

have become commodity objects, which are also evaluated as such,⁷ or are even regarded as ‘currency’ in a knowledge-based economy.⁸ While conflicting views persist on the impacts of IPR on development,⁹ empirical studies generally support an expectation that stronger IPR protection enhances both foreign direct investment (FDI) and imports.¹⁰

The economic importance of IPR is underlined by the fact that, for example, in the United States alone studies in the past decade have estimated that over 50 per cent of US exports depend on some form of IPR protection.¹¹ Also, the European Commission looks upon IPR as the key framework condition for innovation, stimulating R&D investment and transfer of knowledge from the laboratory to the marketplace with the IPR system as a condition ‘in making the “fifth freedom”, the free movement of knowledge a reality’. The system should ‘act as a catalyst of innovation and contribute to the overall Lisbon strategy’.¹² Lately, however, the global legitimacy of the system has been challenged and has become the object of intense discussions. Depending on the starting point from which the IPR system is approached, the answer to what it is or should be is inconclusive: a financial asset; a tool of national competitiveness; a moral issue; or a means to rapidly share technological solutions to complex problems?¹³

In today’s interconnected world the forces of globalization, geopolitical developments, societal demands, heightened expectations and the present financial crisis are but a few examples of the multiple pressures bearing down on the IPR system.¹⁴ Modern technological developments require closer attention to third-party interests.¹⁵ Protection can no longer be viewed solely in its original and at one time naturally given rights holder perspective.¹⁶ As has become especially noticeable with the creation of the World Trade Organization (WTO) and the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in 1995, the trade-related dimension appears not only to have given a free rein to ever-greater demarches and jockeyings for political power that stand in the way of suitable development and balanced solutions,¹⁷ but it also opens the way to new considerations.¹⁸

The new stakeholders

Less than 20 years ago IPR were more or less exclusively discussed at the World Intellectual Property Organization (WIPO) and treated more or less as a technical matter among specialists and producers of IPR.¹⁹ TRIPS has become a catalyst provoking a shift in perspectives and marking a new form of discourse on IPR, characterized by, on the one hand, the power of companies and markets and, on the other, a number of moral questions such as public health²⁰ and sustainable development, including environment and food security.²¹

IPR is no longer as simple as one single legal notion, defined by WIPO or WTO²² – if it ever was. Nor are IPRs only trade related.²³ They are also education related, health related, nutrition related, defence related, environment related, energy related and so on. Within the scope of their regulatory mission, many multilateral

organizations have important interests in the way rights granted with respect to inventions are used and seek to play a more significant role in the implementation of TRIPS and in the formulation of new rules.²⁴ IPRs are now at or near the top of the agenda in a range of international forums not previously concerned with IPR;²⁵ in intergovernmental organizations such as the World Health Organization (WHO),²⁶ the Food and Agriculture Organization (FAO),²⁷ or at international negotiating forums,²⁸ such as the UN Convention on Biological Diversity (CBD).²⁹ However, unlike patents or copyright, the trade mark provisions of TRIPS or elsewhere have received far less scholarly criticism,³⁰ disregarding geographical indications (GIs), a fairly contentious topic under intense discussion by politicians³¹ as well as by academics.³²

Time for conciliation

Today, there are many pressures impacting on the IPR system over which its guardians and stakeholders have little or no control.³³ Indeed, IPRs have not been very easy to balance in the digitization and biotechnology revolutions. Modern IPRs have a crucial bearing on the actual flow of information. Rights holders should on the one hand be in a strong position – as far as their contribution to society is of such merit.³⁴ On the other hand, too much IPR protection might be bad for the economy,³⁵ ie for society as a whole. At least, there should be a robust balance between competition and monopoly in the service of dynamic efficiency. Thus, when IPR laws are strong, antitrust laws should also be strong, and vice versa.³⁶

Conflicts within TRIPS were initially concentrated on the least developed countries (LDCs).³⁷ But this turned out to be just the tip of the iceberg in view of the economic disparity between the global North and South.³⁸ The WTO membership was to open up agrarian and textile markets to the developing countries, but this has so far not materialized.³⁹ Art. 8 of TRIPS indicates assistance and technology transfer,⁴⁰ which has mainly been confined to free trade agreements, including TRIPS Plus,⁴¹ with no real scope for flexibility.⁴² Thus, underlying the noticeable conflicts between developing and industrialized countries, there has been dissatisfaction with conditions other than those of IPR in the strict sense. Polarization and politicization of IPR is above all a contest of political and decision-making power in the world. While developing countries feel overrun, China and India are destined to join the big players before much longer.⁴³ It is also clear that the longer the politicization and polarization of IPR are allowed to continue, the less the values which IPRs were designed to safeguard will be respected and the less adequately IPR will be able to serve its purposes, whether those of reward, inspiration or as growth stimulator. It is even being asked whether the world would not be better off without IPR.⁴⁴

While there seems to be a fairly broad consensus that TRIPS is here to stay,⁴⁵ a broad spectrum of players argues in favour of IPR being revisited.⁴⁶ The Doha Ministerial Declaration on the TRIPS Agreement of 2001 was the first sign of new considerations having to be taken into account when interpreting IPR regulation.

The growing awareness of IPR at all levels has not only challenged the system but also pressed forward some important statements during recent years, including a public health amendment to TRIPS,⁴⁷ the progress of the WIPO Development Agenda,⁴⁸ and the recent adoption by the WHO of a global strategy on public health, innovation and intellectual property.⁴⁹ Furthermore, LDCs are now successively receiving tools to help them to benefit from the global IPR system.⁵⁰ All these recent actions and developments are of the greatest importance to IPR holders. Indeed, in the longer perspective full acceptance and recognition of the system are vital.

Notes

- 1 Ricardo Meléndez-Ortiz in *Views on the Future of the Intellectual Property System*, ICTSD 2007, p vi, at www.iprsonline.org/ictsd/docs/Views%20Future%20IP%20System.pdf.
- 2 Ove Granstrand, (1999) *The Economics and Management of Intellectual Property: Towards intellectual capitalism*, p 44.
- 3 The 2001 Nobel Laureate in Economics, Josef Stiglitz, at the lecture, Who Owns Science?, Manchester University's new Institute for Science, Ethics and Innovation on 5 July 2008.
- 4 Jerry Sheehan, Dominique Guellec, Catalina Martinez and Gilles Estord, OECD/BIAC, *Survey on Business Patenting and Licensing: Preliminary results*, presented in Paris 20 June 2002 and see further Catalina Martinez and Dominique Guellec in *Patents, Innovation and Economic Performance*, OECD Conference Proceedings (2004), p 89.
- 5 Business and Industry Advisory Committee to the OECD, *Creativity, Innovation and Economic Growth in the 21st Century, An Affirmative Case for Intellectual Property Rights*, A BIAC Discussions Paper (January 2004), p 13, at www.oecd.org/dataoecd/52/45/23375023.pdf.
- 6 Josef Drexler, Responding to the challenges for development with a competition-oriented approach, in *Views on the Future of the Intellectual Property System*, ed J Barton *et al*, ICTSD Programme on IPRs and Sustainable Development No. 1 2007, p 18, at www.iprsonline.org/ictsd/docs/Views%20Future%20IP%20System.pdf.
- 7 The accountable raising of immaterial assets in bigger companies has been from 40 per cent to 75 per cent or more in a decade and is therefore the dominant valuable in bigger companies. Cf. in another spirit *Grain Seedling* (2004) p 16: 'In order for anything to be covered by an intellectual property right, it must first be made into property, into a commodity, into something that can be bought and sold. This is where IPR systems fundamentally clash with the notion of traditional knowledge as a community heritage, as something which by its nature cannot be sold or bought.'
- 8 Roya Ghafele, *Perceptions of Intellectual Property*, August 2008, p 1, at <http://www.iam-magazine.com/blog/articles/PerceptionsofIP.pdf>, and cf. Granstrand op. cit. p 169.
- 9 Ricardo Meléndez-Ortiz, op. cit., p vii.
- 10 More industrialized nations show a more pronounced response to the strength of IPR, and more technologically advanced sectors are more IPR dependent than less technical ones; see William Lesser, The effects of intellectual property rights on foreign direct investments and imports into developing countries in the post-TRIPS era, *IP Strategy Today* No. 5–2002. 11. Cf. also Keith E Maskus, Sean M Dougherty and Andrew Mertha, Intellectual property rights and economic development in China, in *Intellectual Property and Development: Lessons from recent economic research*, ed Carsten Fink and Keith E Maskus, 2005, pp 295, 302–06.

- 11 Fifty years ago it was only 10 per cent, <http://definitions.uslegal.com/i/intellectual-property/>. See also Robert J Shapiro and Kevin Hassett, *The Economic Value of Intellectual Property* (USA for Innovation) (Oct. 2005), at <http://www.usaforinnovation.org/news/>.
- 12 COM(2008) 465/3, Communication from the Commission to the European Parliament, The Council and the European Economic and Social Committee, An Industrial Property Rights Strategy for Europe, pp 3 and 5 respectively.
- 13 Cf. European Patent Office (EPO), *Scenarios for the future* (2007), p 106, at [http://documents.epo.org/projects/babylon/eponet.nsf/0/63A726D28B589B5BC12572DB00597683/\\$File/EPO_scenarios_bookmarked.pdf](http://documents.epo.org/projects/babylon/eponet.nsf/0/63A726D28B589B5BC12572DB00597683/$File/EPO_scenarios_bookmarked.pdf).
- 14 Cf. *Scenarios for the Future*, op. cit., p 2.
- 15 The in-built, countervailing element of competition is being more and more often called into question, cf. case T-201/04 Microsoft, Court of First Instance, 17 September 2007, and the investigation which the European Commission opened about Qualcomm in 2007; cf. also cases C-241–242/91 P Magill [1995] ECR p. I-743, C-418/01 IMS Health [2004] ECR p. I-5039 and C-52/07 STIM of 11 December 2008.
- 16 The Paris Convention for the Protection of Industrial Property of 1883, and the Berne Convention for the Protection of Literary and Artistic Works of 1886.
- 17 Cf. Francis Gurry quoted in *Scenarios for the future*, op. cit., p 53.
- 18 See Francis Gurry's acceptance speech to the WIPO General Assembly on his appointment as Director General, at http://www.wipo.int/about-wipo/en/dgo/dg_gurry_acceptance_speech_2008.html.
- 19 UNESCO played a certain role as the administrator of the Universal Copyright Convention and is today the administrator of the new Convention on the Protection and Promotion of the Diversity of Cultural Expressions of 20 October 2005; IPRs were negotiated at the European Community level as well as sometimes an object of discussion in the OECD and of course patent rights and patent policy has been a special task of the EPO.
- 20 Roya Ghafele, *Perceptions of Intellectual Property*, op. cit., p 31. At the same place it is also noted that while terms such as 'innovation' and 'progress' have positive connotations, intellectual property, if known, seems to be associated with threat and danger by the general public.
- 21 'Food security': An adequate amount of food is cultivated or available through the market and people can afford to buy or cultivate enough food to satisfy their basic nutritional requirements, see Barbara MacDonald, Lawrence Haddad, Rainer Gross and Milla Machlan, *Nutrition making the Case*, Brief 1 of 12, p 2, at <http://www.unsystem.org/scn/Publications/foundation4dev/01Overview.pdf>, and David R Downes and Matthew Stilwell, *The Intellectual Property Rights Debate: The WTO needs citizens' advice on patents over life*, p 3, at <http://www.iprsonline.org/ictsd/docs/DownesStilwellBridgesVol2N8NovDec1998.pdf>, and Surinder Kaur Verma, *Intellectual Property Rights (IPRs), Innovation and Sustainable Development*, UNCTAD/ICTSD/HKU/IDRC Regional Dialogue 8–10 November 2004, p 6 f.
- 22 Cf. WIPO: 'Intellectual Property protects products of the human mind, such as inventions, literary and artistic works, symbols, names, and designs used in commerce...', and WTO: 'Intellectual property rights are the rights given to persons over the creations of their minds. They usually give the creator an exclusive right over the use of his/her creation for a certain period of time...'
- 23 The notion 'trade related' could at first sight possibly entail a new dimension or a possible limitation. Some have, for instance, argued that IPRs are not a trade issue. But the Paris and Berne conventions aimed at simplifying cross-border trade with IPR; the Paris Convention is expressly related to trade. Therefore, the 'trade relation' was obviously more of a way of lifting IPR negotiations from WIPO to WTO in an ambition to return to advancing the rules and get away from the deadlock in WIPO, where North–South

- conflicts and unanimous votes made no such progress possible. As before, IPRs gain recognition primarily through their commercial aspects or cross-border effects.
- 24 Frederick M. Abbott, Toward a New Era of Objective Assessment in the Field of TRIPS and Variable Geometry for the Preservation of Multilateralism, 8, *Journal of International Economic Law*, 2005, 8(1), pp 77 (85); doi:10.1093/jielaw/jgi005 8(1), at <http://jiel.oxford-journals.org/cgi/reprint/8/1/77>.
- 25 Laurence R Helfer, Regime shifting: the TRIPS Agreement and new dynamics of international intellectual property lawmaking, *Yale Journal of International Law*, 29(1), 2004, p 1 (5–6), at <http://mipr.umn.edu/archive/v5n1/Helfer.pdf> (also 5 *Minnesota Intellectual Property Review*, 47 (2003).
- 26 The 61st session of the World Health Assembly adopted a number of resolutions on 24 May 2008 based on the WHO Report of the Commission on Public Health, Innovation and Intellectual Property rights (2006) at <http://www.who.int/intellectualproperty/documents/thereport/ENPublicHealthRwreport.pdf>. It remains to see how states can deal with these issues in practice.
- 27 As a follow-up on the FAO study in 2002, *The state of Food Insecurity in the World*, FAO has launched a programme concerning origin-linked quality in order to address needs in this connection. Among IPRs especially discussed are geographical indications. Other studies and concerns relate to gene modification of plants. Cf. also International Treaty on Plant Genetic Resources for Food and Agriculture, November 3, 2001, <http://www.fao.org/ag/cgfa>, which entered into force on 29 June 2004 and provides for facilitated access to plant genetic resources for food and agriculture, including such that are protected by IPR, see Art. 12.3 (d) and (f) and 13.2 (b) (iii).
- 28 Other such IPR forums are: the Commission on Genetic Resources for Food and Agriculture, and expert and political bodies, eg the UN Commission on Human Rights and its Sub-Commission on the Protection and Promotion of Human Rights, as well as in other global bodies, eg the Canadian International Development Research Centre, the International Centre for Trade and Sustainable Development, the Quaker United Nations, OXFAM, Médecins Sans Frontières (MSF) and many, many more representing a self-employed public interest.
- 29 On eg promotion of the sharing of benefits derived from the use of genetic resources/biodiversity, and the granting of more favourable IPR terms to promote transfer of biotechnology to developing countries. The relation between CBD and Art. 27.3(b) TRIPS is so far unsolved, and currently, WTO members are divided on whether to include a mandatory requirement to disclose the source of origin of genetic resources and associated traditional knowledge while applying for a patent.
- 30 However, it seems somewhat strange that the effects of trade marks that are too strong, which are not subject to any limitations, have not been further scrutinized.
- 31 GIs are a central part of the outstanding issues of the Doha Development Agenda. The biggest controversy is between the ‘old’ and the ‘new’ worlds, ie the EU and the United States, with supporters on each side of developed and developing countries. Cf. further, Carsten Fink and Keith Maskus, The debate on geographical indications in the WTO, in *Trade, Doha, and Development*, ed Richard Newfarmer, World Bank 2006, p 197, at <http://siteresources.worldbank.org/INTRANETTRADE/Resources/239054-1126812419270/16.TheDebate.pdf>
- 32 Cf. Ruth Okediji, *The International Intellectual Property Roots of Geographical Indication*, p 1329 (1365), Okediji Author Approved Edits (H)(P) 11/7/2007 5:39 PM, at [http://lawreview.kentlaw.edu/articles/82-3/Okediji%20Author%20Approved%20Edits\(H\)\(P\).pdf](http://lawreview.kentlaw.edu/articles/82-3/Okediji%20Author%20Approved%20Edits(H)(P).pdf).
- 33 Cf. *Scenarios for the Future*, op. cit., p 9.

- 34 Cf. eg the present discussions of ‘quality patents’ and ‘raising the bar’, even if the latter expression seems more to be an action to streamline patent offices, especially the EPO, than aiming at valid patent rights.
- 35 Cf. Sam Mamudi, How to fix the IP imbalance, *Managing Intellectual Property*, Issue 143, October 2004, p 28.
- 36 Mark A Lemley, *A New Balance between IP and Antitrust* (April 2007). Stanford Law and Economics Olin Working Paper No. 340, p 3, at SSRN: <http://ssrn.com/abstract=980045>
- 37 Transition period in Art. 66.1 and compulsory licensing in Art. 31(f).
- 38 Negotiators came from an initial group of about 20 countries, increasing over time to about 30, of whom about half came from industrialized countries. The negotiators from developing countries, however, had the disadvantage of not being familiar with IPR or even law, see further Daniel Gervais, The state of play, *Fordham Law Review*, **74** (2005), p 505 (506), at SSRN: <http://ssrn.com/abstract=870065>; cf. also Debora Halbert, *Redefining TRIPS in the Face of Global Change*, p 6 f., who argues that the current resistance staged by transnational activists will in any event require a more serious consideration of issues of social justice and global equity within TRIPS, even as alternatives to intellectual property are conceptualized, at http://www.allacademic.com/meta/p_mla_apa_research_citation/0/7/0/6/8/pages70689/p70689-6.php.
- 39 Which is not at variance with the fact of these economies having grown, see Joseph Straus, The impact of the new world order on economic development – the role of intellectual property rights, *European Review*, 2007 **15**(1), pp 47 ff. But further developments in the WTO are difficult to assess, since the formal negotiations broke down in July 2006.
- 40 Cf. the WTO decision of 29 November 2005 in regard to LCDs. The aim was to facilitate technical assistance and financial cooperation with a supposed deadline on 1 January 2008.
- 41 Previously, above all in US agreements, and cited as one of the arguments for the need of a WIPO Development Agenda, but in recent years included in EU trade agreements, see Maximiliano S. Santa Cruz, *Intellectual Property Provisions in European Union Trade Agreements: Implications for developing countries*, ICTSD Publications No. 18 (2007) and John H Barton, *New Trends in Technology Transfer: Implications for national and international policy*, ICTSD Publications No. 20 (2007). Cf. also UNCTAD Trade and Development Report 2007, at: www.unctad.org/Templates/WebFlyer.asp?intItemID=4330&lang=1.
- 42 Cf. the Commission on Intellectual Property Rights (established by the UK Government in 2001), at www.iprcommission.org
- 43 Probably, the overarching force of TRIPS would have been far less potent, but for the felt needs by the EU and the United States to state leadership on a global basis on which economic growth could be leveraged and sustained against newly industrialized economies of Asia and Latin America, see Ruth Okediji, op. cit., p 1329 fn 3.
- 44 Michele Boldrin and David K Levine, *Against Intellectual Monopoly* (2008), at <http://www.dklevine.com/papers/imbookfinalall.pdf>, and cf. *Scenarios for the Future*, op. cit., p 3.
- 45 Peter K Yu, TRIPS and its discontent, *Marquette Intellectual Property Law Review*, **10**, 2006, pp 369 (371, 386), at SSRN: <http://ssrn.com/abstract=578577>.
- 46 This is not only in the interest of increasing global access to patented pharmaceuticals, cf. <http://www.cid.harvard.edu/cidtrade/issues/ipr.html> and see Graham Dutfield, Does one size fit all, *International Trade*, **26** (2) – Summer, 2004 p 2, at [hppt://harvardir.org/articles/1257](http://harvardir.org/articles/1257).
- 47 Cf. para. 6 of the Doha Declaration on the TRIPS Agreement and Public Health of 14 November 2001 and the following 2005 Ministerial Declaration. This first-ever amendment to the TRIPS Agreement was circulated to WTO members for formal adoption with

a deadline of 1 December 2007, whereby two-thirds of the members should accept the permanent amendment for its entering into force. In 2008 a decision was made to extend the deadline for accepting the amendment until 31 December 2009, or such later date as may be decided by the Ministerial Conference.

- 48 The Development Agenda, formally adopted by the WIPO General Assembly in October 2007 with a set of 45 recommendations to enhance the development dimension of the Organization's activities. The further work on the six clusters of recommendations is handled by a Committee on Development and Intellectual Property (CDIP). For the second draft report of the CDIP, see CDIP 2/4/PROV.
- 49 61st World Health Assembly, 24 May 2008. However, since that date not much seems to have happened.
- 50 See ICTSD's expert meeting on Intellectual Property Strategies and Sustainable Development of 24 November 2008 and cf. also WIPO's IP and New Technologies Division.

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Publication server



The screenshot shows the 'Slovenian Patent Documents' web interface. It features a sidebar with navigation links: Contents, Home search, All documents, Result list, and Help. Below this is a 'Useful links' section with links to Industrial Property Bulletin, Databases, Information services, and European Publication Server. The main content area is titled 'Home search' and includes input fields for Publication number (e.g., *SI 20461*), Application number (e.g., *SI 200000034*), and IPC symbol (e.g., *B01D 47/00*). There is also a 'Publication date' section with dropdown menus for Year and Month, and a 'Between' dropdown. A 'Kind' section contains checkboxes for 'Select all kind codes', 'A/A1', 'T1/T2', 'A2', 'T9', and 'B'. At the bottom right are 'Search' and 'Reset' buttons.

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A year of creativity and innovations

Dr Biserka Strel, Director of the Slovenian Intellectual Property Office, explains how a small national office fits into the European IP system.

The European Parliament and EU Council have declared 2009 the Year of Creativity and Innovation. This is an opportunity for a more effective raising of public awareness, disseminating information on good practice and fostering innovations, as well as discussions about legal changes; the current general economic crisis represents an additional challenge for new efforts in this direction. The modern economy emphasizes the importance of added value by better use of knowledge and fostering creativity, research and innovation. In this effort, intellectual property is an important factor of innovation policy because it enables compromise and the turning of knowledge into information under generally applicable jurisdiction and market rules.

During the past 20 years, the intellectual property (IP) field has been confronted with global change, which can be described as the 'pro-patent period', and an increase in the value of intangible assets by which the owners pursue their strategic business goals through the type and scope of their right, the method of acquiring it, the form of its economic use and protection against illicit use. This in turn changes the role of national offices. Based on the current situation in Europe, European Patent Office (EPO) policy is playing an important cohesive role among its member states, while at the same time promoting the current European market by awarding quality patents and fostering European integration by assuming a growing number of tasks from national offices. These offices are thus confronted with seeking new niche positions in the form of service-providing organizations. There are a number of opportunities and, of course, advantages, since apart from

the infrastructure they can access considerable legal and technical know-how as well as unbiased and objective dealing with clients.

Role of the Slovenian Intellectual Property Office (SIPO) in the innovation environment

As one of the key players in the Slovenian innovation environment, SIPO follows the needs and changes of that environment through its support in implementing an effective and internationally comparable IPR infrastructure. By constantly developing quality services and creating conditions for acquiring new clients, the Office stands out from the national framework with its close cooperation with other national offices and institutions such as the Office of Harmonization for the Internal Market (OHIM), World Intellectual Property Organization (WIPO) and EPO. Thus, as well as taking part in the exchange and use of common databases and tools, bilateral agreements, joint projects and development of new services, it also strengthens its cohesive role within the European patent network. Cooperation and integration of national offices is a good basis for a future single European patent system.

The 'deficiencies', such as the small size of SIPO (46 employees) and non-performance of substantive (novelty) examination of patent applications, have proven to be an advantage in seeking a niche position within the IP system. The Office can adapt much faster to global changes while still providing effective legal protection for the system's users through professionally well-trained examiners. Being aware of the specific advantages in generating good practice and setting up a national support system for users, in particular small and medium-sized enterprises (SMEs) which are the backbone of the Slovenian economy, SIPO defined a broad approach in providing services for focal groups, while at the same time intensifying cooperation with technological parks and universities, resulting in new services and approaches for establishing good practice. Let me give just a few:

- First information on IP. The service that SIPO began offering in June 2008, within the framework of the national action plan for cooperation with EPO and with the aim of fostering innovation and raising IP awareness of SMEs, has proved to be an example of good practice. The service includes a diagnosis of the current state of the company's IP, as well as recommendations for the protection thereof.
- Technology transfer from university to industry. As the result of cooperation between SIPO and the University of Ljubljana, a Technology Transfer Office was founded in September 2008, with which the conditions for introducing IP, its understanding and use in various university

processes, including future curricula development, and research into the commercialization of inventions were established. A new pilot project concerning the implementation of technology transfer from university to industry by using the expertise available at SIPO was launched in December 2008 and supported by EPO.

- SIPO centre for IP information and education. By creating a new centre the scope of the services has been extended to include training possibilities for different stakeholders. The centre is offering close cooperation with various organizations which also operate on a regional/international basis in order to establish an IPR culture, with a broad scope of awareness and up-to-date information.

Study on innovation activity of Slovenian enterprises

To assess the level of innovative activity, a study on intellectual property in Slovenian companies was carried out in 2008. The research involved all large and medium-sized companies as well as a stratified random sample of small companies. The criterion applied for defining innovation was novelty in the market (new or improved product or new process).

The results confirm that the main share of the innovative core in Slovenia consists of large enterprises. It is encouraging that the period under review shows a slightly higher percentage of research and development (R&D) investments (9.4 per cent). The major share represents internal sources (82 per cent), state funding only 5.5 per cent, while funding from foreign and local investment, technological funds and EU funding represents a negligible share. The entrepreneurs who have acquired patent protection during the past three years have on average allocated 5 per cent of all the R&D funds of the company for this purpose. The results of the study also show that new products account for 18.5 per cent and technologically improved products for 29 per cent of the total revenues and that 91 per cent of all companies do not license products or services. The number of EP applications per company (42) is encouraging, ranking Slovenia not far behind Italy (47) but ahead of Portugal, Spain and Greece. The analysis also confirms that the main reason for investment is the internationalization of companies and thus easier access to markets.

It is surprising that 76 per cent of companies did not submit any patent application in the period 2004–07, despite the fact that 70 per cent of companies maintain an R&D department. There are several reasons for this: innovations are protected as business secrets, the high cost of IP rights enforcement, lack of information on the situation in the field of technologies and markets, and absence of rewarding and evaluating innovation.

The results of the study are not encouraging. There are several reasons, and at least one needs to be outlined: the national environment exhibits poor cohesion policy in the field of investment and incentives and does not provide synergy between existing institutions performing technological innovation activity by using adequate IP protection mechanisms.

In this situation SIPO identified an additional opportunity for further integration and upgrading of service activities, which include: growing an IP policy culture through cooperation with relevant stakeholders and others engaged in IPR issues, a proactive awareness service and quality evaluations carried out to assess the effectiveness of services offered.

Finally, it is worth emphasizing that a good innovation policy is also a good economic policy if this is reflected in making effective use of R&D, while simultaneously providing support for innovative processes in the economy and access to IP. Innovation management requires a favourable social and economic environment, an effective legal framework, and effective implementation of legal and market rules as well as effective synergy between players in the innovation environment.

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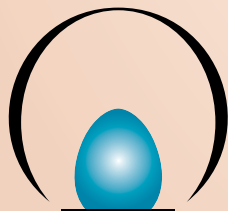
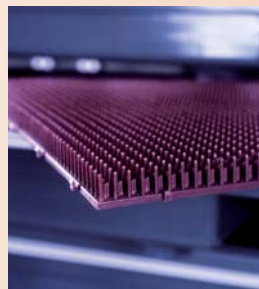
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Norway joins the EPC

Trond Gustad, Partner and European Patent Attorney at Oslo Patentkontor AS, discusses the impacts, consequences and challenges after Norway accedes to the European Patent Convention.

On 1 January 2008, Norway acceded to the European Patent Convention (EPC). Since then more than a year has passed, and it might be interesting to assess the impacts and consequences this has had on Norwegian industry and on the Norwegian patent profession.

Initially it would not seem that Norway's accession to the EPC has had any significant impact on Norwegian industry. The situation in Norway is such that the industry consists mainly of small and middle-sized businesses, with a handful of larger companies in between. In relation to protecting one's intellectual property (IP), the industry in Norway has historically been rather lazy when it comes to filing patent applications. The number of patent applications filed by Norwegians is about half the corresponding number in other Nordic countries (Sweden, Finland and Denmark). This situation has not changed significantly since Norway entered the EPC.

One of the expected impacts of Norway's accession to the EPC is that the number of patents in force will increase over time. This is expected since the costs of national validation of a European patent in Norway are clearly lower than the costs of a complete prosecution of an independent Norwegian application, which was previously necessary. Norway, being a small country with few inhabitants, might have been regarded as not worth the trouble of filing and prosecuting a separate patent application. Although this situation has not changed since Norway entered the EPC it has become part of a larger constellation, and a Norwegian patent may now be obtained by foreign companies at a reduced cost and with less difficulty of prosecution than before. This would seem to be a challenge for domestic industry concerning protection of their own IP, and consequently one might think that Norwegian industry would intensify the filing of their own patent applications (or at least become more active in surveying the patent rights of others).

The handful of larger Norwegian companies, obviously aware of the situation, seem to be preparing for the above-mentioned impact, but the larger part of Norwegian industry seems blissfully unaware of the expected impending inflow of foreign patent rights. Compounding the situation is the fact that it takes more than 18 months to be certain that European patent rights may exist in Norway.

This is due to the time required to prosecute patent applications at the EPO. Previously, it was necessary to file a Norwegian patent application to obtain patent protection here. Consequently, a surveillance or search for existing or potential domestic patent rights might be conducted locally at the Norwegian Intellectual Property Office (NIPO). This situation has now changed, as all EPO applications are potential future Norwegian patents, so that domestic companies now have to conduct such surveillances or searches at the EPO instead of at the NIPO. Also, protests and oppositions will have to be filed at the EPO instead of at the NIPO. These impacts of Norway entering the EPC will constitute challenges for domestic companies.

On the other hand, this situation could potentially be exploited by foreign companies wanting to establish business in Norway. The Norwegian companies' obvious low awareness of IP rights could be taken advantage of by foreign companies, in that they might file increasing numbers of European patent applications designating Norway. This can even be done with Patent Cooperation Treaty (PCT) applications with an international filing date subsequent to 1 January 2008 designating the EPO.

As a consequence of the expected inflow of patents in Norway granted by the EPO, and of the increasingly advantageous situation for foreign companies in that it has now become easier, cheaper and faster for them to obtain patent protection in Norway, one might have expected that domestic Norwegian companies would become aware of the importance of protecting their own intellectual property rights (IPR). However, the number of domestic patent applications filed by Norwegians has decreased during the first months of 2009, although this may be a consequence of the worldwide economic crisis.

In parallel with an increasing number of domestic patent rights in Norway, a corresponding increasing number of disputes is to be expected between foreign and domestic industry concerning the validity and scope of patent-protected rights. Additionally, on account of the expected increasing number of valid patent rights in Norway, one expects an increasing number of negotiations and agreements based on patent rights. Since the small and middle-sized Norwegian companies previously seldom had to negotiate agreements based on patent rights owing to the relatively few patents in force in Norway, the handling of this situation will probably also constitute a challenge for a substantial number of Norwegian companies. Consequently, expert assistance for Norwegian companies is likely to be needed owing to the low awareness of such negotiations, and this situation might also be exploited by foreign companies, at least until the level of awareness in Norwegian companies concerning intellectual property rights has improved.

The situation outlined above for a large number of Norwegian companies also represents a challenge for the Norwegian patent profession.

First, the Norwegian patent authorities (ie the NIPO and affiliated offices) have a duty to inform companies about the changed situation. This is mainly being done through courses conducted at the NIPO. An overall increased awareness seems, however, to be missing since the number of patent applications filed by Norwegians has not increased.

On account of the expected decreasing number of patent applications filed locally at the NIPO, the NIPO has also taken an active role in establishing the new Nordic Patent Institute as a PCT search authority located in Denmark, in order to maintain their searching and prosecuting activities as well as their knowledge of patents and their prosecution and scope.

The private patent profession in Norway is also partly responsible for informing companies about the situation. Since the patent system is inherent in business and industry, any country needs patent professionals to inform and assist in matters concerning IP rights. Since most foreign companies will opt to file EPO applications designating Norway instead of filing national patent applications in Norway, the Norwegian patent profession faces a challenge based on falling income from the filing and prosecution of national applications. Also, the private patent profession in Norway faces a challenge in preparing domestic companies for the changed situation in patent rights. Although most of the practising private Norwegian professionals have now been listed as professional representatives before the EPO (through the grandfather clause in the EPC), this will not necessarily mean that there will be an increasing number of European patent applications from Norwegian companies. Certainly, foreign companies will prefer to enlist a patent professional in their own country for filing European patent applications, on account of both the language and the distance between the patent agency and the applicant. A consequence of this situation will be that Norwegian private patent agencies will have to rely for this income on validations, disputes, conflicts and assessments of freedom to operate, as well as assisting domestic Norwegian companies in filing their own patent applications. Owing to the Norwegian domestic IP situation outlined above, it is strongly urged that companies generally should increase their patent activity in Norway, both in order to establish an improved competitive edge and to increase the awareness of patent rights here.

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A combination of rights

Match your IP to your business goals, says Stephen Carter at Mewburn Ellis LLP.

white elephant *n.* 1. A rare, expensive possession that is a financial burden to maintain. 2. Something of dubious or limited value.

Intellectual property (IP) protection can be costly. Not having IP protection can be more costly. For businesses looking to protect their investment in Europe, it is important to keep your commercial wits about you and to closely match your IP strategy to your business goals. By spending wisely you can avoid your IP rights rapidly becoming a white elephant.

Imitation – flattering but is it good business?

They say that imitation is the sincerest form of flattery. It is also often the cheapest way for a new competitor to enter the market and, while competition might generally be considered a good thing, this form of (arguably unfair) competition is almost certainly not good for the original innovator whose efforts the imitator benefits from for free. IP rights are the mechanism that exists to legally prevent this imitation.

So, IP protection can be crucial to the success of a business. But it is expensive. The question is how to spend your money to the greatest advantage. Put another way, where should the focus be?

Cornerstones

Rather than automatically taking an expansive approach and protecting all your ideas (a sure-fire way of busting the budget), a more effective approach is to identify the cornerstone (from a commercial perspective) of what you are going to be offering in Europe. You will get most value out of your IP by protecting an idea that underlies everything else.

This is not always easy. Often it involves taking a conscious decision to leave aspects of your development unprotected. But taking these decisions at the outset will almost always be better for the business in the long run.

Make life difficult for competitors

Consider also what features of your development a competitor could best use to provide them with a 'springboard' into the European marketplace. If you can prevent them from taking too many shortcuts in their own creative process then you can maximize the period of time in which you have exclusivity in the marketplace.

Revenue streams

It is also important to marry your IP protection up with your (potential) revenue streams – investors in particular will be looking for this. Sometimes it will pay off to focus your protection more specifically on one or two particular revenue streams, rather than seeking very broad protection that may be harder and more expensive to obtain with little or no added benefit.

When going through this process, keep in mind that IP rights can play a varied role in the overall commercial strategy of a business. The traditional role that people tend to think of is the offensive one: actively using your intellectual property to exclude others, preserving a market for you or those authorized by you to exploit exclusively. Another role is use of an IP right itself to generate revenue, either through licensing or selling it. Also very relevant for some businesses is the role that IP rights, and more generally a good intellectual property strategy, play in attracting investors; in my experience in the technology sector, while investors are generally attracted to good science rather than good patents, the absence of an appropriate strategy for protecting the good science can often be a deal breaker. An IP portfolio can also have a defensive role to play. It can deter competitors from enforcing their rights against you (for fear of retaliation) and any dispute might be settled by way of a cross-licence.

Which rights?

Having decided what to protect, thought needs to be given to how best to protect it. In fact, this can be an iterative process because the 'how' will affect the cost, so may inform to some extent the 'what'.

Some intellectual property rights come into existence automatically. One example is copyright. Stronger, ‘registered’ IP rights, including patents, registered trade marks and registered designs, need to be actively sought.

In some cases, the best protection may be afforded by keeping your ideas secret, if you can realistically achieve this – the protection is in effect perpetual (think of Heinz’s secret recipe for their baked bean sauce), but the downside is that if the cat gets out of the bag then it may be too late to obtain any other form of protection. And of course, in many cases, the commercialization of an idea necessarily means telling the world all about it, in which case registered rights such as patents will be at the forefront of any IP strategy.

Often, you will choose a combination of the available rights. Patent key features but rely on trade secrets for the black box in the middle. Use design rights to protect the outward appearance of something where that has significance and trade marks to protect your name and logo.

Registered rights

Patents protect technical innovations. They provide protection for the technical concepts embodied in a product and/or in the processes for manufacturing the product, so they can provide protection that is broader than the specific product or products that have been developed. Patents are infringed by a competitor’s product that employs the technical innovation covered by the patent (as defined by the patent’s claims), irrespective of whether or not the products look alike.

A trade mark is something (eg a word or sign) that enables customers to identify goods or services as coming from a particular source. Marks can be very valuable and important if properly developed by advertising, promotion and correct use on quality products or services. Thus, it is vitally important for the mark’s repute and the producer’s repute to protect the mark. A **trade mark registration** generally gives the proprietor the right to stop others from using confusingly similar marks in relation to similar goods or services. In some circumstances the owner of a registered mark can even stop others from using a mark for goods or services which are not similar to those for which it is registered.

Registered designs give protection for the appearance of a product. A registered design will be infringed by a competitor’s product that has the same or a closely similar appearance (whether it is ‘technically’ the same or not). So, registered designs provide useful protection where the appearance or look of a product is important to the end-user and therefore adds value to the product.

Home or away?

Registered IP rights are territorial rights, ie they are limited to the specific territories in which you seek protection. The more territories you choose to cover, the more applications are needed and the higher the costs. Typical strategies include seeking protection in key (large or strategically important) markets and, where they are well defined, countries where competitors operate (eg manufacture).

Systems exist that enable you to avoid the ‘big bang’ approach of seeking protection in all territories of interest at one time, allowing you to postpone the associated costs without harming the available protection. There are also some regional registrations (in particular, Community Registered Designs and Trade Marks, and European Patents) that provide cost-effective routes to obtaining protection in multiple countries within the region.

For all of these registered IP rights it is possible to file a single application in one country to start with and later to file applications covering the other countries of interest that claim ‘priority’ from the first filed application, so long as these later application are filed within defined timescales (12 months from the filing of the first application for patents and 6 months for design registrations and trade marks). The applications claiming priority are treated as if they had been filed on the same day as the first filed application.

Time your run

For patent protection it is very important that the first applications are filed before the invention you are seeking to protect has been disclosed publicly. This is because the question of whether you will be granted protection is, in most countries, judged against what was in the public domain at the filing date of the application, including any disclosures you have made yourself.

It is also important to appreciate that in most countries registered IP rights are granted on a first come, first served basis. So, particularly if you are in a competitive field, it can be important to file an application sooner rather than later.

On the other hand, the sooner you file an application the sooner you are committed to the potentially high costs of following the application through, and this factor may mean that delay is appropriate in some cases.

Don’t switch off

Once you are attuned to the commercial applications of whether or not you should seek protection in the first place, guard against letting yourself switch to automatic. It is all too easy to follow the same patterns over and over.

Instead, stop yourself at every decision point. Is an application appropriate? Can you drop it? Or do you need to take more protection? Always take the time to evalu-

ate whether the protection you are paying for still makes commercial sense... or are you just creating a white elephant for your business?

A final word – watch your back

In all of this it must not be forgotten that your competitors may well have their own IP rights. It is important to be aware of the impact that the rights of others could have: at worst, halting your activities completely. Prudent businesses will have in place strategies for dealing with this.

Such strategies might include watching the IP filing activity of known competitors. This may allow a business to work around competitors' patents or other rights and/or to consider whether they might be vulnerable to attack. Watching a competitor's IP filing activity can also provide useful intelligence regarding their development work.

And, as already inferred above, sometimes the best defence can be possession of your own portfolio of intellectual property rights.

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Stephen has a degree and MPhil (Master's) in Mechanical Engineering from the University of Bath. He joined Mewburn Ellis in 1994, and became a chartered patent attorney and European patent attorney in 1998. He worked for a law firm from 2000 to 2004, gaining experience in IP litigation and due diligence work for corporate transactions and initial public offerings (IPOs), before rejoining Mewburn Ellis as partner in 2004. Stephen's work is mainly in the engineering and software fields. Further details: Mewburn Ellis LLP, 33 Gutter Lane, London EC2V 8AS. Tel: 020 7776 5300; e-mail: stephen.carter@mewburn.com; website: www.mewburn.com.

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Controlling patent costs

John Richards at Ladas & Parry LLP on the questions to ask before setting a budget.

Now more than ever we need value for money in creating and maintaining a patent portfolio. Not only is funding in short supply but the number of countries to be considered is increasing. Can we risk ignoring Brazil, Russia, India and China as additions to the more traditional European Patent Office (EPO), USA, Japan and Korea?

Key steps are:

1. a clear understanding of the objective;
2. preparing properly in advance of incurring costs;
3. avoiding duplication of effort;
4. being ruthless in cutting costs when the objectives cannot be achieved and there is no other reason for continuing.

Defining the objective

An early and realistic assessment of the potential benefit of patent protection is vital. Not every invention requires a patent to protect actual or potential products. Not every invention has the potential to be licensed or cross-licensed. A proper assessment involving research, financial and marketing management is needed at an early stage.

Deciding what and where to file is a key ingredient in cost control. At the end of this chapter, we include a decision tree to assist in deciding on patent maintenance. Similar trees can be used to decide on filing programmes. Decisions will depend on the nature

of the invention, the location of the competition and the markets for one's products. If there is natural dominance in one country, there may be less need for patent protection than in a market into which one is trying to gain access.

Filing a 'provisional'-type application may be useful as a holding operation while such assessments are made, but even this involves costs. To be of any use, such a 'provisional' application must fully describe the invention to provide the basis for a claim to priority from it later.¹

Proper preparation

Consideration of patenting costs too often focuses on the cost of filing rather than the overall cost of securing patent protection. In many countries the cost of patent prosecution exceeds that of filing. Proper preparation before filing can reduce that cost.

To achieve this, the person drafting the patent application must have a good understanding of how the invention is distinguished from the prior art. Once the draftsman understands the broad concept of the invention, it is essential that a proper search of the prior art is carried out to see what limitations this places on the original broad concept. Desirably, such a search will cover not only American and European art but also East Asian and Russian art.² If the invention is of a type where different countries have different criteria as to patentability, an assessment needs to be made of what is required to present patentable subject matter in all countries of interest.³ Internal due diligence is also required to see whether there have been any disclosures of the invention or external testing or offers for sale that might affect patentability in one or more of the countries of interest. If one contemplates filing in countries where description of the best method for carrying out the invention is required,⁴ information on this needs to be collected.

Once these steps have been taken, the draftsman can start to draft.

The concept of a 'global patent application' that is perfect for filing everywhere remains elusive. For example, statements of advantage that may be beneficial in Japan can cause problems if stated in the form of 'object' clauses in Australia. However, writing the specification and claims in a manner that satisfies local requirements can save money later and can even be the key to securing any effective protection at all. An application with a broad definition of the invention, perhaps with some of the features defined in functional terms, and then proceeding directly to a specific embodiment, as can be found in applications written in some countries, can lead to problems. This is particularly so in jurisdictions, such as the EPO and Japan, where rules on amendment during prosecution based on specific examples are strict. A couple of paragraphs setting out intermediate generalizations can sometimes be worth their weight in gold. Such factors should be considered and balanced upfront.

Translation costs form a large part of the filing costs in multi-country filings. Simply filing in the countries noted above would require translation into Japanese, Korean, Spanish (for Mexico), Portuguese (for Brazil), Russian and Chinese. Translators charge by the word. Rigorous pruning of unnecessary language is there-

fore a virtue. Choosing which words to keep and which to dispense with is a matter of legal skill and judgement, but well worthwhile. Repetition of definitions or descriptions in different parts of an application is a waste of words. Elaborate descriptions of the prior art beyond what is necessary to understand the invention add little.

Limiting the number or type of claims to avoid excess claim fees, for example in the United States, Australia, Brazil and the EPO, can be useful. In Japan and South Korea such fees affect not only examination and grant fees but also maintenance costs. In Russia multiple independent claims attract additional fees. In the EPO multiple independent claims in the same category can increase prosecution costs.

The next question is 'PCT or not-PCT'? The cost deferral permitted by use of the Patent Cooperation Treaty (PCT) has led many applicants to use PCT as their normal *modus operandi*. This can, however, become a trap for the unwary. Because it is so easy to file a PCT application, there is a tendency to delay foreign filing decisions until the last minute and simply file the same text as a corresponding home country application as the PCT filing. Unfortunately, one is then effectively locked into this text for all countries, without taking account of specific country requirements. Furthermore, under the PCT there is a risk that only the first presented independent claim will be searched without payment of extra fees, so that the order of the claims can be important in obtaining the best value for one's money. If cost deferral is not an issue and if one is confident in the search that has been carried out, it may be cheaper and quicker to proceed with international filing without use of the PCT.

On the other hand, if one lacks confidence in one's own search, the PCT search can be valuable to avoid wasting money on filings that can never result in patents that meet the objective. Use of the PCT requires a decision as to where to have the international search carried out. Applicants from different countries have different options. However, many provide for a search by the EPO and if obtaining a European patent is an objective, having the search carried out by the EPO and obtaining a refund of the EPO's search fee can often be the optimal way to proceed. The value of the PCT search should increase over the next few years as the number of options for a supplementary international search increases.⁵

Avoiding duplication of effort

Every time a different person has to confront the same task, whether in a patent office or the applicant/attorney side, there is a duplication of effort and ultimately an increase in costs.

On the patent office side, a number of steps have been taken which could lower prosecution costs for applicants. These include collaborations between patent offices. At present 'patent prosecution highways' are probably the most interesting. Such 'highways' exist between several pairs of patent offices. An applicant who has an allowed claim from the patent office at one end of the highway may request the patent office at the other end to accelerate the examination of corresponding claims.

On the applicant's side, duplication of effort can be avoided by coordinating prosecution so that a single person having a good grasp of all of the relevant laws can

consider all of the issues while deciding an appropriate overall strategy. What happens in one country may or may not have an impact on what can be accomplished elsewhere because of the differences in laws in different places. Prior art that is highly pertinent in the European Patent Office may be irrelevant in the United States, Australia or Korea because it was a publication of the same inventor that occurred within one year prior to the filing of the application in those countries.

Other ways to avoid duplication of effort occur on the formalities side, for example by having as much of the paperwork done as possible at one time, as when one files declarations under PCT Rule 51bis at the time of filing the PCT request.

Pruning the portfolio

Regular reviews of current and potential values of each granted patent and pending application in a portfolio are desirable for avoiding waste. It should be remembered that patents for the same invention may have different values in different countries. It should also be remembered that in several countries refunds of at least some of the fees may be possible if a case is abandoned before examination has commenced.

The decision tree shown in Figure 2.2.1 may be of help in making determinations on where to maintain any particular patent.

Conclusion

Make sure that one has a clear idea of what is important to start with. Make sure that one has the best possible understanding the relationship of the invention to the prior art before drafting a patent application. Be ruthless about cutting costs if the desired objectives cannot be achieved.

Notes

- 1 Use of a 'provisional type' or other internal-priority application may be useful to delay the expiration of any patent granted but it also inevitably delays the grant of a patent for a year. In some industries this is important.
- 2 There is increasing competition in the market for prior art searching between traditional search firms, Indian entrepreneurs and even the Danish Patent Office.
- 3 For example, if filing in the European Patent Office is desired to make sure that a technical problem is solved; if the invention relates to a pharmaceutical composition and protection in Japan or Korea is desired to make sure that data are available.
- 4 These include: Argentina, Australia, Brazil, China, India, Mexico, New Zealand, the United States and the Andean Community.
- 5 At present a supplementary search is available only from the Russian, Swedish and Nordic searching authorities.

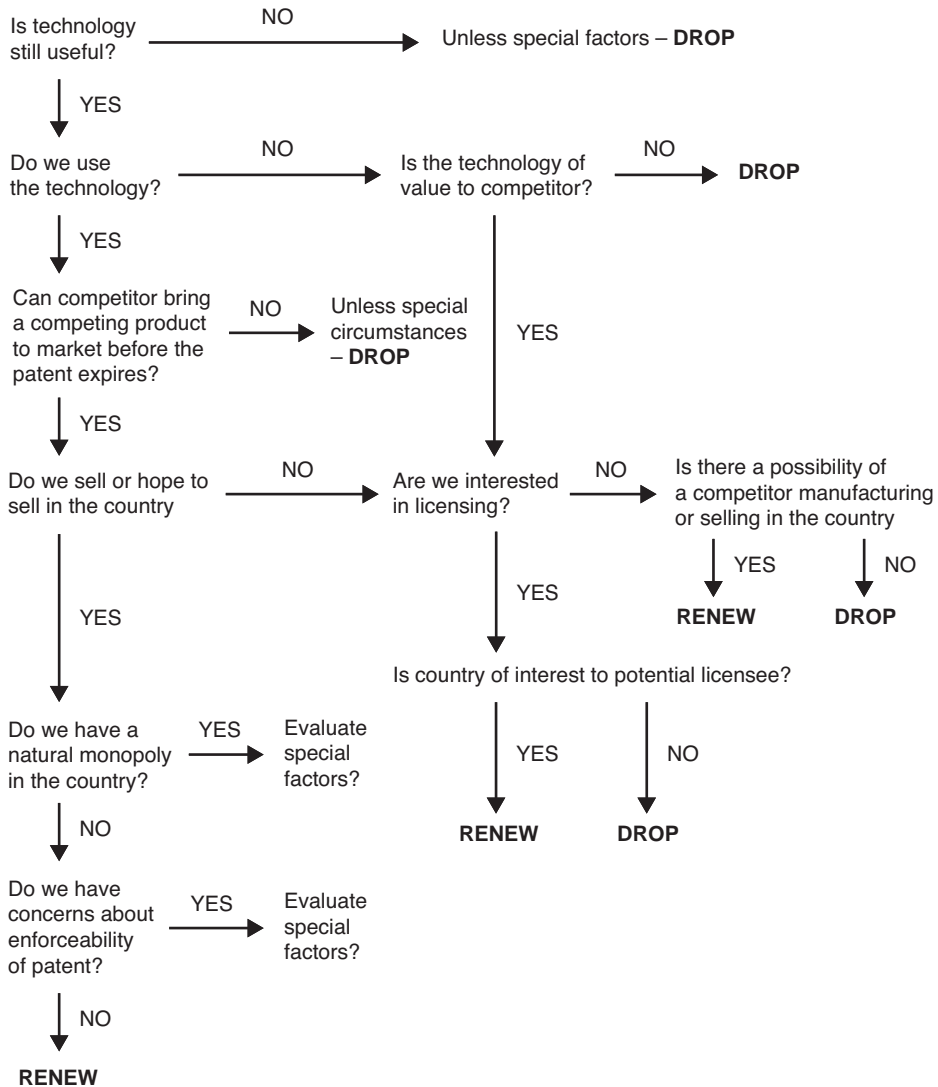


Figure 2.2.1 Patent renewal decision tree for prudent patent

Source: John Richards. © Ladas & Parry LLP 2005

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Registered rights and trade secrets

Martin Nohlen at Uexküll & Stolberg outlines the criteria for striking the right balance between registered IP rights and trade secrets.

Let us assume you are the head of a small or medium-sized European company based, for instance, in Hamburg and you and your team wish to research, develop, produce and distribute an idea in Europe. What are the means to protect your idea, ie your intellectual property (IP)? More specifically, which IP rights should you consider? Should you file applications for registered rights such as patents? Or should you rather keep all your know-how on the idea within your company, ie as a trade secret, providing your customers and competitors only with the ‘extrinsic characteristics’ of your idea, eg the product manufactured at your company or the final commercial version of a computer program?

The answers to these questions will be crucial in dealing with the challenges for your company in creating and maintaining exclusivity in building the invention. The following discussion should help you in finding the right balance between applying for registered IP rights such as patents, utility models, designs or trade marks and keeping your IP secret.

Basic features of trade secrets and patents or other registered IP rights

All businesses have trade secrets. This is hardly surprising, as the following list of examples of what can form a trade secret shows: data compilations such as a list of



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customers; designs, drawings, architectural plans, blueprints and maps; algorithms and processes that are implemented in computer programs, and the programs themselves; manufacturing or repair processes, techniques and know-how; formulas for producing products; business strategies, business plans, marketing plans; financial information; personnel records; schedules; manuals; ingredients; information about research and development activities etc.¹ More generally speaking, any confidential business information which provides a company a competitive edge can be a trade secret.

At first glance, maintaining such information, knowledge and expertise secret seems to be a straightforward and inexpensive route to stay ahead of your competitors. Some companies believe so strongly in this strategy that they make formal statements like: 'The Company relies primarily upon trade secret laws to protect its proprietary rights in its specialized technologies.'²

On the other hand, an old saying goes: 'A secret is something two people can keep if one of them is dead.' As a small or medium-sized enterprise (SME) is normally built on more than two people, most of them hopefully being happily alive, the saying suggests that there is a certain risk that people outside your company get to know your valuable trade secrets. Indeed, in today's times of fluctuating workforces, many trade secrets are prone to leaving the company along with the personnel. Thus, an appropriate policy and practice for protecting trade secrets has to be put in place. In fact, systematic efforts to preserve secrecy are seen as a requirement for the confidential business information to be considered a true trade secret, ie a non-registered form of an IP right, which would enable the company to take legal measures to redress the misappropriation of its trade secrets. The costs associated with the efforts to protect the trade secret can be significant.

Alternatively, filing IP rights with the competent national or international authorities provides a means to protect your ideas against your competitors. A basic advantage of having a registered right is that there is in general no doubt as to the owner of the right. Also, the contents are well defined (in the patent or trade mark specification). This will make it much easier to enforce the registered right against competitors.

Also, the publication of the patent and even of the patent application may be used in marketing and advertising strategies. Public disclosures by others of the subject of the patent after its filing do not destroy the right, as would be the case for a trade secret. On the other hand, in return for the monopoly provided by the respective right, eg 20–25 years in the case of a patent, your idea, or at least a significant part of it, will be in the public domain.

The costs for obtaining patent protection may be significant. On the other hand, in tough commercial times like the present ones, the selling of patents or other registered IP rights of well-defined content may provide a route to raise enough money to stay in business (as long as a sufficient amount of IP remains with the company in order to avoid a sell-out situation).³ At the same time, solutions such as patent leasing are being developed to lessen the cost burden associated with the filing and granting of, in particular, patents.⁴

Which ideas can be subject to registered protection?

When you consider protecting an idea by means of registered IP rights, a **first main criterion** to be considered is whether your idea can in principle be the subject of such a right. For example, patent law requires that your idea, ie the invention, must have a technical character, be new and ‘inventive’ to qualify for protection. Table 2.3.1 provides a brief overview.

Thus, some ideas will simply not qualify for protection by a registered right because they do not fulfil the criteria required by the relevant law. If that applies to your idea, the decision seems to be a simple one: keep the know-how as a trade secret. However, this does not mean that there is no useful registered IP right at all. A trade mark used in a suitable marketing and advertising strategy may help to focus your consumers’ or business partners’ attention on your company and the quality of your idea in whatever type of product it may result.

Product or method – further criteria for striking a balance

Other criteria are more closely related to the specific features of the ‘product’ resulting from your idea:

- Does your idea result in a real **product** such as a new machine, fabric, material, tool etc?
- If it results in a product, what is the expected **commercial life**? Will it endure only a couple of years or even months? Or will the product run for 5, 10, 15 years or even longer, such as 20 years, ie the term of a patent?

Table 2.3.1 Can your idea be registered?

<i>Type of idea</i>	<i>IP right</i>	<i>Registered at the patent office¹</i>
Technical invention, eg a new chemical compound or a new electronic device	Patent, Utility model (Trade mark, Design)	yes yes yes
Software for computers, artistic or library works, rules for games	Copyright Trade mark, Design	no yes yes
Know-how (technical or non-technical)	Trade secret (Trade mark, Design)	no yes
Business methods or other methods for performing mental acts w/o technical character	Trade secret (Trade mark, Design)	no yes

¹ Depending on the type of IP right, the authority keeping the register may be a national or international office responsible for patents and/or trade marks and related IP rights.

- Or does your idea result in a **process** such as a new and perhaps more cost-effective manufacturing process for a product which *per se* is already known?
- If it results in a process, is it a **process of manufacturing** some material product or a **process of 'working'** exercising other types of activity such as a new method for cleaning surfaces or for measuring a certain physical parameter such as the concentration of certain pollutants in waste water?

The answer to each of the above questions has a strong impact on selecting the appropriate right whether registered or not. The following checklist provides guidance in this respect:

- Once it enters the marketplace a **product** can be inspected and analysed by your competitors in an attempt to 'reverse engineer' it. Having regard to the power of today's analytical tools, basically any composition of matter or device runs the risk of being reverse engineered. Thus, in such a case, the filing of a patent or utility model is 'first choice'.
- The grant procedure of a patent may take two to five years. In case the **commercial life** is shorter than that period, attaining patent protection may not pay off. In such a case, the filing of a utility model (available as a registered right, eg in Germany and registered without time-consuming substantive examination but having a maximum term of 10 years 'only') may be an appropriate alternative. However, if the product cycle is even shorter, then you may only want to rely on trade secrets.
- If your company's ideas centre around **process technology**, keeping this know-how as a trade secret may make sense since the protection provided by a process patent largely relates to the process as such. Thus, if one of your competitors uses your process within the premises of its company, infringement might be difficult to prove.
- However, if the process is a **manufacturing process** and the direct product of the process has characteristics which allow one to correlate it with the specific process used for making it (eg due to a characteristic impurity present in a chemical product), the situation regarding proof of infringement changes and the filing of a patent again becomes attractive. Furthermore, owing to recent improvements and harmonization in European law on the enforcement of IP rights, obtaining evidence from your competitors' premises will become easier in the future.⁵

Case study

Let us consider as an example for weighing the above criteria an invention relating to a process for applying a coating on the surfaces of devices for use in a chemical laboratory to handle and process certain liquids. The size and shape of the devices vary largely. The coating should protect the surfaces of the devices against any detrimental effects arising from contact with the liquids. The coating is characterized by a

specific (new and inventive) composition. Furthermore, the process for applying the coating is based on a technology which as such is known. However, the process is characterized by a fairly complicated set of parameters for adjusting the conditions during the coating. The parameters very much depend on the precise size and shape of the device. It requires a lot of experience to provide suitable parameters. Once the coating is applied, it is possible to analyse it to learn of the various ingredients. However, no conclusions can be drawn from that analysis on the details of the process used for making it.

Having regard to the analysability of the coating, a patent is a must to protect the inventive nature of the composition. On the other hand, the know-how in relation to the details of the process may better be kept as a trade secret as the level of detail required to describe the process appropriately would convey a large amount of the know-how to the public. Furthermore, the details of the process (which as such was known) may not be sufficiently distinct from what was known before to be patentable.⁶

Conclusion

Developing the best IP strategy for protecting your ideas is a significant challenge. To put it very briefly: whenever the result of the idea developed at your company is a material product, then a patent (or perhaps a utility model) is first choice. Process-related ideas, in particular those not resulting in a material product, may sometimes be better protected by keeping them as a trade secret. This also applies to those aspects of your idea that do not meet the legal criteria for registered IP rights. However, often a combination of the two basic types of IP rights will be the best way for your company to create and maintain your exclusivity in building an invention.

Notes

- 1 *WIPO Magazine*, April 2002, Trade secrets are gold nuggets: protect them.
- 2 *WIPO Magazine*, April 2002, loc. cit.
- 3 *IP marketing eNews*, 20 January 2009, Some start-ups selling patents to survive.
- 4 Patent-leasing – Schlummernde Werte wecken, http://www.ipb-ag.com/pdf/0901_ErfinderVisionen.pdf.
- 5 Directive 2004/48/EC of 29 April 2004 on the enforcement of intellectual property rights.
- 6 At the same time, one has to be aware to provide sufficient information in the patent application on the composition to enable a person of skill in the art to repeat the invention, ie to apply the composition to a device. However, a further discussion of this aspect would be beyond the scope of this chapter.

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Broad or narrow

Peter Indahl of Awapatent compares the two paths that a patent can follow.

Some patents are fundamental patents protecting innovations that break completely new ground and open up fresh business areas, whereas other patents just cover improvements to existing products or methods.

The patents for innovations improving on existing technology are by far the largest in number, and it is fair to say that they typically have a quite specific and narrow scope of protection. One could ask why companies are so willing to invest in these patents when they provide such very specific protection. Why not simply take out fewer patents of wider scope of protection? Answers to this question, and pointers to how patents may support your future business position, are given in the following.

The emerging company

Applied science spin-offs from universities are a typical source of innovation that generate fundamental patents having a wide scope. A spin-off may result in the formation of a new company in a science park located near the university. Typically, this new company has no products on the market – so they do not work with improvements to existing products. Their focus is closer to science and to more general technical principles.

When innovation is directed at technical principles it is possible to obtain patents having a wide scope of protection. This is because the technical principle may be applied to practical solutions in various, very different products.

The new company may aim at getting a specific new product on the market, but when we speak of protecting their innovation it is important to think broadly and also file for broad patent protection.

Broad patent protection will typically cover product areas other than the actually planned future product area for the company. It may consequently be an advantage to define the patent protection in a manner that makes it easier to make licence agreements on the innovation in the other product areas, or makes it possible to sell a part of the patent protection to another company and in this manner increase the financial power of the emerging company.

This calls for careful consideration of how the scope of the patent protection is defined. The definition of the scope of protection is done in the patent claims, and it is possible to include several different definitions of the protection in a single patent application, or to make several different definitions of the scope in several patent applications filed on the same day.

In Europe, the trend is currently going in the direction of obtaining protection in several patent applications instead of in a single application. The reason for this is to be found in how the European Patent Office (EPO) handles the filed patent applications. In recent years the EPO has shifted towards a more negative evaluation of patent applications having several independent patent claims in the same category. And presently the EPO is also contemplating restricting the possibilities for filing divisional applications.

A broad type of patent may consequently be seen as:

- a single patent with a single independent patent claim of broad scope;
- a single patent with several independent claims, defining together a protection of broad scope; or
- several patents filed on the same day and defining together a protection of broad scope.

At the time of filing the applicant can choose between these possibilities for definition of the scope of protection based on the innovation.

The established company

The narrower type of patents on innovation relating to improvements is typically coming from established companies with years of market presence. This type of patent is described in more detail below, but before doing so, it is important to note that basic innovation is also done in established companies, but they sometimes miss filing broad patents on completely new technology in time. It is difficult to explain why this may happen. Perhaps a daily focus on detailed solutions may cause broad concepts to look more diffuse, or broad concepts may be perceived as ‘hot air’ not worth protecting. Or perhaps the marketing people in the established company have a tendency to publish a broad concept before it has been evaluated for patenting purposes.

In any event, when the established company actually files for broad patent protection, it is often in a better position to exploit the innovation than the emerging company. The financial power of the established company may support the initial phases leading up to the real exploitation.

When innovation in the established company is directed at improving the products or production methods, the resulting patent protection is often a patent of narrow type where the scope of protection is directed to the actual product or production method. Such a patent can be very valuable because it protects a product on the market. A competitor cannot – without infringing the patent – make a similar product with the protected detail.

With knowledge of the market and which features have value to customers, it is possible to protect exactly the details that result in a sale of the product to the customer. Patent protection on a very specific detail in a product can thus control the sales of the product and keep competitors at a distance, even though the patent protection is narrow in scope.

And with in-depth knowledge of technical problems in relation to the production method or the product, it is also possible to protect the crucial technical features with well-defined, narrow patents.

It is really only the established company that can choose the right details of significant value, as this requires considerable knowledge of the market, the production, and the product.

The force of the narrow patent

The narrow patent has an inherent force, which is a direct consequence of the detailed definition of the scope in the patent claim. Because of the details, the patent is very likely difficult to kill.

If a competitor enforces a patent against you, and the only escape route is to kill the patent, then it is necessary to document that all details in the patent claim were well-known prior art, or were a result of a straightforward (obvious) combination of prior art. The more specific and narrow the patent claim, the more difficult it is to show that it was known in the prior art.

A narrow patent is thus a potent weapon against competitors when they infringe the patent. An infringed narrow patent is typically much less expensive to enforce than a broad patent.

The costs of securing the patent

A narrow patent is typically cheaper to obtain than a broad patent. When the application for a narrow patent is well drafted, examination in the patent office is easier because the prior art is not so relevant. The narrow scope makes it easier to verify that the invention merits patent protection when compared to the prior art.

A well-drafted broad patent, on the other hand, is more difficult to examine. The difficulties of the patent office may be caused mainly by two different reasons. If the broad patent is in a virgin technical area, then there is very little prior art, and the examiner may tend to be reluctant to grant a patent with the broad scope of protection because they are on an insecure footing. If the broad patent is in a more mature technical field there will be a lot of prior art, and it will simply require more detailed work and argumentation to obtain a patent.

The fencing policy

With products on the market there is a constant drive to improve them. Customers ask for novelties and the company invests in developments in order to be ahead of competitors. All this mounts up to product changes, and to a number of improvements that can be patented.

When investment is made in product research and development, it makes sense to protect the investment with patents. As patents are taken out on the improvements, the company comes to own a lot of patents with narrow scope of protection, and perhaps some patents of broad scope.

The investment in development is an ongoing process, and so is the establishment of patent rights. Over time, the company may obtain a multitude of patents that sit as needles on the chart of products, pinpointing all the patented improvements of value. These needles create a fence against competitors within and around the products on the market.

The philosophy of this fencing thinking is that, should a competitor make a copy of the product, or should it imitate the product, then not one, but many patents can be activated against it.

Although the scope of protection of the individual patent may be narrow, a multitude of patents has the effect of keeping competitors out of the relevant market. They cannot design a product of market value that will not infringe one or other of the patents.

For the established company with a role in the market, the constant establishing of patents with narrow scope based on the continued developments and investments in improvements ensures that the patent filings are spread out over time so that a sufficient number of patents will always remain in force.

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In January 2009 IPB merged with Awapatent to form one of the largest IP firms in Europe. Awapatent can call upon the resources of 350 members of staff in several European countries. They focus 100 per cent on creating business opportunities for their clients. And – like their clients themselves – they are active in the global market.

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Cost-efficient patent strategy

Nikolai Bisgaard at GN ReSound on how to file effectively.

As the general economic climate is cooling down there will inevitably be increased pressure on management to exercise tight control of corporate resources. This trend will of course also affect IP managers. Expenditure for patent filings will be questioned and filing strategies scrutinized to see if quick cost reductions can be reached. The task at hand for the IP manager is to do so without sacrificing the long-term objective of securing strong patent positions to strengthen the competitiveness of the company.

The role of patents and their relative importance varies considerably between industries, but nevertheless it seems as if there are several basic techniques that can be used to maximize the outcome of your efforts. At GN ReSound we believe that patents are important to protect our competitive product features and proprietary developments. The value of our products is carried by the sum of innovative steps and product improvements over many years and is hence not relying on a singular technology protected by a few patents.

All new developments that are identified as patent opportunities are analysed by our internal staff of patent professionals who conduct comprehensive prior art searching to get a proper view of the possible scope of protection. If the conclusion is that only a very narrow scope of protection can be reached we often decide against filing a patent, the rationale behind the decision being that although we do get a proprietary right for a particular solution there seem to be obvious and equally good alternatives available.

When we decide to file for a patent we ask the inventor to provide an in-depth report on the invention to serve as a brief for our patent agent who then drafts the application. Our in-house people interact with the patent agent throughout the drafting process, with particular attention to the

claims. From our years of industry experience we have built a strong sense of what it takes to make patent claims clear and unambiguous. We think that concise claim language is a key element for a successful deterrence effect and later a possible assertion of your patents and we spend considerable effort to achieve this target.

Our industry is dominated by truly international players and few if any products are developed for a single market. We therefore have adopted a cost-optimized filing strategy where we cover the 80 per cent or more of the world market from a value perspective plus select countries where major competitors are located.

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Filing for speed

Lars de Haas at Vereenigde considers the options for beating the delay in reaching the market.

Under normal circumstances there is a considerable delay between application for a patent and the date at which the patent is granted. In Europe, a four-year delay before grant is quite normal and in some fields of technology average delays are even longer.

This may present a problem for patentees that have an interest in keeping competitors with infringing products off the market. Such competitors cannot be forced to stop before the patent is granted. The competitors may become liable to pay a reasonable royalty for use of the invention before grant, but in many countries further damages cannot be recovered.

Fortunately, there are several ways in which the grant of the patent can be speeded up in order to act more quickly against infringing products. The European Patent Office (EPO) has a special programme (PACE) to avoid unnecessary delays on its side when patent applicants request this. Under ideal circumstances this can reduce the delay to less than two years before a patent is granted. Another option is to request patents directly from national authorities in different European countries, bypassing the EPO. In some countries this can reduce the delay to less than one year and in some cases to less than half a year.

The European PACE programme

Only about 5 per cent of patent applicants request processing under the PACE programme. Most patent applicants are not interested in speeding up the grant of a

patent. To them, delays may be advantageous in terms of delayed costs and delay before they become finally committed to a specific scope of patent protection. Or applicants might request extensions to cause uncertainty among their competitors. Such delays leave room for faster processing for those who want it.

The PACE programme provides for higher-priority treatment for those patent applicants that have requested faster processing. Effectively, the EPO sets itself time limits of a few months for taking actions with respect to patent applications under the PACE programme, where similar actions for other patent applications are taken more or less on a first-in, first-out basis.

In order to obtain maximum speed, the patent applicant should also take special care on their side. Obviously, any unnecessary delay in responses to the EPO should be avoided, as it translates into delays in the grant of the patent.

Moreover, where possible, the number of communications from the EPO should be kept to a minimum. As far as speed is concerned, the best way is to respond quickly to the 'extended European search report'. The EPO issues this report normally within one year of filing the patent application and it should indicate all problems to be overcome, if the patent examiner has done their work correctly.

With such precautions the patent can be ready for grant about one and a half years after filing. The EPO will be reluctant to grant a patent earlier because some relevant publications about the state of the art before the application date may become available over that period.

Bypassing the EPO

Some countries, like the Netherlands, offer the opportunity of getting a patent even faster, within a year after filing the patent application. The Netherlands has a so-called registration system wherein the patent office automatically grants patents, without having the power to refuse. Validity of the patent is decided afterwards by the court, if it is questioned by a party such as an infringer.

The patent applicant has the option of asking for expedited grant, even though all relevant publications about the state of the art may not yet be available. This makes it possible to get a patent sooner than via the EPO. This is all the more so because only the patent applicant is responsible for the text of the patent application. The patent office cannot delay grant of the patent by requiring the patent applicant to address disputable material objections.

A grant of patent is possible once the patent office has made a search of the state of the art that is available. In practice this search is usually performed for Dutch patent applications by the EPO and it includes a written opinion about defects that may need to be redressed, as in the case of the extended European search report. The patent applicant is free to choose whether and how to respond to this.

When precautions are taken to ensure speed, the search can be available within six months after filing the patent application. In any case, the patent office aims to

ensure that the search is available within one year. As a result, a patent can be obtained within a year if necessary.

Pros and cons

Bypassing the EPO has the additional advantage that it can speed up court proceedings after the patent is granted. In the case of a European patent, competitors can start so-called opposition proceedings at the EPO. In many countries the courts have the option to suspend proceedings while such an opposition is pending. This could add years of additional delay. When the EPO is bypassed, this delay can be largely avoided.

However, it should be kept in mind that fast grant of a patent is not always the best option. Fast grant may come at the price of reduced or even inoperative patent protection. The patentee may be forced to accept a patent with a more limited scope of protection than strictly needed, in order to avoid lengthy discussions delaying the patent. Speed can compromise the validity of the patent by taking away opportunities to consider all relevant publications about the state of the art before the patent application. Speed may also take away the opportunity to redress a lack of foresight using the benefit of later market developments.

In fact, keeping a patent application pending may be advantageous. It delays the increased costs involved in registering and maintaining patents in many European countries. Furthermore, the mere possibility of an imminent patent with as yet uncertain scope of protection may be at least as effective as a patent to scare off competitors.

If necessary, some advantages of delays and fast grant can be combined by filing multiple patent applications in parallel and using some of the patent applications for the fast grant of a patent and others for a more careful procedure. However, this can raise costs considerably and increase the complexity of patent proceedings.

Often, it will be better to speed up the grant of the patent only once the patentee becomes aware of infringement. In this respect the PACE programme is preferable, because it allows the patentee to request faster processing at any time.

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A RENEWED INTEREST IN BELGIAN PATENTS?

Patents are priceless tools for the protection of innovations developed by technology companies. Several possibilities are open to companies wishing to protect their technical creations:

- Apply for a Belgian patent.
- Apply for a European patent.
- File an international patent application.

The strategy will be determined by the desired geographical extent of the protection as well as the budget foreseen as necessary.

Since the introduction of European patents in 1978, the number of applications for a Belgian patent has drastically decreased. In 1976, 12,500 Belgian patents were granted. By 1996, the number had fallen to 1,182. In 2007, only 519 patents were delivered in Belgium, whereas in the same year, 1,900 Belgian applicants filed a European patent application.

However, new clauses have made the filing of first patent applications very attractive in Belgium.

Fiscal advantage

The 27 April 2007 Act, providing the framework for the government's programme (called *loi-programme* in French, here referred to as 'programme law'), foresees a 'deduction for patent income', given that the patent is effectively granted (other conditions have also been defined for this deduction but we do not have space to develop this in this chapter). When a patent application is filed at European level, the period between the application filing and the grant may take several years (typically three to five). In this case, deductibility for patent income will only be applicable after a long waiting period.

On the other hand, one of the specificities of Belgian patent law is that patents are automatically granted 18 months after the application has been filed and this without any prior patentability examination. In other words, even an invention having an uncertain patentability will lead to a grant. It could, however, be nullified by a third party by means of a nullity suit in court. However, such action can take years and the programme law says nothing about the deductions made prior to nullification. This shows the true interest in filing Belgian patent applications.

You invent... we protect

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It is worth noting that the period of 18 months may even be reduced if the applicant requests an accelerated grant.

Cost advantage

In order to obtain a Belgian patent, a search fee has to be paid. The amount of this fee has been reduced, from €887 to €300 since 1 January 2008, whereas the corresponding fee for a European patent application is €1,000.

Moreover, for Belgian patent applications which have been filed since 1 January 2007, the search report contains a written opinion on patentability. This written opinion enables the applicant to evaluate the chances of obtaining a patent elsewhere than in Belgium and, therefore, define the strategy to extend it.

Conclusion

The patent strategy which we recommend is as follows:

- File a first Belgian patent application. The application may be drafted in French, Dutch or German. The search report will come with a written opinion, both established by the European Patent Office.
- Make sure to respect the other conditions of the 27 April 2007 programme law concerning the deduction for patent income.
- If a patent income is expected before the normal grant date, request an accelerated patent grant.

Patent prosecutions are technically, legally, fiscally and procedurally complex. The present note does not aim to replace the counsel of a patent attorney. Only a patent attorney can best advise you in the light of the features of your case.

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IP for SME inventors

Gianfranco Dragotti at Dragotti Associati gives an Italian perspective on how an SME should build and distribute its own invention.

Before dealing with the above very specific question, some words are necessary about the nature of most Italian companies.

According to information from the Italian Association of Industries (Confindustria), more than 95 per cent of Italian industries belong to the small and medium-sized companies (SME) category: this fact means that most of the criteria internationally accepted and adopted for the strategy in the intellectual property (IP) field are not applicable as such because some specific factors must be taken into consideration.

First, it is quite unusual for the company to have an internal legal or IP department.¹ Consequently, the policy and strategy for dealing with IP matters and with the exploitation of IP instruments for the protection of innovation and research results are dealt with either by the owners or management or by the technical staff primarily dealing with the company's research and development (R&D) activities. In turn, these people rely in most cases on the advice of external IP consultants, primarily from law firms specializing in IP matters.

The question of costs (regardless of the present economic downturn) is not only important, but becomes the determining factor unless the decision maker believes that IP is an important asset of the company; in other words, in most cases the costs related to applying for, obtaining and maintaining IP rights are viewed as a necessary evil, and not as a promising investment for future income.

These two facts often prevent the exploitation of a rational and long-term policy.

A third non-negligible factor, strictly connected to the first, is that these companies rarely contemplate the possibility for exploiting their IP rights through a policy of

turning innovation into competitive advantage.



**Dragotti
& Associati**

international
IP attorneys

granting licences or selling patent rights, despite the fact that these options should always be considered.

These factors strongly affect the IP policy of most Italian companies; however, let us go through the several steps which should be taken by an Italian company which has come up with an innovation.

In order to put the owner or management in the best position for deciding upon and taking the necessary measures to get IP protection, they need information from several sources, both internal and external:

- a) The R&D department together with the production department should provide a thorough description of the advantages to be gained from the innovation and whether they affect products *per se* or manufacturing processes.
- b) The marketing department should provide a rough estimate of the foreseeable market and of the countries involved, together with the likely impact of the innovation.
- c) The IP or legal department (if any) or the external IP consultant should evaluate the protection that might be requested and its enforceability against likely competitors, as well as a rough estimate of the costs for the initial filing of relevant applications.

Optimistic reports coming from the three investigations described above should be treated with caution.

For instance, it is usual for inventors to so fall in love with their inventions that they can no longer objectively appreciate the limits of exploitation and the real advantages that might be obtained from an industrial point of view. For this reason the opinion of the production department should be sought.

The marketing department's input is of the outmost importance because it permits not only the proper evaluation of likely markets but also the identification of competitors that might be interested in the invention and consequently their countries of origin and those of commercial interest.

The opinion and advice of the IP consultant are obviously important in order to evaluate whether any IP rights obtained will prevent competitors from infringement and open the way to a licensing policy.

Of course, in some cases information from other sources will be necessary. For instance, in the case of pharmaceuticals, information about regulatory matters in the countries of interest will be of the utmost importance with regard to exploitation.

On the basis of the above information, the owner or management must decide whether the minimum conditions exist to apply for IP rights. This decision must also indicate the specific IP rights to be sought and the related policy.

If the innovation relates to design matters (frequently the case in Italy), it might be sensible to take advantage of the European Commission (EC) law relating to registered and unregistered designs. It might also be a good idea to organize public presentation of the design(s) (for instance, taking advantage of the opportunities provided by an exhibition) and then testing the reaction of the markets: if it is positive or at least promising then it is worth filing an application for a Community Design Registration covering all EC countries.

However, the national laws in countries outside the EC should also be considered, if such countries are of interest; in this case, either a national application or an international design application (to be filed with the World Intellectual Property Organization (WIPO)) is the way forward. Particular attention should be paid to countries where infringing products are likely to originate, and to the possibilities afforded by the national legislation to stop such infringement.

Today, products infringing design ownership are mostly produced in China, so protection in that country should be recommended; also, Chinese courts seem more open to acknowledging the IP rights of foreigners and enforcing them against domestic infringers.

If the innovation relates to production then obtaining a patent is the correct way to proceed, bearing in mind some preliminary cautions. It is undeniably the case that the patentability of any innovation depends on fulfilling the essential requisites of novelty and invention in comparison with the state of the art.

Apart from a few exceptions (such as the chemical and pharmaceutical industries in which researchers are normally acquainted with the most relevant prior art), inventors normally know only the prior art that has been or is available on the market and possibly seen at exhibitions.

For these reasons, until 2008 the recommended approach was first to file a European or Patent Cooperation Treaty (PCT) application, in order to get a search report and an opinion on patentability; on the basis of this search report it was possible to evaluate the probabilities of getting patent protection and the possibilities of prosecution in the countries of interest. In this way the initial expenses were kept as low as possible but valuable information was obtained.

Since July 2008, as separately explained, by filing an Italian application² the same result can be obtained at a much lower cost and consequently decisions regarding the scope and extent of the protection sought can be taken more affordably.

Meanwhile, research on the innovation can continue, possibly studying conversion from laboratory scale to a semi-industrial or pilot one. It is of the outmost importance that the technical information given in the initial patent application is carefully compared with the latest technical information in order to avoid the eventual patent being defective or different from the real product.

If, however, the search report is negative and the possibilities of getting a valuable protection null or at least very poor, the possibility of converting the initial patent application into one affording protection as a utility model in countries in which such a possibility exists should be considered, in order to get protection for the product as it stands for a reduced number of years.

The prosecution of patent applications (regional or national) mainly takes place through the cooperation of the IP consultant and the company's technical people dealing with the invention and the related product. However, the marketing department should also be consulted, in order to get periodic information about market developments and competitors' products, because sometimes pending applications can be prosecuted so as to cover competitors' products also.

Of course, management should be periodically informed of the steps being taken and of their possible consequences.

The granting of patents leads to the next phase of management of IP rights. First, measures must be taken to monitor any infringement by competitors; for this, the best channel is the commercial organization of the company.

However, in order to exploit this channel in a rational and successful way it is important to inform the monitors of the scope and extent of the IP rights: otherwise a lot of wrong information may be received, involving a great deal of time and work in checking its reliability and whether a real infringement situation exists.

Second, taking into account the real industrial capability of the company, the possibility should be explored of granting licences (or even assigning the IP rights) for countries which cannot be adequately covered by the company's own exploitation of the innovation. Again, the best channel seems to be the commercial and marketing organization of the company, in order to establish initial contacts, but care should be taken to submit properly drawn licensing deeds in order to avoid future problems.

Last, provided that each innovation has, so to speak, a biological life (apart from few exceptions), control should be exerted over the ratio between the costs involved in maintaining the IP rights and their remaining usefulness. Sometimes this aspect is completely neglected and unnecessary expenses are incurred.

As a final consideration, management should be aware that each innovation opens the door to further improvements. This possibility should be carefully considered by the R&D department, with possible improvements being 'kept in the drawer' while the main innovation is still useful and providing an economic advantage for the company.

Notes

- 1 As a matter of fact, in the Italian Bar of patent and trade mark attorneys only about 10 per cent are employed as in-house counsel for industry, with the remaining 90 per cent consisting of professionals working in private practice.
- 2 There is no provision limiting this possibility to Italian applicants, provided that it is a first application or an application not claiming any foreign priority.

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Amendments in Europe and the United States

Attitudes differ if you try to broaden your claim after filing, reports Annelise Holme.

A patent is an exclusive right granted to an inventor or their assignee for a fixed period of time in exchange for a disclosure of the invention. The procedure for granting patents, the requirements placed on the patentee and the extent of the exclusive rights vary widely between countries according to national laws and international agreements.

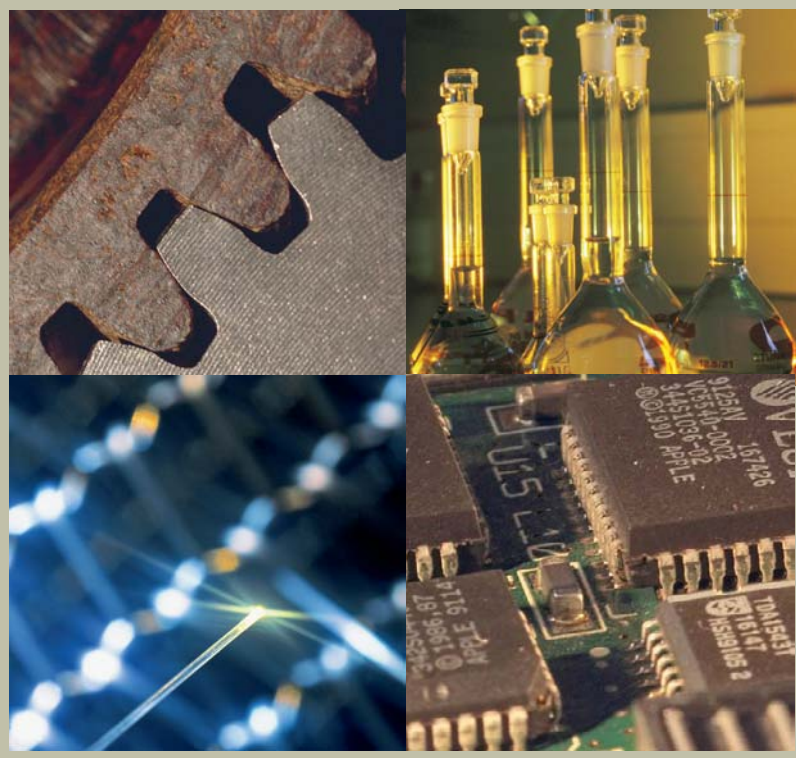
It is an ever-present requirement in international patent practice that amendments to a patent or patent application should not add subject-matter that extends beyond the content of the application as filed.

The underlying idea of prohibiting added subject-matter is that an applicant or patentee should not be allowed to improve this position by adding subject-matter not disclosed in the application as filed, which would give the patentee an unwarranted advantage and could be damaging to the legal security of third parties relying on the content of the original application or the granted patent.

However, the circumstances in which the various jurisdictions find the same amendment allowable differ. In the following, some of the differences between the practice in the United States and before the European Patent Office (EPO) are discussed.

Legal provisions

The legal provisions in the European Patent Convention are disclosed in Art. 123 EPC stating that *'A European patent application or a European patent may not be amended in such a way that it contains*



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subject-matter which extends beyond the content of the application as filed'. After grant, it is a ground of opposition (under Art. 100(c) EPC) or revocation (under Art. 138(1)(c) EPC) of a granted European patent if *'the subject-matter of the European patent extends beyond the content of the application as filed'*.

A similar provision is found in US patent law under 35 U.S.C. 132(a), 'No amendment shall introduce new matter into the disclosure of the invention' and 35 U.S.C. 112, first paragraph stating that 'the specification shall contain a *written description* of the invention', specifying that an applicant must include in the application a specification adequately disclosing the invention and how to make and use it.

Amendments

Amendments are normally made during the examination phase, where the applicant attempts to overcome cited prior art and accidentally makes an amendment which can be regarded as extending beyond the content of the application as filed, or where the applicant, after filing a patent application, develops or encounters further embodiments of their invention which fall outside the original disclosure, because of a limitation which (with hindsight) is unnecessary and they will accordingly wish to broaden their disclosure and claims.

The question of what constitutes new matter may sometimes be difficult to resolve. After all, an applicant may rely on every part of the application as originally filed for support for a claim amendment. Additionally, an applicant is entitled to rely on any inherent or implied teachings of the specification, drawing(s) and claims, in addition to the express teachings. Still further, because there is no *in haec verba* requirement, an applicant is not constrained to the terminology used in the application as filed.

Thus, the issue in respect of amendments is whether the original application's specification provides adequate support for the claims that were amended or added later.

In Europe, this means that the requirement of prohibiting added subject-matter (Art. 123 EPC) is interpreted very strictly, which reduces the possibility of a granted patent having significantly different or broader scope than the patent application as published. Claim broadening, in particular, is subject to particularly careful examination under European practice.

In the United States an amendment must be adequately disclosed in the original specification, otherwise the written description requirement of 35 U.S.C. 112 is not met. Even though the original specification may meet the enablement and best mode requirements of section 112, the written description requirement can bar subsequently amended or added claims.

Generalization amendments

One of the differences between US and EPO practice encountered on a daily basis is amendments constituting generalization of one or more specific terms or embodiments. Where the EPO only allows a more general definition of a term if it is clear *beyond any doubt* for a skilled reader from the application documents as filed that the amendment have basis in said application, the United States Patent and Trademark Office (USPTO) allows generalizations if the originally filed application *reasonably conveys* to a skilled reader that the applicant had possession of the subject-matter later claimed. The difference may seem insignificant but in practice it is an extensive problem.

As a simple example, the EPO refused a replacement of the original term ‘diesel engine’ by the term ‘combustion engine’. The reasoning for said decision was that in the application as filed, the treatment of exhaust gas was always related to a diesel engine, and the application gave no basis that said treatment was suitable for any other type of combustion engine. Extending the protections of the patent to all kinds of combustions engine would therefore include embodiments not disclosed in the original applications, and thereby give the applicant an unwarranted advantage, and would be damaging to the legal security of third parties relying on the content of the original application (see T 653/03 for further details).

Based on experience from similar cases, it is in my opinion likely that if the same situation had arisen in a US application the USPTO would have allowed the amendment. The reasoning being that the person skilled in the art would understand that it was unimportant which kind of combustion engine is used as the claimed technology easily could be extended to other kinds of combustion engine. It would therefore be an undue restriction to limit the claim to diesel engines only.

Thus, where the EPO would refuse to allow undisclosed equivalents to be added to the application, eg by using a wider technical term than originally disclosed or by combining different features from different embodiments, case law from the US courts show that they allow generalized claims added after the original filing of a patent application where the new claim is for broader or different subject-matter than that claimed or disclosed in the specification.

These differences in US and EPO practice often result in discussion of whether or not a required amendment is allowable.

For instance, if the applicant or proprietor needs to limit the scope of protection to one or more specific embodiments in view of the prior art, and the only basis for the limiting technical feature(s) is described for a specific embodiment, an amendment which has been allowed in a corresponding US

application is not automatically allowable for the EPO corresponding application.

One of the reasons for this is that most EPO applications originating from US applications have a very short general description and an extensive detailed description, ie the description of the specific embodiments shown in the drawings. Consequently, if the relevant technical feature(s) is added to a claim which also comprises technical features not present in the specific embodiment, this could result in embodiments not disclosed in the application as filed.

Furthermore, since it is not allowable to amend a claim by introducing a technical feature taken in isolation from the description of a specific embodiment (see T 284/94 for further details), the applicant will often have to incorporate additional technical features in the claim. Thus, if the only basis for the amendment is in the detailed description, this could result in a more limited scope of protection than if the basis had been in the general description. In extreme cases the consequence could be that the EPO patent is limited to only one specific embodiment, which often makes the patent unenforceable in respect of an infringer.

In this respect it is important to remember that even though relevant case law is helpful in determining when an amendment is allowable, the final evaluation is a factual one made by the patent offices and courts on a case-by-case basis.

Conclusion

As is evident from the above, the EPO and the US courts evaluate generalization amendments differently, and it is therefore advisable when drafting a new application to remember that a number of restrictions for amendments exist before the EPO, and that most of these restrictions can be met if the application is drafted accordingly.

Finally, it is significant that many countries evaluate added subject-matter the same way as the EPO and it will therefore be interesting to observe if the freedom available to patentees in the United States can withstand the drives toward harmonization, or whether the rarely invoked 'new matter' or disclosure of the invention objections in the United States is due for reinterpretation.

Holme Patent A/S is a leading firm of European patent attorneys providing extensive services in the field of intellectual property rights. Annelise Holme, who is partner at Holme Patent A/S, is a European patent attorney and MSc Chemical Engineering. For further details or questions please contact ah@holmepatent.dk or visit www.holmepatent.dk.

NBPR Finland

Customer orientation yields results



For decades, the National Board of Patents and Registration of Finland (NBPR) has strived to highlight the importance of innovation policies for both companies' finances and the state economy. In Finland, intellectual property holds a strong position, supported by numerous statistics and best demonstrated by our economic success.

As the NBPR is a central player in the Finnish innovation strategy, we constantly look for ways to improve the competitiveness of our country's industry and researchers. Different forms of protection are becoming increasingly vital, because in this time of globalisation, the whole world is our marketplace. This is why intellectual property will gain even more significance in the future.

The NBPR is creating a new, innovative operational environment for the promotion of intellectual property rights. We have learned

how best to respond to our clients' needs. Our processing times have shortened considerably; our counselling services are more effective; and the productivity of work in our office has risen significantly. Electronic services have opened up new prospects for client service. At the moment, for example, electronic processing covers more than 85% of PCT applications. Customer orientation is the hallmark of our work.

Our customers are satisfied, as our feedback shows: they have confidence in us and our competence in international matters. They have learned to employ different practices and options for protection in their lines of business in the global market. Intellectual property rights are a key success factor in today's open innovation environment.

In the future, competence and innovation will gain a more prominent role throughout the world.

The NBPR will live up to the challenges of our time and improve its operations to become more flexible, transparent and effective. Thereby, through our own action, we will encourage creativity and promote our nation's international competitiveness. International cooperation is also very important to us.

Let's make intellectual property prosper!

Martti Enäjärvi, President
National Board of Patents and Registration of Finland



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Online filing

Kimmo Helke at Kespat Oy discusses patent agency services in the web age.

Proximate location to the National Patent Office once was an advantage for a company providing services in the IPR-field in Finland and in most of the European countries. At the time location was critical, since applications and all other correspondence related to the IPR-registration processes were filed to the Patent Office on paper using courier services. In addition, easy access to patent documents and other related material was only possible to the agencies that were located nearby the Patent Office.

The development of Internet and other electronic services have changed this situation and the whole IPR-industry. One interesting change is that an agent is no longer dealing only with their national Patent Office, instead, increasingly often, processes are carried out directly to Patent Offices located in different countries (EPO, OHIM, etc.). Thus, the situation will always remain that no matter where a patent agency is located at, it will be at a significant distance away from other patent agencies and important IPR-Officials. Therefore it can be concluded that it has become more attractive for a patent agency to be located at shorter distance to their clients than to the Patent Office.

Wide variety of available electronic services

All kinds of web-services are developing fast, making it difficult to keep up-to-date on the available features. The introduction of the online filing systems e.g. Epoline can definitely be considered to be one of the most important improvements for the everyday operations in the IPR field. It is safe and extremely fast way to submit patent applications and other patent related documents to the Patent Office. Also the immediate confirmation that is received through the program is very important to the sender considering the strict deadlines that have to be met in the IPR field. Although electronic filing began in Japan and USA earlier than EPO launched its Epoline system, Epoline has showed that it is one of the most advanced services in this branch.

Technology has brought also several other improvements to the daily processes of a Patent Agency. Majority of Patent Offices offer access to their database through internet. The narrowest services are restricted only on the diary information of the applications and patents. On the top level, EPO offers not only the basic data but even machine translation services. Also patent document download services are one of the most important of the electronic services. An easy access to a wide selection of patent documents through the internet has increased work efficiency in the IPR-field.

Electronic correspondence and security

Nowadays many companies use email as their primary correspondence method while ordinary mail has become an exception. Many internal and external electronic systems are used for correspondence and often these systems also include subsystems that

take care of the security issues. Concern over security varies a lot depending on several factors like the field of business and a size of a company. At the end of the line human being is, unfortunately, the main risk and the weakest loop in the chain.

Most firms trust on the security of ordinary emailing systems, especially in routine daily messaging. For companies that want raise the security level of electronic correspondence without establishing their own, often complex services, software like PGP or services like www.securedmail.eu are available by commercial service providers. The main idea of these services is to provide an end-to-end encryption to the message, leaving a hypothetical eavesdropper powerless. Special software, particularly PGP, is used among parties that know one another or are quite advanced users of such software but it can be awkward with new parties involved. Alternatively the mentioned secured mail system allows the user to send and receive electronic mail over a secured connection without additional program installations.

Needless to say, the high security level in communication is a major concern in the IPR-field. Thus, strict and updated security routines are necessary, though it is often considered time consuming and boring part of the work.

Establishing a Patent Agency in the province

Patent Agency Kespat Oy, in central Finland, is a good example how it has been possible to grow at a distance from the national Patent Office. As mentioned, previously the everyday operations of a patent agency were challenged by the long distance to the Finnish Patent Office. For example, ordering copies of patent documents from the Patent Office was often a time consuming and frustrating process. Orders were made by telephone, and as the numbers can be relatively long, there was always a high possibility for a human error to occur during the procedure. It took few days or even a week to receive a response by mail from the Patent Office, which sometimes was only a notification indicating that the Publication Number was incorrect and the order had to be called in all over again. Needless to say, this had a slowing impact on the work of a patent attorney.

Not being located next to the Patent Office is no longer a disadvantage, since agencies have instant access to almost all services they provide. For an example, Kespat Oy sends all new patent applications and other patent related submissions to the Finnish Patent Office electronically. In addition, about 99 % of the patent documents are available to be downloaded directly through WEB-based services, like Espacenet. Also the documents not available in those services, i.e. pending patent applications, are easily ordered from the Patent Office just by a mouse-click and the requests are handled by the PTO personnel without delay. Nowadays the Patent Office mainly delivers the ordered documents by email, naturally since they have most material ready in an electronic form.

Benefits to clients

Domestic clients, who are located in the provinces, get the most benefit from the proximate location of a patent agency. Experience has shown that in spite of the

developments in the electronic communication, physical meetings still have great value to the client. The subject of each invention is quite often so complex that face-to-face meetings are must. Initial information is often so vague that the first meeting helps to limit the scope of technical issues to only relevant ones resulting to more efficient level of service and reduced process cost to the client.

As the electronic filing systems began to develop, mainly due to their location, Kespat Oy had high motivation to take part in the process. During year 2001 the company worked in close co-operation with the Finnish Patent Office to develop the system on behalf of the national applications. In April 2002 Kespat Oy was the first agency in Europe to complete the national validation of European Patent by using Epoline. The company can also proudly say that they were the first full user of Epoline, meaning that they used all available modules of the software, filing National-, European Patent- and PCT-applications online.

Conclusion

The change in the geographic distribution of patent agencies is quite slow but inevitable. One reason behind this is definitely the fact that available electronic services have made it more attractive to establish patent agencies further away from the national Patent Offices throughout the world. There are also other factors driving the phenomenon toward this direction, like the development in European Patent system, but also factors driving to the opposite direction, e.g. the high authorization requirements e.g. EQE.

In spite of the enormous technical development in the IPR-Field, amazingly one thing has not radically changed over time. That is the core of the attorney work. Drafting a new patent application is still the same creative process that it was a century ago. As all technical aids in communication support the work of a patent attorney, the rest depends on the person and his/her capability to communicate, analyse and process information as well as raise questions. Naturally there is always a big difference between individuals regarding these human skills. Also the professional experience gained over the years of practise and constant training still play crucially important part in the profession of a patent attorney.

Further details: Kimmo Helke is a European Patent Attorney with wide experience of patent practice in many technical fields as well as in IPR disputes. He is also a registered trademark attorney before OHIM.

Kimmo Helke has been in IP for nearly 30 years, including two years as a Patent Examiner in Finnish Patent Office. He graduated from Helsinki University of Technology in 1980 in the field of Energy technology and Power plants.

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Established in 1991, the office provides a full range of intellectual property protection services, drafting of patent and utility model applications, designs and trademarks, oppositions, appeals, infringement cases. Seven patent attorneys cover all fields of technology - mechanics, electronics, chemistry and biotechnology.

London Agreement

The ideal system of industrial property protection should be inexpensive and effective to satisfy the patent owners, and should be understandable to satisfy the public. The well known fact that a great part of the expenses involved in obtaining an EP consists in translations into the languages of other member states during the validation process gave rise to the London Agreement which encourages the countries to waive the translation of the EPs validated in those countries into their own languages. As until 1990, the only compulsory foreign language taught at schools in the central European countries was Russian, the English skills there are much poorer than in other European countries. Therefore, the governments should consider carefully whether its population is prepared to receive the technical information in a foreign (English) language. After ratifying the London Agreement, the translation costs would be transferred from the patent owners to those users of the patent system having insufficient language skills (incl. those who want to check they do not infringe someone's rights). A premature ratification of a London Agreement would thus make the way of Central European countries to reaching the same economical level as the "old Europe" much more difficult.

Idea search

Searching patents

The first rule of business is to stay in business, says Nigel Clarke at the EPO.

You're a small, technology-based enterprise that wants to stay in business. In this chapter we're going to tell about a little-known resource which will help you succeed by being competitive and innovative.

One of the strategic resources for businesses is information, and European-wide studies have shown that small and medium-sized enterprises (SMEs) and technology-based enterprises are hungry for information on technical developments, what the competition is up to, what the trends are, and where the highest level of activities are happening. Invariably, companies say they get their information from trade fairs, conferences, published articles, and admit even talking to their neighbours on the science park. But practically no one even thinks of searching patents as a source of information. Which is a pity – a missed opportunity, as we shall see.

Patent searching: Why? What's in it for me?

First, a few basics. A patent is granted for *technical* inventions only. When people hear the story about the inventor who kept a mouse alive for more than 60 years, it makes them uneasy, but they visibly relax when they learn that the inventor was Walt Disney. The point of this tale is that Disney was certainly the inventor of that mouse, but he could never have got a patent because the mouse in question is an artistic or literary invention and not a technical one. Patents are granted if the invention concerned is novel (new), inventive (not obvious) and (industrially) useful. The word 'patent' has a number of different meanings depending on the context and legally it can mean a right – an intellectual property right.

However, this legal right is not what many expect – it does not allow you to do anything with your invention. It merely allows you to prevent others from exploiting what you have protected with your patent. There may be regulations, laws even, which prevent you yourself from using your own invention. A good example is the recoil-less golf club, which is intended to make the ball go further. The club head is hollow, but contains a number of lead balls which, when the club face strikes the ball, are impelled forward inside, and the excess momentum is transferred, in a fleeting collision, to the ball, which rockets to the green. So far so good, *but* the rules of golf forbid moving parts in the club head. Ah well – good idea though.

Patent documents contain different kinds of technological/scientific, legal and commercial information simultaneously, which makes them particularly useful.

There are a few more things to be borne in mind:

- Patents are time-limited, generally up to 20 years from the date of filing. After that, the patented invention falls into the public domain.
- Patents are territorial, usually restricted to the country in which the patent is filed.
- Some regional and international arrangements allow patents to become effective in multiple countries.
- There is no such thing as a ‘world patent’.
- Patents are not certificates of technical excellence.
- Patents will not necessarily make you rich.
- And, most significantly for this chapter, patents are not secret.

Patent offices around the world are legally obliged to publish the patents they handle. This may seem counterintuitive, but in essence the patent applicant has to agree that in return for the possibility of having their patent granted, the invention is made public.

In addition to the *content* of patent documents, the sheer *volume* makes searching patents worthwhile. The largest collections of patents in the world contain 70 million publications covering the complete worldwide story of technical invention from before living memory up to the present. It is accepted that patent publications far outnumber publications in the conventional scientific and technical literature. Furthermore, the collection is growing at a tremendous rate. A simple calculation shows that a new patent application is filed somewhere in the world every 20 seconds or so. And this vast amount of documentation is rigorously indexed and classified, which makes it easy to search.

Finally, patent documents are *ipso facto* the first publications on new technical advances and very often the only publication.

Patent searching: How, when, and where can I do it?

Patent offices and other public and private sector providers of patent documents have placed tremendous emphasis in recent years on making access to and retrieval of these documents as easy and stress free as possible.

The internet and mobile communications now mean that it is possible to access patent documents online practically anywhere and at any time (except perhaps during a flight, or down in a cave).

Patent searching: DIY

Do it yourself. At the entry level there are a number of free services on the internet intended for the non-patent expert. They all have their advantages and disadvantages, but the essential common characteristic is that they are free to use, but with varying degrees of user-friendliness. Some sites contain patent documents from one patent office only, others contain patents from a number of countries, and a limited number contain patents from all over the world. You can find patents with relative ease and you can download hard copies of printed patent documents. There are different levels of sophistication as far as search languages are concerned, but there is certainly a choice of services. Undoubtedly, even non-patent experts can get a lot out of the free internet services.

Patent searching: GSI

Get someone in. Further up the patent searching hierarchy there are professional patent search services and service providers who will search patents for you. The cheapest option is to use the services offered by one of the many specialist patent information centres located in many countries; these are often free or at low cost. Professional search services will be fee based. You can buy into subscription-based databases, at a price of course, but these are not likely to be cost effective unless you are searching patents continuously or you are large enough to employ your own patent information specialist.

Patent searching: What can I do with the information?

In the first place, as a technology-based enterprise, you are likely to be developing new products, processes or services. You are inventing and innovating.

Before you commit resources (time and money) to expensive development work you might want to check whether anyone else has come up with the same ideas as you. If they have, it's not necessarily a show stopper, but it may prevent you from getting a patent of your own, and you certainly cannot copy someone else's patented invention without permission of the owner. Either way it's always good to know if other similar inventions exist.

Another benefit of searching patents is to find out the nitty-gritty details of products and processes. If you can find out exactly how an invention works, you may be able to improve on that and invent a better product or process yourself.

Searching patents can also help you to find out which other companies are working in similar fields to you. Armed with this knowledge you can begin to make some decisions: 'Do we face up to the competition head on, or do we try to collaborate and join

forces?’ As we saw earlier, a patent gives its owner the right to prevent someone else from commercially using their invention. The opposite side of the coin is that the patent owner can give someone *permission* to use the invention and that is the basis of a *licence*. Searching patents can help you find potential licence partners.

Patents have legal consequences and one thing to consider is whether a given patent is in force, and where. This legal status information can be found when you search patents and may have a bearing on your business opportunities. As an example, a university spin-off company invented a diagnostic kit for detecting inherited disease traits in animals. This was obviously a good invention for identifying disease-prone animals and to prevent them from entering the food chain. The spin-off master patents for the technology, filed in many countries. Other companies approached the spin-off to license the technology, but the spin-off insisted on unreasonably high licence fees. A business consultant eventually found that the spin-off had let its master patents lapse – everywhere. Thus the spin-off had no rights in the technology any more, it could not charge licence fees or royalties, and could not prevent the other companies from exploiting the technology anywhere, in any way, and the business opportunities opened up.

Caution

We’ve tried to show you that searching patents can bring demonstrable benefits to you, your technology and your business. You can do a lot for yourself. But if you suspect that financial or legal risks are at stake, we strongly recommend you to take professional advice.

Resources

With 70 million documents, probably the biggest free patent database online: www.espacenet.com

Patent information centres in Europe: <http://www.epo.org/patents/patent-information/patlib/directory.html>.

Association of commercial vendors of patent information products and services: <http://www.patcom.org/>.

Nigel Clarke and Keri Rowles (2005) Patent information, Ch 5 in *Information Sources in Engineering*, 4th edn, ed Roderick A MacLeod and Jim Corbett, K.G. Saur, Munich, ISBN 3–598–24442–8

Summary

As a technology-based enterprise, you want to remain competitive and innovative. Use the available information resources to help you stay at the cutting edge – and remember the potential that searching patents can bring to your business.

Dr Nigel Clarke studied physical chemistry and physics. After university he moved into metallurgy and materials science. In the IP world he started as an examiner at the EPO in The Hague, transferred into IT project management, and later settled into patent information at the EPO in Vienna. Currently he is involved in market research, and marketing the EPO's portfolio of online patent information products. He maintains a strong personal interest in communicating IP issues to scientists and engineers in universities and SMEs. Further details: nclarke@epo.org; website: <http://www.epo.org>.

ITALIAN SEARCHES

Gianfranco Dragotti explains why all Italian patent applications are now sent to the EPO.

Italy has been, and is still considered, a 'registration' country as regards intellectual property (IP) protection, which means a country where any application for an IP title is not subjected, before it is granted, to some sort of examination on its merits, as is carried out in many industrialized countries, as well as by international authorities such as the European Patent Office (EPO).

As a matter of fact the Italian Patent and Trademark Office (PTO) does check that the application formally respects the law (for instance, does not relate to unpatentable inventions) and the question of validity is dealt with if and when the IP right is challenged before an Italian court.

For this reason, some years ago Italian applicants changed their strategy for the protection of their research and innovation results by filing as a first application a European or a Patent Cooperation Treaty (PCT) application,¹ in order to get the search report (accompanied by an opinion on patentability). Thus they get reasonable information not only about the possibility of obtaining satisfactory protection, but primarily about the probability of preventing competitors from copying these results through the enforcement of the Italian patent, which may be applied for and granted either as the Italian phase of a European patent or as a national application filed claiming priority as the first European or PCT application.

This basic strategy also involves the combined use of the Italian patent and/or of the Italian part of the European patent after grant for enforcement of the right before an Italian court, and also asking for preliminary measures, such as seizure or an injunction to stop the infringement.

One of the most important outcomes of the initiative launched in 2005 to improve the use of IP rights in Italy was an agreement signed with the EPO that all Italian patent applications filed after 1 July 2008 are sent to EPO. The EPO undertakes to send back a search report together with a written opinion within nine months of the filing date of the Italian application.

The applicant must file with the Italian application an English translation of the claims or, alternatively, pay a fee of €200 as a reimbursement to the Italian patent office for taking care of such translation.

The search fee is paid by the Italian state, thus relieving the applicant, and particularly the single inventor, the university searcher or the small or medium-sized enterprise (SME), from a very high cost which often discourages them from recourse to such a strategy.

The consequences of this new course are twofold:

1. In the case of a favourable search report and opinion the applicant may file a European application claiming the priority of the Italian application without having to pay the search fee (or having it fully reimbursed unless the claims are substantially changed).
2. The search report and the patentability opinion are entered in the file of the Italian application whereby any enforcement of the patent later granted or of the application² is accompanied by elements permitting the court to get a *prima facie* opinion of the real entity of the rights being claimed.

According to unofficial information from the Italian PTO, the search report is also the basis for possible objections raised by the Italian PTO before grant, thus compelling the applicant to amend or limit the scope of the claims and consequently afford better certainty to third parties.

Notes

- 1 For Italian applicants the search report for PCT applications is established by the EPO acting as international searching authority (ISA).
- 2 In Italy a lawsuit for infringement can be started on the basis of a patent application before grant, provided that the Italian patent is granted before the final decision of the court is issued.

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Brand and design searches

Before launching a brand or showing a design, Nicolas Vigneron at OHIM explains how to conduct a search to ensure that no one can starting asking awkward questions about whether you are free to use your trade marks and designs.

Trade mark and design protection plays an important strategic role in securing one of the most important assets of companies: their brands. Consider for a moment buying a cola drink in a shapeless white can. If cola drinks from different makers, all with similar bland packaging, were crammed together on the supermarket shelves, it would be a marketing nightmare. Marketers need to be able to differentiate their products or services from the offerings of their rivals and one of the most important differentiating strategies is to set up a brand.

When reading the annual ranking of brands established by Interbrand,¹ it is interesting to note that the estimated value of brands is sometimes very significant in relation to the total value of tangible assets of the company. For example, the total sales income of Mercedes (Car and Truck division) was around \$40 billion in 2007, while the value of the brand estimated in 2008 by Interbrand was around \$25 billion. By the way, according to the same survey, in 2008, the most valuable brand in the world was a cola drink – one that was not sold in a shapeless white can. Interbrand put Coca-Cola in the No 1 spot with an estimated brand value of \$67 billion, followed by IBM (\$59 billion) and Microsoft (\$59 billion).

In order to secure these assets and all the investment involved, companies must protect their brands and register them as trade marks. Do this correctly and you will

reap the rewards through the creation of very strong brand recognition and high customer loyalty. Equally, the value of industrial design has become more and more important in the strategies adopted by companies to make them stand out from the crowd. Would Apple Computer's products be so successful without their innovative designs? Investment is generated by differentiating products on the market by their shapes, or the shape of the packaging, which is the most direct channel of communication to the customers. These designs are also assets, which must be protected from copycats by design registration, enforceable by law. Those arguments are valid not only for multinationals but also for small and medium-sized enterprises (SMEs).

Think about what would happen if you were a small ambitious company, starting to gain customer recognition and success, when you discovered that your fledgling brand or popular design was treading on other people's intellectual property rights. Equally, you could hit problems if you had protected your trade mark or design in just one country and then started to operate further afield.

Before embarking on the costly business of establishing a brand in the marketplace, or getting your design on that high-impact display stand at the supermarket, you need to ensure that you can reap the rewards of success in all your potential markets. The best way of doing this is to engage in a properly thought-out search strategy to establish what potential rivals are out there and whether there are conflicts with previously established rights.

Traditionally, trade mark and design searches are used before registration in order to guarantee registrability by making sure that no similar trade marks have been registered or that the design is new. Trade mark searches must cover not just *identical* trade marks, covering identical goods and services, but also *similar* signs, and similar goods and services. This is essential in order to eliminate all risk of conflicts that might obstruct the path to registration or generate post-registration conflicts that might be even more problematic to the business.

For instance, once branded products are launched in the market and it appears that the brand is in conflict with an earlier trade mark, the proprietor of the earlier trade mark can sue for damages and request that the products are removed from the market. In this scenario, the company would not only have to pay for infringing an earlier trade mark but would also have to reinvest in a completely new marketing campaign, changing the brand and advertising the product again.

Another scenario that occurs more often is when an opposition is filed by earlier rights holders against trade marks. In the case of the Community trade mark, around 20 per cent of published trade mark applications have to face opposition proceedings. An appropriate search before filing could save:

- the unexpected extra work and increased cost of an opposition procedure;
- the significant extra time to registration – a process which lasts an average of eight months without opposition can potentially take years in the most problematic cases if they have eventually to go through the whole jurisdiction system from OHIM's Opposition Division to the European Court of Justice.

A search strategy to avoid this should make extensive use of searches that can be done using the free databases that are provided by most IP offices in the world. The

Office for Harmonization of the Internal Market (OHIM) offers fully searchable databases at no cost and these can be accessed, as with all of the Office's other online tools, at: www.oami.europa.eu. Owner-managers or small companies with limited budgets can do a lot of preliminary work themselves simply by checking these free databases, but it can be a frustrating business. Just looking at the European Union to start with, rights may be protected at the national level (therefore enforceable just in a single country) or they can be protected at the Community level, via the Community trade mark and the registered Community design administered by OHIM. In the latter case, protection extends to all the countries in the European Union. If you search only the OHIM database for trade marks, CTM-Online, and then try to register an apparently unused trade mark in the UK, you may find that another business has got there before you.

Considering the legal but also the economic significance of the Community trade mark and Community design within the European Union market, OHIM's free databases can play an important role. The Office has also been a leading supporter of the need to make the whole process of trade mark and design registration both simpler and more transparent, by cooperating with other leading IP offices all over the world.

The TMview project, which allows free-of-charge searching via the internet of trade marks registered in participating offices, has significant potential to improve matters once it goes online during 2009. In the first version, the data of the World Intellectual Property Organization (WIPO), OHIM and the national offices of Benelux, Portugal, Denmark, the Czech Republic, Italy and the United Kingdom will be provided. Other national offices have been invited to join in during 2009, provided the technical conditions linked to the project's architecture are met.

Hence, trade mark and design databases are evolving in order to do a better job for users. Important improvements can be expected in the coming years in order to make information more accessible and at a lower price – even free in some cases.

For many companies, at present, if extensive searches need to be conducted, it may be a proper decision to seek the advice of professionals who can guide them through the process and ensure that there is a lower level of risk of subsequent legal objections, before proceeding to registration.

From a business perspective, trade mark searches can also be conducted for intelligence purposes in order to watch competitors' future product releases/market trends and seek business opportunities to acquire existing trade mark/design rights.

When trying to achieve market differentiation, it is important to collect information regarding what your competitors are doing:

- what type of product;
- what brands;
- what shapes of products;
- what actions and timings;
- what is not being protected – this will determine the degree of freedom for future innovations.

In this respect, the potential of design searches is very high. Marketers use a variety of techniques to identify market trends, such as looking at magazines or going to

trade fairs. It might also be essential to look at design registrations in some sectors in order to understand what is happening in the market. For instance, the car industry is making intensive use of design protection through Community designs.

One of the features of the Community design system is the option of having the publication of the design deferred, which means that protection is acquired without the design being immediately disclosed. The fact that a deferred design exists is, however, public knowledge even though the design itself has been withheld from public view. Hence, by searching in the RCD database a car company can find all the deferred design registrations of its competitors. If a lot of deferred design registrations are retrieved, it may be concluded that the competitor is currently preparing the launch of new products or even of a whole range of products.

In the car industry scenario above, searches would be conducted using the names of companies. However, if we were more interested in searching for trends in the market, the search criteria to be used would be the Nice Classification of Goods and Services for trade marks, and the Locarno classification (and/or the indication of product) for design searches. In the OHIM search facilities, CTM-ONLINE and RCD-ONLINE, complex searches can be created, using for example a date filter, in order to expose a wide range of useful information which can help build successful marketing strategies.

Another leading-edge use of trade mark searches – also valid to a more limited extent in the design field – is to find trade marks that have lapsed or designs that are no longer protected and hence have the potential for reuse. In addition, even though it is getting quicker to register trade marks, and though some designs can be registered in a matter of days rather than weeks, product life cycles in some industries are rather short. It may be a viable alternative, as a result of clearance searches, to buy trade marks that are registered but no longer used in the market or to take out a licence for them. This can significantly accelerate the time to market, as the last thing a company wants to do is invest in a brand that they subsequently discover cannot be protected.

In summary, trade mark and design searches are both necessary and useful prior to trade mark and design registration. Free database searches can help to clarify the question of availability, and access to these services is improving. Getting professional advice and assistance may be a good idea, if the stakes are high. This advice, or companies' own research, can also be a valuable source of market intelligence and help even the smallest companies step out with confidence in the European or global marketplace.

Note

- 1 http://www.interbrand.com/best_global_brands.aspx?langid=1000.

Nicolas Vigneron is E-business External Relations Officer at the European trade marks and designs registration office, OHIM. The European agency, based in Alicante, Spain, was set up in 1994 to administer the Community trade mark, and since 2003 has also been administering the registered Community design. OHIM is a world leader in the use of electronic filing and has a corporate goal of going 100 per cent paperless over the next few years. Nicolas Vigneron, a graduate in IP law from the University of Poitiers (France), advises companies ranging from tiny SMEs to some of the world's best-known multinationals on how to get the best out of OHIM's e-business tools.

Working with universities

Have the chances for commercializing knowledge at universities improved? Paul Tiltman, Head of IP & Commercialization at the University of Exeter, reports.

The recent report on intellectual property (IP) and research benefits, published by Professor Paul Wellings (Lancaster University, UK, September 2008), comments that UK universities are fortunate to operate in a jurisdiction with an effective and well-managed intellectual property system and that assessments of the relative strengths of IP systems suggest that the United Kingdom, along with Germany and the United States, performs strongly on matters relating to trade marks, patents and copyright – this is a substantial advantage over some other parts of the European Community.

Professor Wellings goes on to report that in order to strengthen the university sector in Europe, the European Commission has suggested that universities and/or governments in Member States should:

- ensure that knowledge transfer forms part of the strategic mission of these institutions;
- publish procedures for the management of IP;
- promote the identification, exploitation and protection of IP with a view to maximizing socioeconomic benefits;
- provide appropriate incentives to help staff play an active role; and
- build critical mass in knowledge transfer by pooling resources at local or regional levels.

Most universities have relatively well-developed policies in place to address the majority of these issues, but pressures on funding and increasing commercial competition require the university sector to continually push the boundaries and to develop these policies.

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Finally, a key recommendation from the Wellings report addresses the need for clarity from the UK government (Department of Innovation, Universities and Skills) regarding the very purpose of research commercialization in the higher education sector – there appears to be frequent debate about ownership and recognition and return from IP created in projects involving many partners. This issue is seen as an impediment to speed and flexibility of transactions between universities and businesses – experience shows that this is possibly the case across Europe.

Intellectual property – a real asset?

It's no secret that it is expensive to obtain and prosecute intellectual property rights in any jurisdiction and the costs are onerous for all businesses and for small and medium-sized companies (SMEs) in particular.

Securing these assets involves proving novelty and ownership and is complex, requiring not only access to specific expertise but also a working knowledge of the language, which can be confusing, and the processes are not widely understood by many smaller businesses. The lack of expertise in the small business community and the over-sensitivity to some of these issues by universities creates yet further challenges and many businesses are forced to get by on minimal protection of these rights to establish a short-term exploitation position. Furthermore, in the main, universities continue to over-value their position and find it difficult to engage commercially, when considering the trading of IP.

Processes to enable exploitation of the UK knowledge base in higher education institutions (universities)

Increasingly, significant funds are provided for fundamental and collaborative research targeted at the higher education (university) sector, which, importantly, presents an ideal platform for the creation of new knowledge, which can be disclosed in the form of IP. The continuing challenge is to improve the access and mechanisms for commercialization of this knowledge.

The higher education sector, particularly in the United Kingdom, is highly competitive and the future of many of the more research-led universities is heavily reliant on their ability to bring in external commercial income in the form of financial return relating to IP. Historically, in many cases, the university's decision has been to create a spin-out company to exploit its IP, in which it can take a shareholding, and following a series of successful investments, seek to exit via a trade sale in due course.

This way, the expensive upkeep of the IP (usually in the form of patents) is picked up by the spin-out and is often seen as an efficient and effective approach for the institution particularly in technologies like software where marketing costs are relatively low. However, this approach can not only be expensive and resource intensive to set up, but may offer a poor return, whether the venture is successful or not.

Often, if it is successful, any profits are reinvested in the venture and a series of further funding rounds dilute the shareholdings of the founder partners – any financial return to the university is usually in the long term.

However, on the other hand, licensing of IP to third parties can be very effective, with a more tangible return to the university in a variety of forms particularly if, as in an area like pharmaceuticals, the costs of market entry are high. Revenue can take the form of a lump sum, a royalty, a revenue share or a mixture of any of these. Although financial returns are often reduced by the costs of upkeep and prosecution by the institution of the IP, in some cases it is normal to agree that the third party will pick up the maintenance and prosecution costs with a reduced consideration for the university. We are now also seeing a range of strategic partnerships that offer creative mechanisms whereby the partner or third party agrees to pick up these ongoing fees.

Licensing of IP can be very effective and is crucial to trading in IP. In the United Kingdom an earlier review of business–university collaboration (the Lambert toolkit: www.innovation.gov.uk/lambertagreements) recommended model licensing agreements for use between such parties, which have had a very positive effect on university-to-business collaboration. Recent consultation has gone on to discuss the creation of similar model agreements by the UK government for use between businesses and suggests that this would greatly assist the small business economy.

How can the potential for enterprises to source ideas and knowledge best be realized?

At Exeter, as with many research-led universities, the primary purpose of focusing on IP is to drive collaborative research engagement with external organizations. Commerce is best placed to respond to market demand and to utilize the monopoly that IP rights afford.

To remain competitive, business, and particularly small business, needs to be able to bring new products and processes to market and to put in place a package of protection, usually in the form of trade marks, copyright and patents, as well as protecting its know-how through confidentiality.

Furthermore, fewer and fewer businesses are in a position to be able to resource internal research capacity and, increasingly, look to the university sector to provide new platforms for demand-led research. Also, where the larger industries undertake internal research, there is evidence to show a growing collaborative relationship with the university research sector.

Therefore, the university sector should consider a strategic approach to protect areas of fundamental ‘platform’ research as ‘background IP’ (enabling technology) and to actively promote licensing opportunities and the opportunity for external collaborators to own any resulting ‘foreground IP’ arising from shorter-term research and consultancy collaborations. This is a sustainable strategy for many universities, as offering a licence to the background IP, in support of the ‘commercially based’ product or process foreground IP, can be lucrative.

To achieve sustainability, most universities need to have a flexible and realistic approach to the translation of its IP. In some cases, where the strategy is to build a particular area of research collaboration over the long term, an open and commercial relationship from the outset, involving specific assignment of resulting IP in return for research funding or a long-term revenue share arrangement, is seen as appropriate. As the relationship grows, a clear split between platform technology development and know-how can develop, allowing the business to commercialize the resulting foreground, product-focused IP.

Revenue sharing often proves to be an ideal introduction to university research for small business where funds are tight and the university is willing to share the risk, and is happy to consider a steady income stream over a longer period.

How do universities organize intellectual property to avoid any complications about future use?

The primary purpose of most higher education institutes, and especially universities, is to undertake research and teaching, with the primary output being research publications and papers. This is the main mechanism by which research results are reported. However, the obvious issue is that by placing this valuable information in the public domain in this way, it severely affects the possibilities of gaining any IP protection and value to the EU economy.

Clearly, this is the one area where any university can focus effort in considering its IP portfolio. The use of an effective IP policy, with good rewards for the inventors and which allows early disclosure of progress on research projects, buys time and allows early filings of disclosures, which not only adds value, but allows publication in a timely and effective manner. Early filing also enables an early engagement with potential licensees and positioning of research effort.

Universities should review their portfolio regularly so as to plan for an effective exit. Although there are sensitivities over straightforward assignment of IP, as opposed to licensing, as well as concerns over exclusive deals, assignment and exclusive deals can often be a smart move – as it gets the IP into the commercial arena quicker for the benefit of the EU economy and is often more attractive to the investor community.

Paul Tiltman is Head of IP & Commercialization at the University of Exeter in the United Kingdom. Following a formal engineering apprenticeship and technical education, he has spent the past 25 years working in the R&D sector with multinational defence-related industries, small businesses and research translation in the university sector. E-mail: p.tiltman@exeter.ac.uk.



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Change of technological patterns in the European Union

Trade is moving towards technology-intensive goods not just in Europe, but in China and Korea as well. Ulrich Schmoch and Taehyun Jung at the Fraunhofer Institute for Systems and Innovation Research review the implications for innovation.

Transformation of advanced industrialized countries towards a knowledge society is clearly visible in the increasing relevance of products with high investments in research and development (R&D). This implies that competition in foreign trade involves not only prices, but increasingly technology. In worldwide foreign trade in 2007, the share of R&D-intensive goods (out of all industrial goods) was 55 per cent. Between 1997 and 2007, the annual growth of foreign trade with R&D-intensive goods was about 9 per cent.¹ How the countries of the European Union react to these challenges is an important question of economic policy. It may be assumed that they will shift their patterns towards R&D-intensive products and technology and that in the context of closer cooperation in the European Union, a convergence between their technological patterns will be induced.

Investigation of these structural changes based on foreign trade statistics proves almost impossible, as the classification of foreign trade data refers to products and not to technology. Furthermore, there is a considerable time lag in updating trade classifications for new types of products, so that the situation with regard to R&D-intensive products is less favourable. An additional statistical problem is the frequent

change of classifications, in particular of R&D-intensive goods, which prevents the compilation of longer time series.

Against this background, many scholars analyse technological structures by using patent statistics. The major advantages of this approach are the very fine classification of patents by the technology-oriented International Patent Classification (IPC), the long-term consistency of this classification for new technologies, and the good availability of patent data through databases. Various studies showed a significant correlation between foreign trade and patent data, reflecting the growing relevance of technology in international competition.

For the present analysis, we used so-called ‘transnational patents’, defined as patents applied for either at the World Intellectual Property Organization (WIPO) as international applications or at the European Patent Office (EPO), both of which are transnational authorities where patent protection aims at several foreign countries.² By investigating transnational patents, we considered patents with higher technological and economic relevance compared to domestic national applications.

The number of transnational patent applications has steadily increased since the beginning of the 1990s for most countries worldwide, as the examples in Figure 3.4.1 illustrate.³ In particular, very strong growth in the number of applications between 1995 and 2000 can be observed. This does not necessarily indicate higher technological activity, as R&D expenditures grew much more slowly in this period, but higher relevance of technology as a factor of competition, the building up of patent pools, the growing number of defensive patents, and the use of patents for other strategic purposes. After the year 2000, the number of patent applications returned to a more

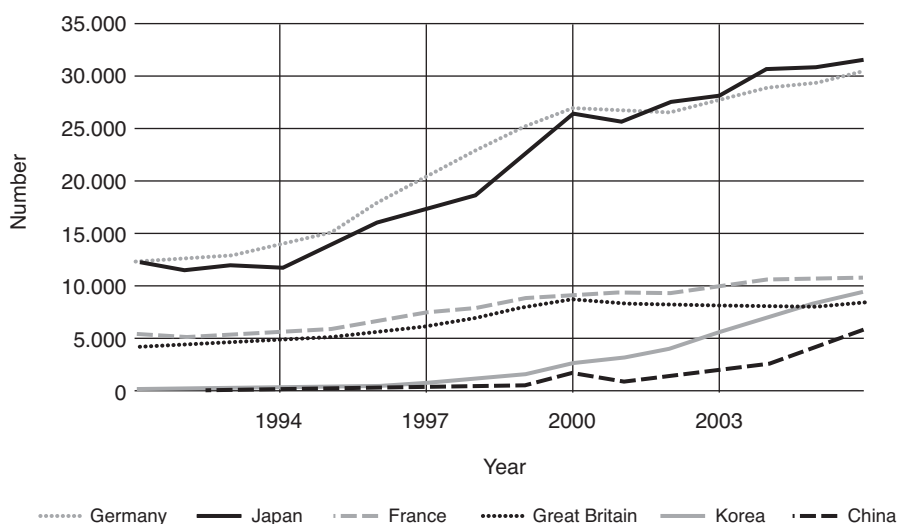


Figure 3.4.1 Number of transnational patent applications for selected countries of origin

Source: Database PATSTAT (EPO), searches and calculations by Fraunhofer ISI

normal path, but it did not decrease to the former level. Patents remain highly relevant for international competition.

Looking at specific countries, the changes over time are quite moderate. Within the EU countries, the decrease in the number of applications from the United Kingdom, particularly compared to those from France, is the most outstanding aspect. The most remarkable change is the fast-growing relevance of applications from South Korea and the People's Republic of China. Korea's transnational applications have already reached the UK level and will surpass France's quite soon. China's applications will have reached the UK level in one or two years.

These figures reflect the fact that Korea and China are increasingly moving from the imitation stage to the generation of their own new technology. This development is based on substantial investment in the education of high-level experts and in R&D. By adopting this strategy, both countries are following the example of Japan, which copied Western technology and produced cheap goods in the 1960s and showed high growth of its own patent activities in the 1970s and 1980s. Korea and China are already relevant new competitors for the European Union, and their impact will grow in the years to come.

Some observers might see the situation in a less dramatic light, as catching-up countries often focus on cheap goods using simple technology. Patents also cover goods with low levels of technology, for instance in the field of consumer goods. However, a more detailed analysis reveals a strong orientation of China and Korea towards so-called leading-edge goods. These goods are defined by a share of R&D expenditure of more than 7 per cent with reference to the respective turnover. The focus on sectors such as leading-edge technology can be described by specialization indicators, where the share of a country in this sector is compared to its average share worldwide. The indicators are mathematically constructed in such a way that the neutral value is zero and the range of values is linear and symmetric to the neutral value. Positive and negative indices reflect specializations above and below average, respectively. In Figure 3.4.2, depicting the specialization index Revealed Patent Advantage (RPA), index values above +15 indicate very strong, above-average specialization.

The analysis of patent applications in leading-edge technology, according to Figure 3.4.2, reveals that the patent activities of China and Korea largely build on leading-edge technology. Since 1991, Korea's specialization has increased from average to a presently very high level of 20, equivalent to that of the United States in this segment. Starting from a similar position, China has reached an index of almost +50, thus its orientation towards leading-edge technology is even stronger. In consequence, the challenge of Korea and China for the EU countries should not be underestimated. These countries follow a very ambitious technology strategy.

A further question which can be analysed by patent statistics is which technology pattern EU countries exhibit and whether a technological convergence of the EU countries can be observed. An appropriate approach to investigating this type of problem is shift-share analysis. In this analysis the growth of patent activities of specific fields is separated into three sub-elements:

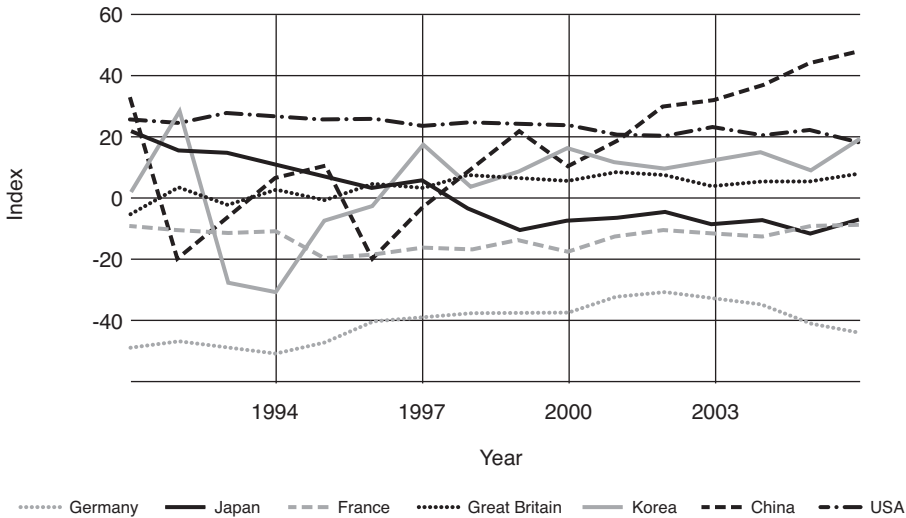


Figure 3.4.2 Patent specialization indices (RPA) in leading-edge technology for transnational patent applications of selected countries

Source: Database PATSTAT (EPO), searches and calculations by Fraunhofer ISI

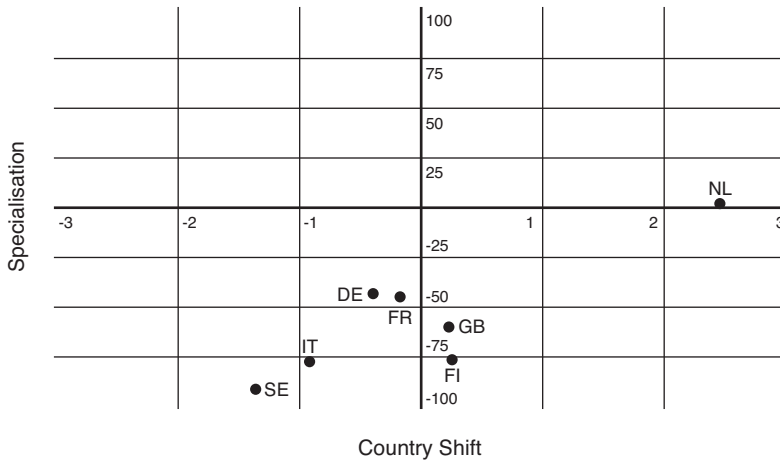
- the overall growth of all technologies;
- the growth of the field examined worldwide; and
- the specific growth of a specific country in the field examined (country shift).

The interesting part is the specific growth of the country where other elements, such as changing propensity to patent, which may imply a bias, are eliminated.

This type of analysis was performed for 34 technology fields with high R&D intensity. The results for these fields are quite similar and are illustrated by the examples of the fields ‘semiconductors’ and ‘audio-visual technology’. The graphical representation is limited to selected EU countries in order to gain an improved insight into structural trends within the European Union.

In semiconductors, the shift of many countries (four out of seven countries) within 10 years is quite moderate, in the range -0.5 to $+0.5$ (Figure 3.4.3). There are only three cases with a substantial shift: in the cases of Sweden and Italy, a clear decrease in activity can be observed, and for the Netherlands, the positive shift is very marked. However, there is no clear association between the direction of shift and the level of specialization. Sweden and Italy started with a moderately negative specialization in 1995–97 and reached a distinctly negative specialization in 2003–05, whereas for the Netherlands the starting position was moderately negative as well and changed to an average specialization in 2003–05.

In audio-visual technology, for five of the seven countries, the shift is quite moderate (Figure 3.4.4). The above-average shift of Finland is presently associated with average specialization. In the case of the Netherlands, a very distinct shift is linked to a present specialization highly above average; thus Finland had a moderately nega-



DE = Germany, FR = France, GB = Great Britain, NL = Netherlands, SE = Sweden, FI = Finland, IT = Italy

Figure 3.4.3 Country shift and specialization for transnational patent applications in semiconductors (country shift 2003–05 compared to 1995–97, specialization 2003–05)

Source: Database PATSTAT (EPO), searches and calculations by Fraunhofer ISI

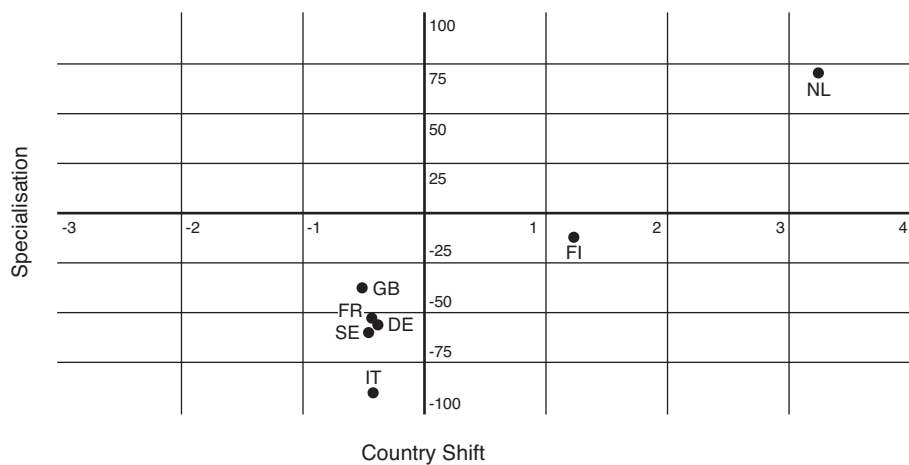
tive specialization in 1995–97 and the Netherlands an average position. As in semiconductors, there is no clear linkage between specialization level and shift direction.

The common feature of the cases with strong shifts is that the technology field considered is dominated by one big company, so that a positive or negative shift of engagement in this field can change the specialization index of the whole country.

To summarize, in most cases the country shift, as in the two examples, but also for the other 32 fields, is quite moderate. Country patterns generally change very slowly, as they are linked to specific national systems of innovation. These comprise, in addition to enterprises, universities and other research institutions, the country's banks, specific legislation, specific policy structure etc.⁴ In order to achieve a substantial change, all these elements must change, not just one. Therefore the country pattern is extremely path dependent. Countries tend to continue in existing focal areas owing to the specific technical and market knowledge of the relevant enterprises and other institutions.

A substantial change is often, but not always, linked to positive specialization in the case of a positive shift, and vice versa. This is again a confirmation of strong path dependency. This finding is supported in a study by Belitz, Clemens and Gorning (2009) linking the change in specialization to the growth of productivity.⁵

As to the basic question of convergence or divergence within the European Union, neither hypothesis can be confirmed. The EU countries generally develop their existing profile further and do not shift to a completely different direction. Therefore, more sophisticated analysis cannot provide clear evidence for convergence or divergence.⁶



DE = Germany, FR = France, GB = Great Britain, NL = Netherlands, SE = Sweden, FI = Finland, IT = Italy

Figure 3.4.4 Country shift and specialization for transnational patent applications in audio-visual technology (country shift 2003–05 compared to 1995–97, specialization 2003–05)

Source: Database PATSTAT (EPO), searches and calculations by Fraunhofer ISI

All in all, the specific profiles of the different EU countries should be considered a strength in international competition. Innovation policy should not primarily aim at a clearer convergence within the European Union. Rather, appropriate adaptation to new competitors such as China and Korea is more important. In this context, the activities of these countries are not only a threat, but also offer enormous potential as export partners for the technologies of EU countries.

Notes

- 1 Calculations of 'Rheinisch-Westfälisches Institut für Wirtschaftsforschung (RWI)' (Essen, Germany) based on data of the UN.
- 2 The concept of 'transnational patents' is described in further detail in Frietsch, R and Schmoch, U (2009) Transnational patents and international markets, in *Scientometrics*, forthcoming.
- 3 The United States depicts a trend similar to Germany and Japan, but on a higher absolute level. They were not included in the figure in order to better show the position of EU countries.
- 4 Legler, H, Rammer, C and Schmoch, U (2006) Technological performance – concept and practice, in *National Systems of Innovation in Comparison. Structure and Performance Indicators for Knowledge Societies*, ed U Schmoch, C Rammer and H Legler, Springer, Dordrecht, pp 3–14.

- 5 Belitz, H, Clemens, M and Gorning, M (2009) *Wirtschaftsstrukturen und Produktivität im internationalen Vergleich*, Report to the Expert Commission on Research and Innovation (EFI), Berlin.
- 6 Jungmittag, A (2006) Innovation dynamics in the EU: Convergence or divergence? A cross-country panel data analysis, *Empirical Economics*, **31** (2), 313–31.

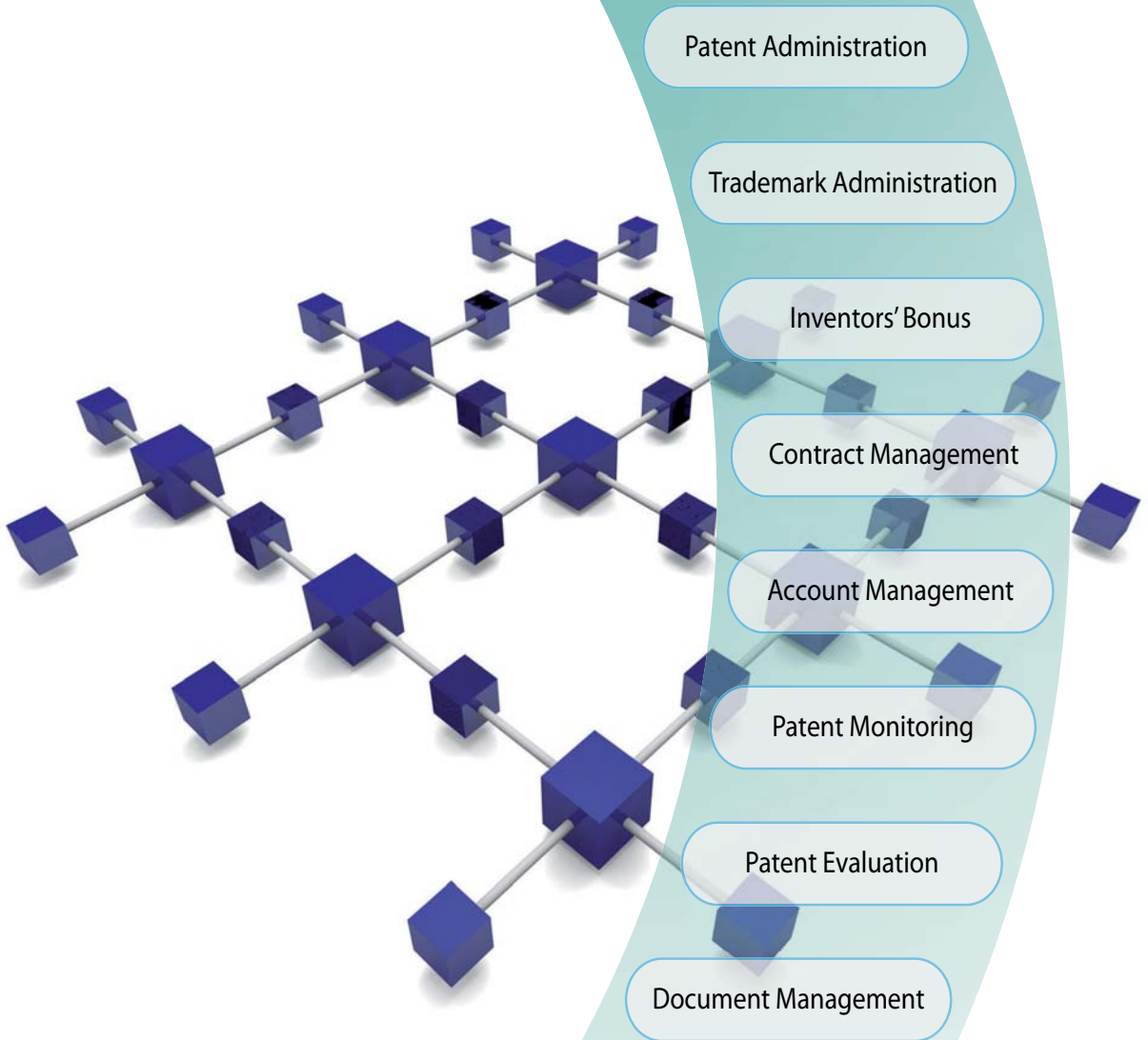
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Strategic insights

Evamaria Hügel at Krug discusses how to gain clarity from the patent jungle.

Patents as a means to achieve strategic corporate targets

Patents can be employed in a number of ways to achieve strategic corporate targets. A company can decide to use an invention for its own benefit, for example to manufacture a product and exclude competitors from making, using, selling or importing the patent or invention (monopoly patents); patents can also be used to prevent competitors from finding solutions for circumventing a patent (blocking patents); or they can be kept as reserve patents when it is difficult to assess market prospects. The exact strategy a company adopts is decided by the patent department, together with those bearing responsibility in the operating divisions. A review should, however, take place at regular intervals to determine whether the strategy adopted is still relevant or whether it should be adapted to meet changed market requirements.

Recognizing and assessing a patent strategy

Large companies in particular often consider their patent portfolio to be a jungle of industrial property rights in which it is difficult to retain a general overview. For this reason, most companies have, at regular intervals, meetings between patent department experts and specialists from the company's various operating divisions with a view to determining whether the present patent strategy still complies

with the targets laid down by the operating divisions. Now is the time to make significant information transparent, so as to be able to assess the present portfolio more accurately.

The worst case is when a wide variety of information and details, patent specifications etc are assembled and compiled at various points in the company – something that involves a huge amount of time and money. In the best case, the information deemed to be significant can be called up at a mouse-click; the requirements for this will be dealt with later. If the information can be called up electronically, it can be presented as a mix of visualized contents and clearly structured evaluations.

The charts shown in Figure 3.5.1 demonstrate monopoly patents utilized by a single operating division (A1).

Chart 1 shows an evaluation by an electronic patent portfolio and patent assessment system, the *x*-axis being an assessment scale for patent costs and the *y*-axis showing sales achieved. The size of the circles is an indication of the number of extant patents and the colour denotes the category of the invention.

The tabular presentation of patent data in Chart 2 provides not only bibliographic data (internal designation, title, applicant, application text), but also a strategic insight into the operating division's portfolio.

For instance, it is possible to discern the relationship in the operating division between monopoly patents and blocking patents or patents held in reserve. In many divisions, for example, the number of commercially utilized monopoly patents is less than 30 per cent.

Further, it is possible to gain an insight into product strategy: which products are protected by patents, whether several patents are involved in the manufacture of a product and to what extent they participate, or whether a licence agreement has been concluded on external utilization.

The chart also contains information on the filing practice (national, European, Patent Cooperation Treaty (PCT) and so on), on the countries in which applications

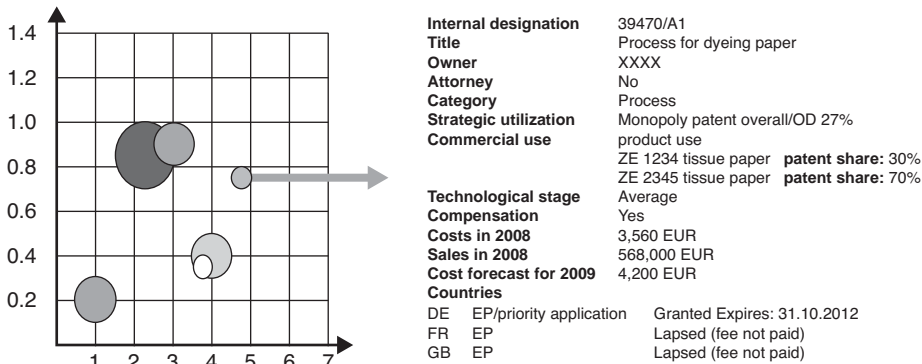


Chart 1: IP Portfolio A1

Chart 2: Patent 39470/A1

Figure 3.5.1 Monopoly patents utilized by a single operating division

have been filed, what the legal status in each case is (eg filed, under examination, allowed, appeal) etc.

Further useful information shows how many patents there are in which category, and what the state of the art is compared with that of competitors. Possibly also of interest is whether compensation is being paid to employee inventors or whether the inventors have received a lump-sum settlement payment. For the sake of completeness, the specifications relating to the data shown in Chart 2 must also be considered.

Depending on the procedural status, the following specifications may be of significance for checking, *inter alia*, the claims:

- PCT specification;
- European Patent Office (EPO) specifications or online file inspection;
- German (DE) laid-open specification;
- filed priority text.

These data can be consulted in written form or electronically, depending on whether an electronic document management system is in place in the company.

In addition to costs incurred and sales achieved, a cost forecast for the following report period is desirable. Whereas information on costs, sales and royalty income can be gleaned in a relatively simple manner from the appropriate interface systems, a cost forecast cannot be determined so easily. In many companies, they are drawn up manually, at high cost.

Electronically based cost forecasts are predicated on events and the present status of the patent right. Rules must be derived from empirical values. For instance, the period elapsing between the first and second request for examination can be laid down. A further rule can determine after how many examination reports a grant can be reckoned on. Each event is then linked with the costs involved therewith.

In the case of a patent right which has already been granted, it is easier to determine the costs (attorneys' fees, official fees, translators, compensation for employee inventors etc).

Technical prerequisites

The most significant requirement for retrieving important and strategically utilizable data quickly and efficiently is a clear structure in data-based patent administration systems. In addition to administering the procedural data of individual patent rights, these systems provide an integrated set of rules on the basis of which due dates and fees can be generated automatically. As a rule, such systems are also equipped with an integrated document management facility, which supports correspondence with the patent offices, the inventors etc and also serves to store the individual specifications and documents. They also feature interfaces with the web services provided by patent offices (eg esp@cenet, OPS).

A patent monitoring facility should also be a component of a reliable patent administration system. Such a module regularly provides the desired information on

the monitored patent rights of competitors. The bibliographic data and legal status for the entire patent family can be accessed here. The codes notified by the patent offices are interpreted and converted into events.

Usually, compensation is paid to employee inventors for patents which are commercially employed. If a program module is used for calculating the compensation, it is possible to determine from this module which patent is allocated to which products, or to license agreements which have been concluded. Such a module also as a rule has interfaces with a financial statement, final costing, and an agreement administration system, from which sales, royalty income, product costs etc can be determined. Furthermore, a royalty rate is attributed to these utilized patents if the compensation to be paid to employee inventors is calculated in analogy to a licence (which is usually the case). This royalty rate in turn can, under certain circumstances, be a statement of the value of a patent.

Cost and cost forecast modules and a patent portfolio and patent assessment system round off a good patent administration system. Cost and cost forecast modules were dealt with above; for this reason, only a brief outline of the performance profile of a patent portfolio and assessment system will be given here. With the aid of clearly structured charts and diagrams, such a module can supply quick and reliable information on the quality of patent rights, and thus provide a readily understandable basis for making decisions. The assessments can be tailored to an individual case by defined assessment factors and criteria. The manual input of weightings can illustrate the emphasis placed on an assessment.

Corporate requirements

Although a large number of the strategically relevant data can be determined and assessed electronically, the patent department specialists are dependent on good cooperation with those bearing responsibility in the operating divisions. The latter should provide information on new products and patents, and the relationships between them. Further, the patent experts should be notified on a regular basis whether patents are still being utilized and whether the share in the utilization has altered in the meantime. For an optimal strategic assessment, it is also advantageous if, at as early a stage as notification of an invention, a statement can be made with regard to innovation type (eg basic innovation, improvement innovation, product innovation...), utility (monopoly patent, blocking patent, internal use, external use...) and the quality of the invention. These data should be added to the central database and checked at regular intervals.

Once the above requirements have been fulfilled, it should be possible to design a customized patent strategy for the company in question and to pursue it efficiently.

Krug & Partner GmbH is a software company with a great deal of experience in design and realization of database applications. Intellectual property management solutions have been the main focus since the founding of the company in 1994.

With Krug & Partner Vertriebs GmbH, founded in 2000, we are an organization selling standard solutions in this sector. Evamaria Hügel is a business analyst. Further details: Krug & Partner GmbH, Treitschkestr. 3, D-69115 Heidelberg, Germany. Tel: +49 (0) 6221 60790; website: <http://www.krug-und-partner.de>.

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Separating what really matters!

High-value components from milk, clean process water, medicines without side effects, energy savings of up to 80%, compact and waste-free production processes and technologists with both R&D as well as business skills. These are some of the objectives of the Roadmap Separation Technology, defined by more than 300 experts from 120 companies and organizations. This roadmap comprises the basis of the DSTI R&D program.

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Combine to stay ahead

The Dutch Separation Technology Institute brings innovation partners closer together.

The Dutch process industry has a good competitive position, contributing over €50 billion to the gross national product of the Netherlands. It includes the pharmaceutical, food, chemistry, and oil and gas industries. This good position doesn't mean that we can put our feet up and relax. The opposite is true. Innovation is a must if the Netherlands is to retain this position. Intensive cooperation between companies and with knowledge institutions in a so-called public-private partnership is one way of accelerating innovation and making it more efficient. Director Wridzer Bakker of the Dutch Separation Technology Institute (DSTI) has assumed the role of mediator between organizations with often very different dynamics. The belief is that by cooperating there's a lot more to be won than to be lost but solid intellectual property arrangements between the partners are needed.

Real results

Ultimately, the realization that to remain a front-runner in process engineering would require a combination of forces resulted in the establishment of DSTI. Bakker: 'Together, you must develop now what you will need in the future.'

The DSTI programme is based on a separation technology roadmap defined by more than 120 companies and knowledge institutions. Bakker: 'To produce the roadmap companies answered the question of which technological developments were needed in order to fulfil their and our future business goals. We then translated this into concrete 5-, 10- and 15-year goals for each sector of industry. The goals for 15 years down the road include 70 per cent energy saving, waste-free compact processes, medicines

without side effects, high-value feed supplements from milk, a doubling of the amount of extractable oil per field and technologists who possess R&D and business skills.’

The budget for carrying out the first five years of the roadmap is €65 million. The partners are putting up half this amount by making available their own personnel, facilities and cash. The Ministry of Economic Affairs contributes the other half. The programme, with 45 companies and 10 knowledge institutes, started in 2007 and is now running smoothly.

How does it work?

Bakker: ‘The biggest challenge was obviously to create an active technology community that will work together effectively on achieving the roadmap goals. To this end, it is essential for all parties to have the will to cooperate.’

Asked whether wariness about exchanging competition-sensitive information would retard developments, Bakker replied: ‘Process technology is a so-called enabling technology, so cooperation here is a far less sensitive issue than it is when you are developing products. Most DSTI partners are not competitors of each other. By cooperating there’s a lot more to be won than to be lost. This is a concept known as open innovation. Trusting each other is very important in this respect.’

Intellectual property

To avoid the potential for later dispute, it is crucial in any public–private partnership that a clear, simple and agreed policy for the protection of inventions is established at the outset and that all parties abide by it. The partners should ensure that their employees are aware of the importance of the creation of IP positions and that they are familiar with the basics of intellectual property (IP) rights.

The basis of the policy is that the results of the projects carried out under the Research Programme are the property of DSTI. DSTI is entitled to the results of each project and has the right to file patent applications on them, with transfer of patent rights only being allowed in accordance with the agreed policy.

Patents are a business tool and therefore IP creation should always be related to (potential) business opportunities and not become a goal in itself. In the DSTI community, universities focus on knowledge creation, knowledge institutes on knowledge demonstration, and the industry partners on business applications of the created knowledge. Therefore, the industry partners will have a decisive role in the process of filing a patent application.

This means that at least one industrial partner should indicate interest in filing a patent application, otherwise a patent would not be filed by DSTI.

After the PCT period, transfer of patent rights is possible after payment of a lump sum; for example, twice the integral costs of the patent right. Industry partners that decide not to join in acquiring a patent retain access rights during the life of the patent application and the patent resulting therefrom in the form of an option to a non-exclusive licence against market value.

As DSTI started only in 2007 the experience with our IP arrangement is limited, so we delay a thorough discussion of our experiences to the next edition of *The Handbook of European Intellectual Property Management*.

Further details: Dutch Separation Technology Institute, PO Box 247, Stationsstaat 77, 3800 AE Amersfoort, The Netherlands. Tel: 31 (0)33 467 62 41; e-mail: wridzer.bakker@dsti.nl; website: www.dsti.nl.

Patent searches in the East Asian region

Access to Asian patent information has become easier and cheaper for non-native speakers within the past few years. Peter Atzmüller, Patent Information Specialist at voestalpine Stahl GmbH, presents the main English-speaking sources in Japan, Korea and China.

In recent years the number of patent applications in the Asian region has constantly risen and it has reached a level which makes it comparable to other major filing authorities such as Europe and the United States.¹ The importance of the market is indicated by the high number of documents which are filed currently in China (CN), Japan (JP) and Korea (KR). Hence, prior art of these countries has to be considered and can no longer be neglected by patent offices and industry. Therefore a translation of the information is needed to enable all users to discover and understand the state of the art of a certain technology field with less usage of tremendously expensive human translation.

Additionally, in some technical fields, for example steel-coating technology, it is crucial to consider Japanese documents because they contain much information which is not disclosed anywhere else.

To gain full access to this information, two different requirements have to be fulfilled: first, you have to be able to search for documents, even if you are not familiar with Asian languages. Classification symbols such as FI/F-Terms (only JP) represent one possible solution. Second, the retrieved patents have to be available in an appropriate language, preferably English. At least the abstract, the full specification and claims of the patent should be translated. The following sections provide information about the specific approaches and websites in JP, KR and CN.

Japan (JP)

The Industrial Property Digital Library (IPDL), official website² of the Japanese Patent Office, offers both, English- and Japanese-speaking search options. Additionally, an English description of most F-term themes is provided. The powerful F-terms enable users to find appropriate documents much faster – if one is familiar with the complex usage – owing to the fact that the hundreds of thousands of different symbols cover almost every possible viewpoint. Be aware that they are not available in every technology field!

Finally, important advantages are the free Japanese–English machine translation of the full text of Japanese patent applications and utility models from 1993 onwards and the English legal status information, respectively.

Korea (KR)

The Korean approach to cross-lingual patent retrieval (CLIPR) in the Korea Intellectual Property Rights Information Service (KIPRIS)³ is an ambitious one. CLIPR is the method of using keywords in a language (English) different from that of the original patent specification (Korean). The system automatically translates the English search terms into Korean ones and retrieves documents. Additionally, the retrieved documents can be machine-translated into English (fee-based). The quality of the search results in respect to the given keywords as well as of the translated documents is surprisingly high.

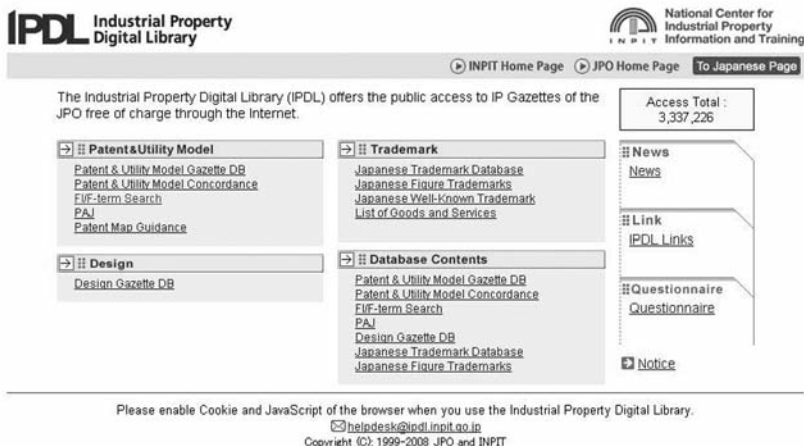


Figure 1 The Industrial Property Digital Library (IPDL)

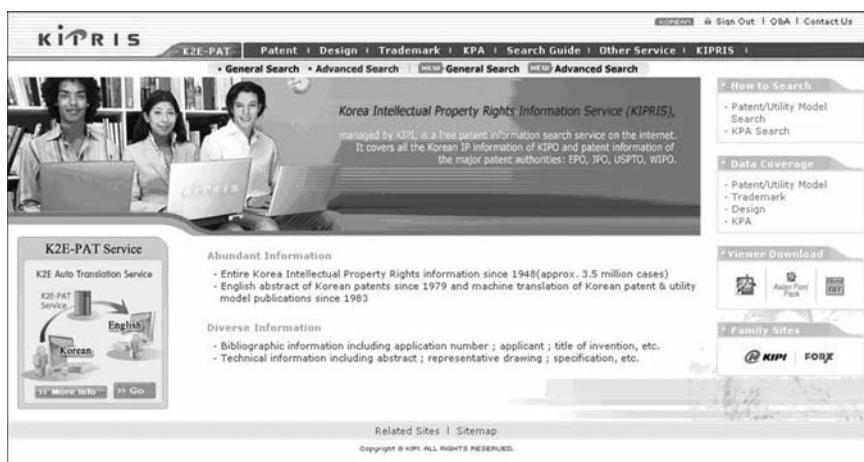


Figure 2 KIPRIS

Nevertheless, the Korean Institute of Patent Information (KIPI) is continuously working on further improvements, such as enhancing response times, particularly for larger document volumes. For additional information please contact Mr Yoo Chan Choi of KIPI.

China (CN)

In April 2008, the Chinese State Intellectual Property Institute (SIPO)⁴ launched a Chinese-to-English machine translation tool.

The search interface allows the user to use English expressions in key fields: title, abstract, inventor, assignee, application number and IPC symbol. Claims and descriptions of single, original patent documents can be machine-translated on a complementary basis.

Conclusion

The described sources enable the reader to search, retrieve and understand Asian patent documents in an easy way. A very valuable source of information and latest developments is the website <http://eastmeetwest.european-patent-office.org/> from the European Patent Office (EPO), with hints and useful manuals for the several systems.

The speed and dimension of improvements pertaining to the 'language barrier', especially the machine-translation module in China, surprised the community. Hopefully, this drive will last for the next several years.

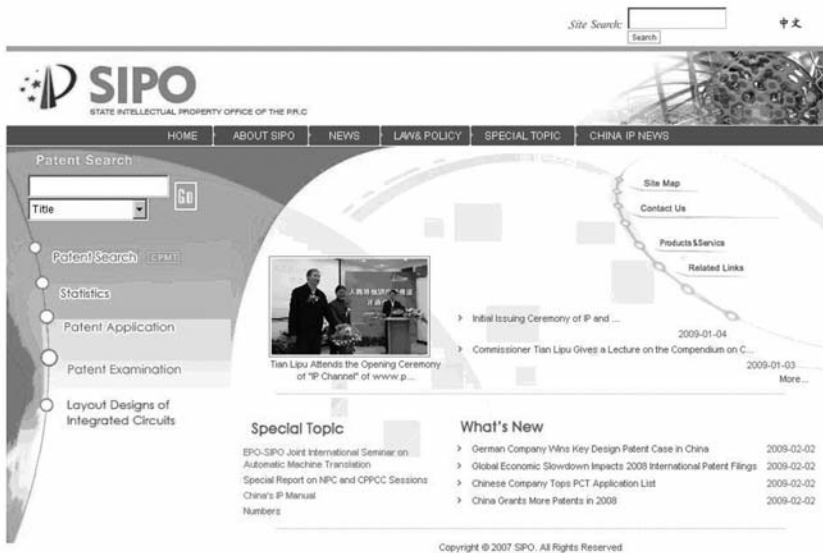


Figure 3 SIPO

Notes

- 1 Source: the WIPO Patent Report, 2007 Edition, pp 11 and 12, http://www.wipo.int/ipstats/en/statistics/patents/patent_report_2007.html.
- 2 http://www.ipdl.inpit.go.jp/homepg_e.ipdl.
- 3 <http://eng.kipris.or.kr/>.
- 4 http://www.sipo.gov.cn/sipo_English/.

Peter Atzmüller is Patent Information Specialist at the R&D department of voestalpine Stahl GmbH, which is a steel producing and processing company, based in Linz, Austria. He was certified as 'Patentrechercheur LGA' from the German Landesgewerbeamt Nürnberg in March 2008 and has been involved in posting activities in several patent information forums (eg PIUG). Additionally, he was invited to act as chairman at several EPO conferences. His main projects were the 'implementation of the patent management system' from 2005 to 2006 and the 'development of an integrated patent management workflow' since 2006. Furthermore, he leads several projects, eg the 'development of a semantic patent analysis tool' (article in the World Patent Information doi:10.1016/j.wpi.2008.10.005). Further details: peter.atzmueller@voestalpine.com; website: www.voestalpine.com.

Making the most of Patent Information

Rupert Mayer, Unycom

Looking at the Other Side of the Coin

Companies often have a strong focus on their own IP rights when they start to think about intellectual property management. Nonetheless, it is equally important in a comprehensive IP management strategy to consider external patent applications and patents, most particularly those of your competitors.

Patent Information as a Strategic Success Factor

Patent publications are one of the most important sources of information about the technological and economic developments in a certain business area and about the R&D efforts of the players in the field. Collecting and digesting this information on a regular basis is a prerequisite for keeping your own R&D activities focused and on track.

In the following we will discuss four main reasons why keeping a close watch on third party patents is a key element in the successful implementation of a product strategy and the R&D strategy derived thereof:

1. Ensuring freedom to operate
2. Avoiding duplication of R&D work
3. Discovering technology trends
4. Finding external technology partners

1 - Ensuring freedom to operate

It is the nightmare outcome of any R&D project, and it still happens frequently: after years of development you end up with a product or technology which has already been patented by someone else. To avoid this, a thorough patent search is indispensable in the starting phase of such a project. But it is equally important to accompany the development effort with regular updates on changes in the surrounding patent landscape.

2 - Avoiding duplication of R&D work

According to the European Patent Office, up to 30% of all expenditure in R&D is wasted on re-developing existing technical solutions. The macroeconomic damage of these duplicate efforts is estimated in the tens of billions of Euros per year in the EU alone. Giving engineers access to patent information significantly reduces the probability that they will spend their time working on solutions that others have already found.

3 - Discovering technology trends

A further valuable aspect of patent information is its usefulness for competitive intelligence purposes: although patent applications are published with a delay of 18 months, they can frequently serve as early indicators for the R&D focus of competitors or in a given field of technology. As an example, it has been visible from patent data for several years that strong efforts are being made in the automotive industry to develop safety and warning systems which prevent the driver from falling asleep. Only very recently has the first carmaker announced such a system in a production vehicle.

4 - Finding external technology partners

New names of patent applicants and/or inventors appearing in your field of technology will help you identify institutions or individuals who may be valuable partners for your company. Such partnerships may include

- *Licensing in* for quick access to technology, e.g. reducing time-to-market
- *Licensing out* to generate additional revenue streams
- *Cross-licensing* to strengthen both parties' IP positions
- *R&D co-operations*, e.g. with universities and research institutions
- *Joint ventures* with companies which have a well-matching technology position
- *Acquisitions* of companies with a strong technology position

Another interesting aspect is the identification of key inventors whom you will want to keep in your company after an acquisition. You may also actively try to attract such individuals to your company from the outside.

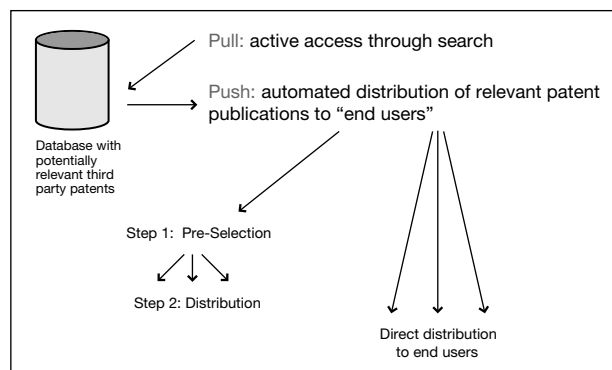
Setting up the Process

So far we have identified a strong need for disseminating patent information to different target groups throughout your company. These include primarily the engineers and scientists in the R&D department, but also other groups such as marketing and sales people. We generally refer to all these persons as “end users” of patent information since in most cases they do not have expert knowledge on the patent system, and they lack the skills and experience needed to carry out patent searches.

Basically there are two ways of making patent information accessible to these persons:

- a) PULL – giving them access to search tools
- b) PUSH – actively serving them relevant patent information

A well-designed PUSH approach will in most cases be far more effective to ensure that the right information is actually read and used by the end users. It also facilitates a loop of feedback and control between the end users and the responsible IP manager.



The selection of potentially relevant documents from the vast number of new patent publications which are published every week is typically achieved with a filter based on patent classes, often combined with keywords and applicant names. This so-called search profile or search strategy should be defined with the help of an expert skilled in the art of patent searching.

Inevitably, this filter will deliver not only relevant information but also some “noise”. For this reason, the process is often structured in a way that an individual in your company with a broad overview and experience goes through a manual pre-selection step to identify potentially relevant documents, which are then distributed to end users for further evaluation. Whether such a manual pre-selection step is useful to enhance the effectiveness and efficiency of the evaluation process depends on the level of experience and available capacity among the different persons involved.

As a more recent development, text-mining algorithms give “intelligent” assistance both at the filtering level and in the pre-selection step. These algorithms can calculate the probable relevance of each new document according to its textual similarity to other documents which have previously been identified as relevant.

Software Support for Patent Information Management

The process of patent distribution and evaluation which has been outlined above consists of the following major phases:

1. Collecting information from outside sources
2. Distributing the information within the company
3. Gathering feedback and retaining the knowledge

For step (1), you can choose from a number of patent databases, including free services provided by the patent offices as well as commercial databases, depending on your search needs. Step (2) is often accomplished manually per e-mail or even paper circulation of patent documents. The loop is only closed on an ad-hoc basis when an end user actively gives feedback to the IP manager on a particular document.

As an alternative to this manual retrieval and dissemination some vendors offer integrated software systems which cover all aspects of the process. These systems provide the weekly delivery of pre-filtered data as well as supporting the workflow of distributing the information to different user (groups) and collecting their feedback in a timely manner. After evaluating a patent, users can enter their assessment and comments in the software. Such systems are available as hosted internet applications with subscription-based pricing models, so they do not necessitate a heavy IT infrastructure within your company.

The main advantage of these systems, beside the automation and integration of the single phases, lies in the fact that all the knowledge which is created along the process by the different people involved is retained for the company and made searchable in a database. This way, the patent database actually becomes an information repository of technology know-how. Such a systematic documentation of own and third party patents will help your company to base your developments on the state of the art and to prevent duplicate R&D efforts as well as infringing on third party patents.

Summary

We conclude with a summary of the most important aspects to keep in mind when designing a corporate patent monitoring process:

- Bring relevant patent information to the right persons on a regular basis
- Allow recipients to attach their evaluations and comments to patent documents
- Build up a searchable knowledge base of patent and technology know-how
- Raise awareness and acceptance for patent information with “end users”



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4

Revenue models

Start-ups and spin-outs

For anyone entering the IP arena, for the first time some special considerations apply, says Gwilym Roberts at Kilburn & Strobe.

The set of intellectual property (IP) considerations which apply to companies new to intellectual property, be they spin-outs from universities, start-up companies or established companies who wish to underpin their innovation, have some special features. In all of these cases, once the commercial strategy has been determined it is essential to assess whether an IP strategy would support the business. For companies in the business of technical or brand innovation, at the very least, an IP strategy is likely to be essential. The companies need to audit any existing IP that they own, ‘mine’ for IP that had not previously been recognized and set out a thorough and practical capture strategy for future IP as it develops. They also need to understand the types of IP and the role of IP, as well as how it can be procured and exploited, and companies need to grow their IP strategy as they themselves grow. Any company coming into the marketplace with innovative products should also assess the risk of third-party IP becoming a significant threat.

The commercial strategy

Technology-based companies always need to consider IP carefully. Not only does it provide exclusivity and repayment for their R&D efforts, it can be used as a commercial tool in negotiations or disputes with third parties. This extends to any company that innovates, whether it is developing products or brands.

Essential questions are:

- Do we want to have a monopoly, ie exclude all of our competitors from innovations we have developed?
- Alternatively, do we want to develop licensing revenue for our technology or negotiating positions for accessing third-party technology?
- Do we want to raise money or even sell the business based on the strength of the innovations we have developed?

If the answer to any of these is in the affirmative then an IP strategy should be developed.

IP strategy – the high level

At the high level we want to decide what innovations we should patent:

- Tier one: At the very least the company should look to build a patent portfolio around any innovative features of their core products and processes, ensuring that third parties cannot simply copy.
- Tier two: The company may want to build a ‘buffer zone’ around their products, for example by patenting less attractive alternative or competing technologies.
- Tier three: The company may want to look actively at competitor activity and consider building patent obstacles in the way of known competitor development.

IP strategy – the low level

At the low level, systems must be initiated for accessing the company’s IP. Even if a company involved in technical development has never filed a patent application it probably has large amounts of unexploited IP already in place. An audit can be very simply set up to see if any registered rights have already been put in place by the company and also to consult technical personnel about undisclosed developments which could form the basis of patent protection. A simple way of facilitating this is for a brainstorming session supervised by a patent attorney or technical manager.

An IP capture process can then be set up, tabulating the concepts already within the business and providing the framework for capture of future concepts as they are devised. The main keys to a successful capture strategy are education, administration and proportionality. Education is essential to ensure that the innovators within the company understand both how to identify protectable IP and the systems within their company for taking the necessary steps to obtain protection. At an administrative level the company must have an individual who has the task of coordinating with the inventors, ensuring that information is kept in an accessible and reproducible manner and liaising with external patent advisers. Proportionality is also essential. A company with a small engineering department would not want to support a complex IP logging and registering system and may want to rely, for example, on an IP capture

session during regular team meetings. On the other hand, large departments may require a more detailed system, perhaps based on their intranet.

Growth of the portfolio generally must be managed carefully as IP procurement can give rise to a large number of rights and increased costs. Liaison with commercial personnel is essential to make sure that IP is maintained, or abandoned, depending on its importance to the business as a whole. Eventually the IP function may grow to a level whereby it is cost effective to hire in-house expertise rather than outsourcing the work.

Exploitation

Before the IP strategy came the commercial strategy, and it is essential that the company operates with the commercial strategy as the prime driver. The IP strategy should be regularly reviewed as the commercial strategy develops to make sure that it is still providing full support. If the strategy of exclusivity is being pursued then third-party activities should be monitored carefully. If a licensing strategy is being pursued then potential licensing opportunities should be actively investigated and monitored. And if sale of the business is sought, then a clear view of the strength of the existing IP is essential.

Third-party rights

As an entirely separate issue, if a company is proposing to roll out a new and innovative product then the potential risk of infringement of a third-party patent should be considered very carefully. It does not matter that the company is unaware of third-party IP, nor that it developed its products independently – if the product falls within the scope of someone else's patent claim then the patent owner could obtain an injunction and damages, which could be catastrophic to a business.

Any company should therefore consider what level of due diligence they should operate in relation to potential third-party threats. At the very least, companies should look at their direct competitors and assess whether there is IP belonging to those competitors which could present a risk. Then, mitigation strategies are available, including invalidating third-party IP or redesigning products so as not to fall within third-party patents, but the risk has to be identified first.

Conclusion

IP is essential for a technically based or innovative entity. Whether for a licensing or protection model, or with the aim of obtaining funding or exit, the IP strategy must always be driven by the commercial landscape and the scope of any IP capture and procurement scheme should be defined by the resources available. In an ideal world

a company will seek not only IP core to its products but also additional IP providing a buffer around a core product and potentially creating specific competitor obstacles. The risk of third-party IP must be considered. Whatever system is developed should add value and be designed not to present excessive cost or consume effort extending beyond the benefits provided.

The extent to which these increasing levels of IP activity are adopted is a factor of not only financial but also engineering resource. However, a thorough patenting strategy will be a strong basis for any commercial strategy and will create the basic IP rights which the business can then enforce, license or sell as appropriate.

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Options for keeping a lead in technology

Patent value funds? Patent pools? Open innovation? Licensing management? Guido von Scheffer and Mattia Fogliacco at IPB consider the options for saving financial resources, reducing R&D risks and preparing for tomorrow's markets.

Financial crises, economic downsizing, recession... the most common reaction to this serious situation we are facing at the moment is cost cutting. This is in many cases efficient and important in order to maintain short-term liquidity and in some cases, simply, survive. All areas which are not indispensable to life are drastically cut, eg research and development (R&D) expenditures. To seize the chance that lies in every crisis, it was important to have land, labour and capital in the late 19th and the 20th centuries. To seize it today it is important to have intellectual property (IP) and capital. New options such as patent value funds, patent pools, open innovation strategies and efficient licensing management are the tools to keep technology leadership, secure values and be prepared for tomorrow's markets.

The standard scenario – and why it might be the first to die

Between necessary and useful cost reduction and hazardous actions

Difficult macroeconomic conditions are deeply affecting companies' strategies. Shrinking demand, worsening financing conditions or even lack of financing, and

decline in expansion prospects are leading to an obvious and sometimes necessary cost cutting. Nonetheless, it is important to differentiate between useful cost reduction and hazardous cost cutting: the first is embodied by realignment to the new conditions, the second hits the drivers of competitive advantage. Technology-driven companies will impair their future competitive advantage and will face a difficult time in exiting the crisis once macroeconomic conditions improve (owing to the lack of innovative products/services).

Nonetheless, companies tend to hit innovation budgets harder and, because R&D investments are not productive today, there is a more than proportional cost cutting compared to other functions. The post-cut remaining budget is then mainly allocated to short-term projects, attempting to help a company improve its position in times of recession, but not afterwards.

Evolution of IP management

Protection and monopoly

The IP department's major task is the protection of proprietary R&D results. The inventions are used in order to bring innovation to the markets and create a technology hedge. Technology leadership is reflected in new products, more sales, higher margins and a patent-protected monopoly. This paradigm is commonly recognized in the industry as 'closed innovation'.¹

Generating revenues out of non-core IP

Commercializing non-core IP is the first step towards a more 'open innovation'² model. More effective IP management acknowledges that some IP is not relevant any more from a strategic point of view, directly (used in the product lines) or indirectly (blocking competitors). This pool of IP is divested to create further revenues.

Licensing out IP

Setting up a strategic licensing programme for all technologies owned by the enterprise (core and non-core) is the first active step towards a more open attitude in the Markets for Technology (MFT).³ The IP department is asked to maximize the revenues deriving from their technologies, while maintaining or enhancing their



Figure 4.2.1 Evolution of IP management

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technology leadership. By strategically licensing all technologies to the market, even to competitors, it is possible to establish standards and block the development of substitute technologies, while improving the cash position for financing future technology development.

Licensing in IP

The strategic licensing programme also involves external IP sources. IP management focuses on the whole enterprise. This step, which is of crucial importance, involves understanding that a company, even a technology leader, cannot rely only on the R&D run in-house. Further sources of premium R&D are now present in the MFT and these technologies must be licensed in or acquired in order to maintain technology leadership and control the technology segment. Otherwise competitors might do that and leverage on a new technology hedge.

Efficient technology scouting

Technology scouting is the ultimate step to active IP management. The company addresses technological demands before IP is created (internal or external). The IP department in cooperation with the R&D and Sales departments creates and maintains the technological roadmap. All internal and external sources are used to create and secure the company's future technology position. In such a complex environment it is virtually impossible for normal productive companies to deal effectively with the MFT. Thus new business models and attitudes are needed. Intermediaries covering this specific segment of the MFT are now arising and are carrying out professionally the matching of technology demand and technology offer. New innovation financing models (such as patent value funds) help the major problems linked with the different positioning of technologies coming out of universities and R&D centres (early stage) and the technology appetite of companies (looking for technologies that have already been developed) to be overcome. This evolution is characterizing a further division of innovative labour, which will make innovation processes more efficient and ensure a wider supply of technology to the markets.

New options

Open innovation

A range of different approaches, such as open innovation, have been developed in recent years, geared towards achieving more economical R&D. This hinges on the world's top researchers injecting their know-how into an array of R&D projects, some which may be multinational in scope. Open innovation, for example, was developed by economist Henry Chesbrough in 2003, and began receiving considerable attention as a management strategy promoting the exchange of knowledge and technology. This model operates on the principle that companies need to make use of

external knowledge in both partnership and non-partnership contexts to achieve substantial improvements in the technologies they themselves rely on.

For example, an open approach is common for pharmaceutical corporations. According to a study conducted by Roland Berger Strategy Consultants, 80 per cent of drug makers prefer to purchase outside know-how by means of partnerships, licensing deals or buyout. Only roughly 20 per cent employed a ‘closed’ model of in-house R&D only.⁴

This trend has been accelerating outside the pharmaceutical sector with lead users such as P&G⁵ and is starting to be a new paradigm of innovation. Even though such a model is able to reduce costs and rationalize the utilization of resources, it is a counterintuitive approach in times of recession, because companies have a very focused approach towards innovation.

Patent value funds (fund-financed R&D)

Accessing external resources and know-how facilitates technological development and can open up new market avenues. The patent value funds concept is a new approach to innovation which appeared in the MFT during 2006–2007 and is offering an option to keep or increase the pace of innovation for companies while reducing risks and cutting costs. The closed-end funds are building a bridge between the patent and capital markets. Therefore a new company – a special-purpose vehicle (SPV) – which is managed by technology and IP specialists is created. The patent value funds (PVF) are founded with money from institutional and/or private investors, who are looking for investment return. A company using this innovation model is able to boost its R&D capacity utilization, and often generates additional income.

The model can be used either to outpace R&D risks and expenditure or to use the facilities of the fund-financed R&D to enlarge the company’s R&D activities to early stages of development without taking a higher risk. Normally this seed phase is financed only by business angels or the venture capital (VC) community. Both demand the founding of a start-up, which by definition will be a new competitor in the market. The PVF is a non-competitive element, which is acquiring young and high-potential technologies and financing their full development, bearing all costs and the technology development risk. Even during the incubation period the technology is offered to industry partners.

To date, several patent value funds have been launched on the German market. Three of them – for a total volume of about €200m – work together with one of Germany’s leading banks. This model shows a new solid and advantageous option to strengthen a company’s technology position under normal macroeconomic conditions and is offering an opportunity to keep up the pace of innovation in times of recession.

Patent pools

‘There is nothing more difficult to take in hand, more perilous to conduct, or more uncertain in its success than to take the lead in the introduction of a new order of things.’⁶

In 1856 manufacturers Grover, Baker, Singer, Wheeler, and Wilson formed one of the first patent pools. They were all accusing each other of patent infringement. Through an initiative of Orlando B Potter they decided to pool their profits rather than sue each other.⁷

The pooling of patents, licensing all patents in the pool collectively and sharing royalties, is not necessarily an antitrust violation. In a case involving blocking patents, such an arrangement is the only reasonable method for making the invention available to the public.⁸

In recent years this system has become of crucial importance for the introduction of any technology: setting a standard is a way to impede competitors from introducing substitute technologies as well as to coordinate the inputs across the innovation value chain. The patent pools, collecting and coordinating the IP embodied by a technology, are able to redistribute the value originating from the commercialization of this technology.

R&D collaborations

The general idea of R&D collaborations is to use joint forces to overcome high R&D risk and to discover ‘uncharted waters’. Thus, new technology areas, which are normally financed by government aid, now become the focus of commercial activities. Reading the recent press releases, this model seems to be in vogue for a variety of industry sectors in order to follow common targets:

- 5 May 2008: Intel, Samsung, and TSMC cooperate on 450mm wafers.⁹
- 7 July 2008: BASF, SAP, Merck KGaA, Roche Diagnostics, Heidelberger Druck and Freudenberg found a joint venture called ‘Innovation Lab’.¹⁰
- 19 August 2008: Bosch and Samsung start a \$520 million joint venture, SB LiMotive, to produce lithium-ion batteries.¹¹
- 15 December 2008: Daimler and EVONIK’s subsidiary Li-Tec cooperate on the Li Battery.¹²

Apart from risk- and cost-sharing opportunities in R&D projects, the partners in R&D collaborations are benefiting from reduced risks of antitrust issues. Forcing one of the partners, for reasons of public interest, to grant compulsory licences to anybody might be very difficult, owing to the fact that collaboration has already broken up the monopoly.

Conclusion

In a time of recession, business exigencies cause the vast majority of companies to adopt a reactive stance to innovation. Strategic decision making and a long-term view should not be sacrificed to the necessities of the here and now. In an economic downturn, in-house innovation should not suffer deep cuts in R&D budgets and downgrading of priority.

Economic conditions in a recession are difficult enough without risking the loss of, if not the ability to achieve, technological leadership. Businesses must therefore proceed carefully regarding their IP activities. Active IP management means reviewing internal uses for patentable inventions as well as looking for licensing or sale opportunities outside the core businesses, while at the same time looking out for relevant new licensable technologies that can significantly cut time-to-market within core businesses.

In summary, the open innovation approach and a high pace of innovation are also possible under distressed macroeconomic conditions: the key is looking to the new opportunities offered by the MFT and by the new innovation models. The offloading of development risks, reduced time-to-market and the ability to reduce costs and rationalize resources enable innovative companies to maintain and even expand their technological leadership, even in times of recession.

Strategic investments in tomorrow's technologies will secure today's technology leadership and enable tomorrow's market leadership.

'We have to invest massively into R&D and at the same time our revenues are shrinking. This is not an easy situation! Nonetheless: It's also a change...' (Dr Dieter Zetsche, Chairman Daimler AG, 23 January 2009)¹³

Notes

- 1 Henry Chesbrough (2003) *Open Innovation – The new imperative for creating and profiting from technology*, Harvard Business School Press, Boston.
- 2 Not to be confused with open source, see note 1.
- 3 Gambardella, A, Fasfuri, A and Arora, A (2001) *Markets for Technology*, MIT Press.
- 4 For companies like Procter & Gamble, on the other hand, open innovation is a core element within the overall innovation management strategy for reducing time-to-market. P&G was on the verge of a deep crisis while still adopting a closed model. After changing this approach to 'open' they have seen a sharp steepening of their success rate in market-oriented innovation. A while back, the consumer goods giant initiated both the External Business Development Organization and the Connect & Develop Organization as effective interfaces for accessing external solutions and ideas.
- 5 Over 70 per cent of Procter & Gamble's revenues are based on outside innovations.
- 6 Niccolò Macchiavelli, *Il Principe*.
- 7 See also: Isaac Singer/I. M. Singer & Co.
- 8 International Mfg. Co. v Landon, 336 F.2d 723, 729 (9th Cir. 1964).
- 9 Intel Corporation: <http://www.intel.com/cd/corporate/pressroom/emea/deu/archive/2008/391579.htm?print&nocc>.
- 10 Spiegel: <http://wissen.spiegel.de/wissen/dokument/21/90/dokument.html?titel=Deckname+Da+Vinci&id=57970912&top=SPIEGEL&suchbegriff=innovation+lab&quellen=&qcrubrik=nature>.
- 11 <http://www.thedeal.com/corporatedealmaker/fastsearch?tag=SB%20LiMotive&IncludeBlogs=30>.
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- 13 <http://news.feed-reader.net/3499-daimler.html#2812443>.

IPB is one of Europe's technology industry's leading service providers for IP evaluation, IP financing, IP management and technology scouting. IPB supports companies as well as individual inventors to create, incubate, manage, finance and commercialize tomorrow's technologies to maximize their IP values.

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Licensing

Christian Fortmann at 24IP Law Group describes the anatomy of an effective licensing contract.

In today's world of interconnected markets, with the consumer market and production market sometimes being worlds apart, the exchange of ideas, know-how and trade names has become an essential and inevitable part of day-to-day business life.

The regulation of such an exchange of ideas, know-how and trade names, as well as the regulation of how their owners are compensated for allowing others to use the results of their creativity, is what we call licensing.

Terminology

The term 'to license' or 'to grant a licence' means to give permission to someone to use something that is not rightfully theirs in the first place; here this refers to ideas, know-how, names etc. The licence refers to that permission as well as to the contract regulating that permission, in which a licence may be granted by a giver, ie the licensor, to a receiver, ie the licensee.

In short, granting a licence to someone is nothing more than a promise, given by a party holding an intellectual property (IP) right of whatever kind to another party, not to take action against them, even though they would have the means to do so.

Foundations

The indispensable basis for a working licensing scheme is the existence of well-documented IP rights such as patents, trade marks, design registrations, and/or



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copyrights, among others. It is very often forgotten that a licensor, ie the party granting a licence, can only allow another party, the licensee, to do something if, without such permission, the licensor has well-established rights to take action against the other party using their ideas, names, technology, know-how etc and stop them from doing so.

Simply being the first to have an idea, product or name is usually not enough to establish proper rights. In particular, when it comes to technological developments, trade names or designs it is necessary to invest in establishing those rights in the form of patents, trade marks or design registrations first, before a licence can be granted.

Furthermore, what has to be kept in mind is that, owing to the diversity of countries and legal systems, protection for IP rights very often ends at the border of the respective country for which those rights have been obtained and/or registered. Equally, depending upon the respective intellectual property right, the term for which it provides protection may be limited, and may even vary from country to country.

Considering all of the above is the foundation for any working licensing scheme a properly functioning portfolio management of IP rights. Without it, any licensing scheme is bound to fail miserably.

Anatomy of a licence agreement

What is common to all types of licensing agreements, whether it is a technology licence, a franchising contract, which inevitably includes a licence to use some kind of trade mark, images, slogans etc, a straightforward trade mark licence, a character licence for reproduction of characters used in movies, books etc, or an art licence for reproduction of photographs, paintings or other pieces of art, is that they must be clear about the who, what, where, and when of the licence to be granted, and must contain specific passages dealing with those questions.

Who?

What must be crystal clear in every licensing agreement, as in any other contract or agreement, is who are the parties to the contract that would like to enter into a licence agreement, and what their intended business in connection with the licensing of IP rights is. The who of a licensing agreement is crucial for another reason, namely as the party to the contract, and its place of business can have far-reaching implications for the contract's validity, as well as for how the contract will be construed in case of a dispute, in particular when the parties to the contract come from different countries.

What?

In this section of a licence agreement the IP right(s) that form the basis of the licence agreement must be defined beyond doubt. This means that it is not sufficient simply

to say that party A is the owner of trade mark 'xyz', but that it is necessary to provide the exact details of ownership, registration, legal viability and country in which the respective rights were registered. In particular, when it comes to brand extension schemes or merchandising contracts, in which the names, pictures, logos etc of a licence are to be used on products that on first sight have nothing in common with the original product, eg a movie or a book, the clear definition of the rights to be licensed is very often unclear, which in the case of a dispute can have disastrous consequences for both sides. Accordingly, any agreement that contains a grant of a licence of any kind should be as specific as possible about the rights in question. Furthermore, and in particular in connection with trade mark licences, brand extension licences etc where often agents are used as middlemen between the actual licensor and licensee, care should be taken that the chain of title for the respective licence right is properly defined and laid out in the contract.

Where?

The question of which territory a licence shall apply to is a very delicate one and great care should be taken. First of all, a licence for using a certain IP right can only be granted for such territories in which this particular IP right has come into existence and is valid at the time of signing the contract.

What has to be kept in mind, furthermore, is the fact that, even though licensing contracts are usually free from formal requirements, nothing can be agreed between the parties to a licensing contract that would contravene statutes and regulations of the country or political region in the territory of which the licensing agreement is to be put to use.

The best example of such a limitation to the freedom of the regulations as contained in a licensing contract is the principle of free trade between the countries of the European Union, as the free flow of goods between the countries of the European Union is one of the Union's overriding principles, and one of the reasons why it was created in the first place. Accordingly, a territorial limitation of a licensing contract to a single country of the European Union is useless and will be considered invalid in so far as no contract can forbid anyone in the European Union from actively delivering his goods to anyone else with an address in the European Union who ordered it. What can be regulated in the licensing contract, however, is the right to limit active marketing of licensed goods to a certain country within the European Union, as marketing has only remotely to do with the free flow of goods.

When?

Finally, the question of how long a licensing agreement should remain alive must be contained in every licensing contract. Not to include a regulation on the term of the agreement, even though possible, leads to uncertainty about what the time limitations of the agreement should be, and can lead to disputes between the parties. Uncertainty is exactly what a contract is meant to avoid.

The term of a licensing agreement can be made dependent upon many things, ranging from days, months and years to the lifetime of an underlying intellectual right, ie the expiry of a patent.

Differences

Even though, as pointed out above, licensing contracts for technical licences, trade marks, copyrights etc have much in common, they must differ in other areas, as the intention in technology licensing is different from trade mark licensing, copyright licensing etc. In technology licensing it is the use of a particular technology by the licensee, usually without being visible to the consumer. The licensor will therefore most likely be less interested in the quality of the product of the licensee, as long as royalties are paid on time. In trade mark licensing, however, the good name of the licensor is at stake. They will be interested in a much tighter quality control of the licensed products, as any fault will be associated with them.

Conclusion

For all of the above, a licensing strategy must be planned and executed carefully, under consideration of all the many parameters involved. Experience shows that even in areas in which a particular right is licensed over and over again, such as in merchandising, contracts and agreements can and should vary substantially to reflect the specific situation.

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Patent pools

The classic assumption of 'one invention, one product' rarely applies, says Dr Stefan Rolf Huebner at Hinkelmann & Huebner. In many new fields of technology, inventions can be exploited best in combination with someone else's.

Independent vs complementary inventions

The basic principles of the system of technical protective rights that is the laws in force in all important industrialized nations date from the time of the Industrial Revolution. They are based on the pattern of innovation that was normally the case at that time and can be summed up by 'one invention, one product'. An inventor invents a useful new product and is rewarded for this by a patent that creates for them a temporary monopoly on marketing the product.¹ The better the invention, the more valuable this monopoly is. The result is a mechanism stimulating innovation that is elegant because it is self-regulating. This concept still works even when a product realizes a number of inventions simultaneously, so long as the relevant patents are under the control of the same company, eg because all of the inventions were made in this company. The inventions are independent in the sense that they may be converted into products independently of inventions patented by other parties.

Many new fields of technology are, however, dominated by inventions which can be meaningfully exploited only in combination with inventions of other patent holders or the value of which at least considerably increases as a result of being combined with the inventions of other parties. One reason for this is that usually the emergence of a new field of technology brings with it a large number of basic inventions, on which successive inventions then build and upon which these later

inventions are therefore dependent. Another reason is the continuing trend of cross-linking products, which requires interoperability and standardization. In other words, a product can exist in the market only if it has specific, generally patented, essential features. A DVD recorder, for example, is the product of a combination of more than 100 inventions of over 20 different companies and research establishments. These inventions are complementary in the sense that they add up to a product, ie an innovation, only when combined with the inventions of other patent holders.

The need for cooperation

Complementary inventions require an innovation culture that is geared to cooperation and allows companies to open up their technology portfolios to one another in order to achieve appropriate exploitation. In an international survey, about 90 per cent of businesses indicated that they rely considerably on external or cooperative sources of technology.² Is the existing patent law suitable for promoting such activities? Or is it perhaps even a hindrance?

Because a patent assigns each invention to a patent holder, technology is split into numerous proprietary fragments. The patent holders of complementary inventions have to join these together in order to arrive at a marketable innovation. This can prove difficult in practice because each individual patent holder has to consent to the exploitation of their patent rights. These numerous individual negotiations are expensive and delay the introduction of the new product, not least because they tempt the negotiating parties to demand unreasonably high remuneration for their respective contribution, with the result that the sum of the charges is greater than the profit to be expected from the innovation – an effect for which the graphic term ‘royalty stacking’ has been coined. The higher the number of patent holders involved,

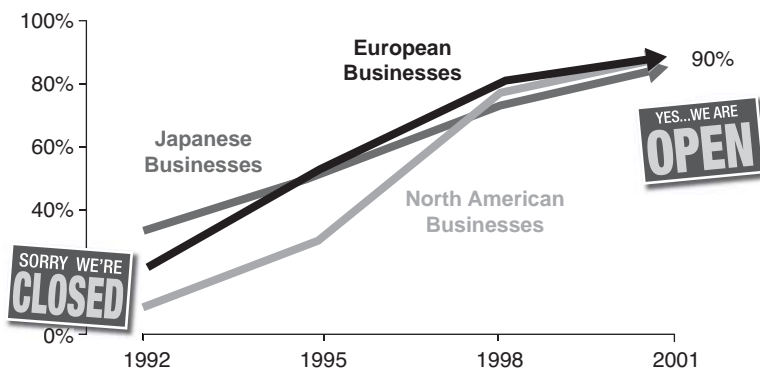


Figure 4.4.1 Share of companies with high reliance on external or cooperative sources for technology (in %)

the greater the risk of failure of the entire project. This is sometimes referred to as an ‘anti-commons problem’ – in an allusion to the directly opposite phenomenon of the ‘commons problem’.³

Cooperation in patent pools

However, many successful joint innovations, such as dynamic memory chips, control systems for motor vehicles and data compression methods for DVDs, demonstrate that there is a way of getting round the problem. Each of these innovations is based on a patent pool. The partners of the patent pool waive the monopoly right, to which each is legally entitled, for the benefit of the partnership. These rights are replaced by new, contractually agreed rules governing the joint exploitation of the inventions and the remuneration of the individual contributors. By fixing in advance a remuneration formula (or a cost-free cross-licence) for future inventions, the need for individual negotiations can be eliminated. Simple rules and a clear allocation of roles focus the expertise of the partners and prevent conflict. It should be noted that the fact that the members of the patent pool have waived their legal rights does not mean that patents could be dispensed with altogether;⁴ for it is only through patents that inventions become marketable and can then be introduced into a patent pool. The patents therefore retain their reward function because they offer the person introducing them the advantages of membership of the pool.

Patent pool requirements under antitrust law

Because of the obvious influence of a patent pool on competition, not only competition between the members of the pool but also competition between members and non-members of the pool, patent pools fall within the regulatory scope of antitrust law. Added to this is the fact that agreements regarding the creation and organization of patent pools – unlike conventional bilateral licensing agreements between licensor and manufacturer – are not covered by the European Technology Transfer Block Exemption Regulation.⁵ At this point, it should be made clear that the joint exploitation of patents still does not create a cartel. The classic ‘one invention, one product’ patents are after all already monopoly rights that temporarily restrict the freedom to imitate and hence competition for the benefit of the inventor – this restriction, however, being particularly desirable because of its effect of promoting innovation.

A patent pool merely replaces a single beneficiary with a collective. There is therefore no reason why a joint monopoly of several parties should in principle have a more detrimental effect on competition than the monopoly of a single party. Quite the contrary, the pool usually creates competition between the members of the patent pool because they are bringing onto the market competing products that all realize the joint technology. Moreover, it has been shown empirically that an innova-

tion can be disseminated faster by a number of companies than by a single company, for which reason alone a patent pool encourages progress.⁶

On the other hand, patent pools must not be used as a pretext for price fixing or an unnecessary concentration of licences. As a classification, European antitrust law, following the practice in the United States, resorts *inter alia* to the criterion of ‘essential’ technologies. A technology is essential if it is a necessary part of the product, there is no substitute for it, either inside or outside the patent pool, and it is covered by at least one protective right. A patent pool that embraces only essential technologies is generally regarded as unobjectionable under antitrust law.⁷ The ‘essential’ doctrine imposes special requirements on the organization of the patents of the patent pool: each patent has to be drafted in such a way that its scope covers precisely one aspect of the respective invention that, in the sense of antitrust law, is a necessary part of the product, for which there is no substitute. If the patent pool underpins a market-dominating standard, the patents moreover also have to be available to non-members of the pool under reasonable and non-discriminatory licensing conditions.⁸ This is intended to prevent a cornering of the market by the patent pool that is detrimental to competition.

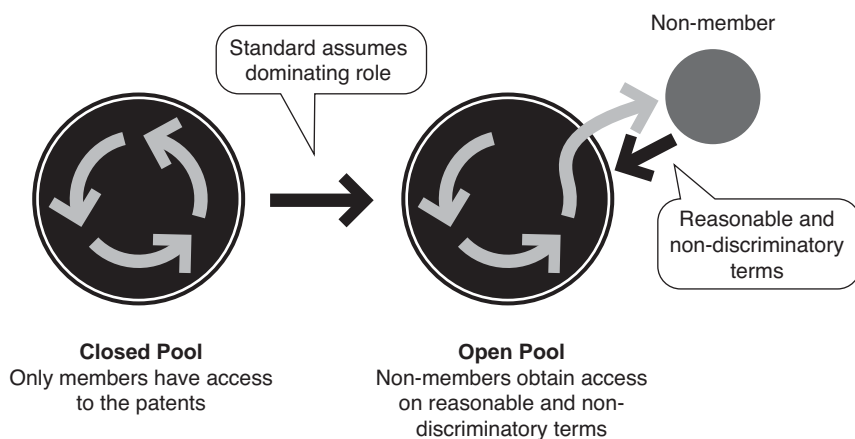


Figure 4.4.2 If a standard assumes a dominating role in a market, the patents underpinning the standard have to be made available to non-members of the pool on reasonable and non-discriminatory conditions

Conclusion

Complementary inventions require an open innovation culture. The members of a patent pool create this by voluntarily waiving their individual exclusive rights in favour of a collective exploitation. Thereby, they can circumvent the anti-commons problem and reap the fruits of their inventions.

Notes

- 1 Rudolf Krasser (2004) *Patent Law*, 5th edn, p 50.
- 2 Edward B Roberts, *Global Benchmark Survey on the Strategic Management of Technology, Research Technology Management*, 2001; Alexander Gerybadze, *Jahrestagung Innovationsrecht*, 2004.
- 3 Michael A Heller and Rebecca S Eisenberg, Can patents deter innovation? The anticommons in biomedical research, *Science*, **280** (1998), 698 ff; John P Walsh, Ashish Arora and Wesley Cohen, *Effects of Research Tool Patents and Licensing on Biomedical Innovation*, OECD Conference on Industrial Property Rights, Innovation and Economic Performance, Paris 2003. Cf. also Nikolaus Thumm (2004), Strategic patenting, *Biotechnology, Technology Analysis & Strategic Management*, **16** (4), 529 ff. and Bernd Lutterbeck *et al* (2000) *Contradiction in Terms?* A short report prepared for the Federal Ministry for Economics and Technology, Internet Governance Research Group, Berlin, p 23.
- 4 Robert P Merges (1999) *Institutions and Intellectual Property Transactions: The case of patent pools*, University of California at Berkeley School of Law, working paper.
- 5 Regulation (EC) No. 772/2004 of the European Commission of 27 April 2004 regarding the application of Art. 81 subsection 3 of the EC Treaty to groups of technology transfer agreements.
- 6 Guidelines for the application of Art. 81 EC Treaty to technology transfer agreements, ABl. EU, No. C 101 of 27.4.2004, para. 9.
- 7 Guidelines (Fn. 6), para. 220.
- 8 Guidelines (Fn. 6), para. 226.

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Dr Huebner's clients include several renowned research institutions and internationally well-known technology companies. He has published numerous articles in leading law journals concerning current problems in patent law and has served as an adviser to the European Patent Office, the United Nations and other national and international organizations.



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Patent and Trade Mark Attorneys

Outsourcing and the extended enterprise

Formerly head of IP at Hewlett-Packard UK and now a director at Keltie, Richard Lawrence says that outsourcing is a powerful stimulus to performance, although the IP can become complicated.

A business will normally require many tasks to be completed before its products or services can be brought to market. It would not normally carry out every such task itself. Expert legal advice would be obtained from professional advisers, and raw materials and components would be bought from suppliers. A modern trend is to take the contracting-out of tasks much further than before. Functions which may have once seemed integral to a business are now ‘outsourced’ to third parties. What looks to the customer like a single business may now be a much more complicated thing – a set of companies bound together by a complex set of contractual relationships. Such an ‘extended enterprise’ is a normal feature of modern business life.

Many business strategists now suggest that, if possible, a business should outsource everything but its ‘core competence’ – the things which it does particularly well, and which would be hard to imitate. Functions can be essential to a business without being core competences. Logistics is fundamental to a manufacturing business but is now generally outsourced, and even businesses in the information technology (IT) sector will often outsource management of their IT infrastructure. This can extend to research and development (R&D) activity, even for companies with a reputation for technical innovation. Such a company may consider early-stage research to be best carried out in collaboration with universities and industry partners, perhaps through an open innovation model. Development of a key – but non-differentiating – compo-

nent may be carried out with a supplier without the company retaining control of the component's subsequent commercialization.

The role of IP in traditional supplier and customer arrangements is generally well understood. In the extended enterprise, the intellectual property (IP) position may seem more complex, and it may be tempting not to give it the attention needed to understand it. This would be a mistake. In the extended enterprise, IP relationships between the parties involved are fundamental to the commercial relationships necessary to make the extended enterprise work. Unless care is taken, the IP relationships will not support the commercial aspirations of each party involved, risking the commercial relationships between them and the extended enterprise itself.

Before going further, it is worth considering the general role of different types of intellectual property and how this changes in the extended enterprise.

Patents protect inventions, and enable a company to control their commercial exploitation. In an extended enterprise, rights to use patented inventions may be needed by a business other than the one that generates the invention (and who would own it, under normal legal arrangements). It is also possible that inventors will come from several companies, not just one, in which case a resulting patent will be owned by all the companies unless they agree otherwise. While an invention may arise in developing a particular product or service, very often it will have broader application – in these cases, more than one business involved in the extended enterprise may wish to use the invention in commercial activities which may or may not conflict.

Copyright (and similar rights such as unregistered design right) protect the owner against copying of a significant part of an original work, such as the code for a computer program. Copyright does not protect ideas, but specific expressions of ideas when fixed in some way, like ink on a page or code on a computer's memory. Modification, for example writing new code derived from existing code, needs the permission of the copyright owner. This can create tension between an outsourcing customer wanting to control the use of code written to meet its commercial need and a service provider wanting to use that code to solve similar problems for other customers more simply and effectively.

Trade marks originally served as a badge of origin for goods and services, linking the owner of the trade mark with the goods in the mind of the customer. This does not translate readily to the world of the extended enterprise – what the customer is associating with the goods is not one company but an affiliation of several. Care is needed to make sure that the trade mark lies with the business that controls what the customer associates with the brand, and that all the other businesses involved are licensed to the rights that they need.

For all these IP rights, an appropriate licence to use the IP right may be what a business needs, rather than ownership. Ownership of an IP right gives the power to sue unauthorized users (or infringers) whereas a licence is a permission to use the IP right under certain conditions. Crafting an appropriate licence for each business will generally be more fundamental to a collaboration than ownership of the IP rights themselves. This may be best seen through examples.

Example 1: Creation and management of new IT infrastructure

A company decides to upgrade its IT infrastructure and outsource management of it. A systems integrator (the supplier) is commissioned to obtain and install the new system according to customer specification, to transition the customer's existing processes across to the new computing environment, and to manage the infrastructure for some period of time.

IP will not be important to many tasks (such as, say, buying and commissioning a new server). For others, significant IP may be used or generated. The computing environment itself may have new properties or qualities. There will be new copyright in any newly written software, and rights to this new software may be important to the customer (modifying the customer's proprietary applications for the new computing environment) or important to the supplier's business (porting standard third-party software to a new third-party operating system for the first time). In all of these areas, there is potential for tension between the customer and the supplier. This tension may be seen in negotiation over IP rights. This may be a good thing, as it helps both parties to understand their role in the relationship better.

While supplier and customer will normally agree that nothing should affect ownership of pre-existing IP (known as 'background IP'), there may be a sharp difference of opinion as to who 'should' own or control newly created IP rights. A customer may feel that for work identified as a deliverable, payment should lead to ownership of the created IP rights, and that the supplier should not expect to reuse them. A supplier will feel that its business is the supply of IT services, and that where new IP relates to this business, it needs to control it and the customer does not. Note that if the supplier does not even have rights to use such new IP, the contract may make the supplier less effective as an IT service provider as a result of the contract – it will be hampered by not being allowed to use a piece of knowledge that it already has.

The practical answer will normally involve a compromise based around what customer and supplier really need for the future. It is best to do this by agreeing appropriate licensing terms in the original outsourcing contract, preferably before any significant new IP has been created. For the customer, the main benefit in outsourcing will typically involve a greater flexibility in matching service provision to its day-to-day needs, the ability to obtain expertise as needed at a reasonable price, and the ability to maintain its existing proprietary advantages (but not, generally, development of new proprietary advantages). For the supplier, the money that it receives may not in itself be enough to make the relationship worthwhile. It may also need to be free to use the solutions that it has developed in order to make profits on other engagements.

Viewing IP issues in terms of future needs in this way makes practical solutions easier to find. The customer needs to control its own custom software, so perhaps it should own new IP involved in the rewriting of the software, or in porting it to a new environment. The supplier may not need any rights to this IP outside this relationship. By contrast, it is the supplier who may need to own IP involved in the adapta-

tion of standard third-party software to a new computing environment, as this is a problem that it will need to solve again – the customer's needs may be met by a licence to the code with appropriate rights to modify it further if needed.

Where the supplier and customer have a competing commercial interest, it is best to deal with this directly. For example, the supplier may now be better placed to provide a similar service to the customer's commercial rivals, because they will have similar problems to the customer. Using IP rights to prevent the supplier from working effectively for these customers is more likely to poison the relationship between customer and supplier than to provide a genuine commercial benefit to the customer. A more practical solution is to factor this into the main negotiation over contract price. It is perfectly reasonable to do this, as the best arrangements for IP ownership and licensing of IP rights are those which fit the commercial situation best. The law may determine who will own IP rights if the parties involved do not make other arrangements, but legal default provisions should not dominate the commercial needs of the parties. IP rights are to reward innovators, and if they are not being used to promote commercial success they are not being used effectively.

Example 2: Complex supply chain

In traditional product development, a developer may use off-the-shelf components or provide a broad functional specification of a required component to a component supplier. In either case, it is unlikely that the manufacturer could reasonably expect significant control over IP rights in the component.

Modern product development often involves significant co-development by product and component manufacturers (customer and supplier respectively). Initial design ideas may originate from either, but both will generally contribute significantly to the final component specification. The customer may have developed a prototype component, and the supplier may have made further developments to enable the component to be manufactured to a sufficiently high quality at a sufficiently low cost. Both stages could involve creation of IP rights affecting manufacture and sale of the final commercial component. Simply determining first ownership of many of these IP rights may be difficult enough. To work out the most effective arrangement for ownership and use of these IP rights requires the commercial needs of customer and supplier to be considered carefully.

Some tension between customer and supplier can be expected. The customer, with a view to maintaining market advantage, may wish to retain ownership and control of all IP rights that they have created or commissioned. The supplier may look to retain ownership and control of all IP rights necessary for them to produce a component of the type produced for the customer.

This looks difficult to resolve, as the interests of the customer and the supplier will clearly diverge if the supplier looks for other customers for the component. In practice, the supplier and customer will understand each other's business and commercial needs reasonably well, and so may be more prepared to find a suitable compromise.

Again, the best solution will recognize the future needs of both customer and supplier – it will find a way to provide market advantage for the supplier while offering a developing commercial possibility for the supplier which will not be based solely around one customer.

One approach may be for a proprietary component to be developed for the customer while allowing a generic component to be developed and sold by the supplier into a broader market. This may involve some transfer of ownership in IP rights created in developing the product in a product development agreement between customer and supplier, and will certainly involve appropriate licence terms. As before, it will always be desirable to put contractual arrangements in place before significant new IP has been created in co-development. Another possibility would involve the supplier having rights to develop and sell the component exactly as produced for the supplier – this could have considerable advantages for the supplier, as it would eliminate the overhead involved in manufacturing, selling and supporting different products – but returning some form of royalty to the customer in respect of the IP that it had contributed to developing, thus placing the customer at a commercial advantage with respect to the competition.

There are many practical possibilities, and the main consideration is to achieve a result which does the best job of satisfying the genuine commercial objectives of both parties. One note of caution should be sounded. While a practical solution can usually be reached, a legal review of the specific IP arrangements proposed between customer and supplier will always be needed. This is because of the danger that such agreements will distort the market, which can give rise to offences under competition law.

Conclusion

While these two examples address very different situations, certain common principles apply in each case. IP can provide an effective instrument of control in the relationship, but it should be handled to support each party both in the relationship and for their legitimate commercial aspirations.

Certain issues will appear regularly. A key issue for a supplier or a service provider will be repeatability. If they do not retain capacity to handle similar work more effectively in the future – for example, by selling a developed component to others, or by performing a service more effectively – their capacity for generating any long-term economic advantage will be small. For a customer, the primary benefits of outsourcing are flexibility and cost – there may be a need to maintain some proprietary advantage, but this will generally not extend to all areas of the outsourced activity.

Outsourcing is an important area of modern business activity and IP is fundamental to it. IP rights can be used both to underpin relationships in the extended enterprise and to provide a platform for the commercial aspirations of every party involved. This will only happen if the parties take the trouble to understand what their partners really need, both in the relationship itself and to develop their business in the future.

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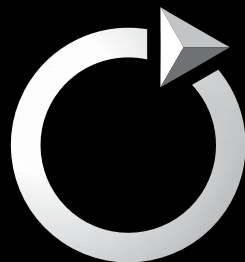
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Patent marketing

Rolf Rings discusses the legal boundaries and the commercial possibilities of using patents to advertise yourself

The significance of patent marketing has considerably increased within the last few years. However, the management of companies has to bear in mind various legal boundaries and prescriptions when putting patent cases and patent information in public advertisements. For innovative and IP-driven companies, the offensive use of patent rights in marketing measures is nevertheless decisive for business success, and in any event, a plurality of marketing possibilities are given in this respect.

Interesting patent issues for innovation marketing

The main purpose of patent rights or other technical IP rights like utility models is the legal protection of innovations and the offensive and defensive legal effect provided by the patent protection monopoly. Furthermore, it is more and more acknowledged that patents have an additional economic value: patents may nowadays be used for venture capital raising, developing additional sales arguments, license agreement negotiations and last but not least in the marketing and advertisement of companies. The term “*patent marketing*” covers every patent-related advertising or marketing measure by companies with commercial public or internal aims. In the past, several different types of advertisements relating to patent issues were used. Examples are: “*12 patents a day keep competitors away – in 2003 BOSCH applied for 2,750 patents.*” (BOSCH in 2004); “*With the application of approximately 2,000 patents each year, DAIMLER secures its leadership in technology and innovation*” (DAIMLER in 2004); and “*8,192 PATENTS since 1947 held internationally*” (SALOMON in 2007). But an even broader use of patents in marketing policies is possible as shown in the following.

While in the US patent marketing or the marking of products with patent numbers is widely used by companies, European companies have until now been rather reserved in this respect. According to a recent statistical survey, approximately one third of the US companies use patent indications in marketing – but mainly also legally driven – whereas in Europe and in particular in Germany only 5 % of the companies use their patent rights in advertisement measures. However, the marketing with patent rights is a powerful competitive instrument for demonstrating a technical leadership. Legal boundaries and business possibilities of such patent marketing measures are discussed in the following.

Legal framework of marketing with patent rights

Advertisement with patent issues is generally permitted provided that it is true and objective. Legally, the marketing with technical IP information like patent marketing is in most countries restricted and governed by competition law. In some countries like the United States of America, the enforcement of patents is only possible if the patented products are marked with the respective patent numbers (so-called “marking provision” 35 USC § 287(a)).

But in most European countries and in particular in Germany, the legal framework of patent marketing is regulated by competition law (UWG in Germany) and has to be within the criteria of an objective and non-misleading information. For example, care has to be taken with marketing at an early stage of patent prosecution. Some German courts still regard the mentioning of patent applications before the expiration of the 18-month publication of the patent offices as an unfair and prohibited marketing issue. Statistics with patent numbers like the above examples in the introduction are usually no problem under unfair competition law. As regards the marketing of conflict-related patent issues, a further requirement of completeness of the description of the legal situation is given according to German case law. Therefore, if a company regards the following **legal points**, an advertisement and marketing with patent-related issues by companies can effectively be communicated:

- Factually correct patent marketing (i.e. with patent number and WIPO country code)
- No misleading patent information (such as “*protected by patent application*”)
- No use of generally not accepted abbreviations for patent protection (like “DPA” for German patent application filed)

- Completeness of information in the case of patent conflicts (legal status of proceedings like "non-final judgment", "parallel opposition or nullity proceedings pending", etc.)

Within these boundaries, any innovative IP-driven technology company may effectively use its patent cases in marketing measures. Such a use of patents in marketing can have a powerful influence on competitors as well as customers in their purchase decision.

Business options for patent marketing

The commercial and in particular marketing-related potential offered by patents or patent applications takes many forms. The public associates with the notion "PATENT" in a marketing sense a highly innovative product, which is furthermore legally protected and examined by the patent office. Besides on the legal functions, such as protection of own products, warning of competitors, providing legal information or establishing prior art, the use of patents in marketing messages is based on the following **marketing functions**:

- Communication of new patent rights
- Building up an innovative company reputation
- Deterrent effect
- Collecting venture capital
- Motivating company personnel
- Suggestion of technical leadership

A possible marketing mix for patent-related company advertisement measures can be as shown in the following diagram.

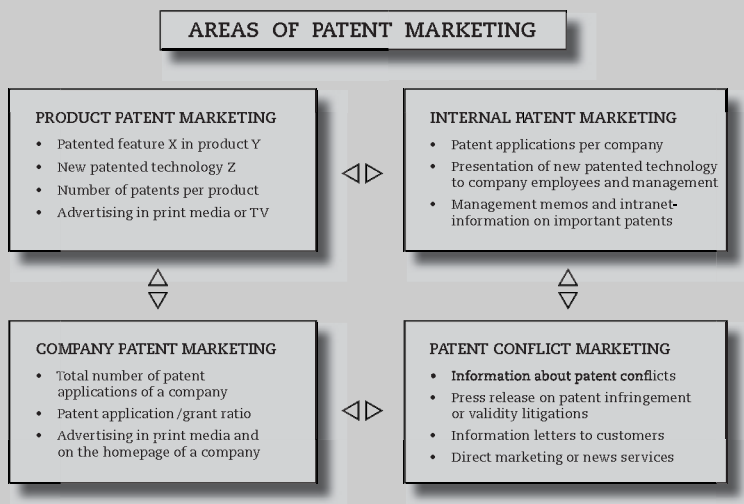


Fig.: Marketing mix for patent marketing

Advertise products with patent information (product patent marketing)

In product patent marketing, a new product is presented with related patents or patent applications. One example of product patent marketing is "PATENTED honeycomb-formed drum" by Miele Company for an innovative washing machine. Some companies market their new product introductions with statistical numbers of related patents, such as "The new automotive vehicle includes new technologies protected by over 90 PATENTS/PATENT APPLICATIONS". For product patent marketing, the following **marketing media** are possible:

- Advertisements in print media
- Advertisement on television or over the radio
- Patent marketing on the packaging of products
- Internet and intranet marketing in relation to respective product names, brands (trademarks) or company trademarks

Patent-driven companies and their marketing (company patent marketing)

A typical kind of company patent marketing is the use of patent number statistics. By using the overall number of patent applications filed by a specific company in one year, for example, the marketing tries to suggest an eminent innovative leadership. Although many patent applications are filed for rather minor technical issues or details and some patent applications are even only filed as so-called defensive blocking-off patents (Sperrpatente), the public perception seems to be that patent-active companies are more on the innovation edge compared to companies, which do not file patent applications, which, by the way, is true in most cases.

Motivate your company personnel with patent information (internal patent marketing)

A new and important patent marketing aspect is internal marketing with patent issues. Since the personnel and management of companies is often not sufficiently informed about the patent applications based on inventions made by the developing engineers and filed by the legal department or external patent attorneys, it is useful to communicate also internally own patent applications and patent proceedings, in which a company is involved. By such internal patent marketing, the own personnel will not only have the necessary legal information, but will also perceive the company as an innovator, and this will increase the productivity. Possibilities of internal patent marketing are patent abstracts in intranet databases, inventor prizes, division-related internal patent statistics or management memos. Financial data with relation to patent cases, such as ROI analyses or license figures, may also effectively be used for internal patent marketing.

Patent conflict marketing

In conflict situations regarding patent rights, companies have a further field of possible marketing. Patent proprietors as well as alleged or actual infringers of patents will have an interest in communicating the respective views to the public. Any patent infringement proceedings will certainly have a considerable influence on the market share. In such situations, direct marketing measures like customer information letters are required, but marketing in print media or on the homepage of companies is also an appropriate marketing measure in such situations.

According to German Patent Law, the new Article 140e German Patent Act (§ 140e PatG) provides with the implementation of the European Directive 2004/48/EC on the enforcement of IP rights the possibility that a patent owner and plaintiff in infringement proceedings may ask the court to order the infringer to publish the (final) judgment at the cost of the infringer. Besides this new legal possibility, any company, which is involved in validity or infringement proceedings regarding a patent, may use its own advertisement messages in order to influence the market and the customers. In this regard, the company marketing should not only respect the above-discussed competition law requirements of factual and non-misleading information. In such situations, the German case law requires furthermore that a full picture of the infringement case be given. If nullity or opposition proceedings are pending in parallel to infringement proceedings, for example, the company using such a patent conflict in advertisements should mention these validity proceedings and all relevant prior art. Otherwise, such marketing measures will most certainly be considered as unfair and prohibited under the German Unfair Competition Law. This will be similar in other European and non-European countries.

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Freedom to operate

You own an IP right, but can you use it? William E Bird, a European, British and German patent attorney at Bird Goën, explains how to check where you stand.

FTO, or ‘freedom to operate’, refers to determining whether a particular commercial action, such as licensing, testing or commercializing a product or process, can be done without infringing valid intellectual property (IP) rights of others. There is a common misinterpretation of intellectual property rights: that these registered rights represent an allowance to use. For real property there is a positive right to live in and use the property, eg a house, and there is the negative exclusive right to exclude others from entering the property. Because intellectual property law belongs to ‘property law’ in a broad sense it is often assumed that there is a positive right to use the intellectual property. For example, there is a common assumption that a granted patent is an ‘approval’ by the patent office for the patent owner to use the patented invention. This is not the case. Intellectual property law only takes over the negative exclusive right from property law. This means that a granted patent can be used to prevent others from implementing the invention of the patent – however, it is not a licence to operate.

Thus, it is advisable before introducing a new product on the market (method, device, apparatus etc) to determine (ie an FTO analysis) whether there are third-party patent rights which might be infringed by the new product. Business transactions where FTO can be of importance include mergers, acquisitions, financing of new companies or projects, joint ventures, spin-offs, licensing, buying or selling goods or services. Such business transactions can involve several parties, for example a target company, a would-be purchasing company, investors, licensees, licensors,

suppliers, or distributors. Establishing FTO is becoming more difficult simply because of the increase in the number of patent application filings and issued patents in recent years.

It can be important to have an FTO analysis available to present to a potential investor when assessing a company's products and patent portfolio. The FTO report can help to reassure investors that the marketing of the intended products will not be challenged by third parties. Hence, an FTO analysis is often an element of a due diligence evaluation of a company.

Investment analysts are now often as interested (or more interested) in a company not being prevented from operating commercially than in having a patent portfolio able to control competition and prevent copying. Competition can mean a technology or price war – an injunction can mean a total stop. If a new company has FTO, then this can be a significant advantage that permits the company to move forward. This can result in a new definition of exclusivity – exclusivity can be as simple as having a marketplace of your own rather than an army of dominating patents.

The FTO search and analysis

The FTO search will attempt to determine the patent landscape of the relevant technology. The aim of FTO is 'product clearance' or 'process clearance', ie to proactively identify patents that might prevent, delay or hinder exploitation and to give an 'all clear' – or to advise stopping. Hence the aim of conducting such an investigation is to reduce the risk of later patent problems. *But* the FTO search can never guarantee that there is a clear path to market products or implement processes. It is necessarily limited by the effectiveness of the search – trying to prove a negative is notoriously difficult. Also, patent applications remain secret for 18 months after filing – hence all the potentially relevant patent applications cannot be searched at any one time.

Since IP rights are specific to different nations or geographical regions, an FTO analysis should include all countries or regions where the commercial action is to be carried out.

Determining whether there is freedom to operate in any particular jurisdiction relies on searching in patent databases. If a patent application or patent is found in a database that seems to relate to the action for which you are seeking FTO, you can't immediately conclude that there is a problem. There are a variety of reasons why a patent right might not be relevant:

- Patents may not have been granted in some or all of the relevant countries.
- Patents that appear relevant need not be in force, eg the patent proprietor has not paid the annuity fees or the patents may have expired.
- The patents may be invalid because there is more relevant prior art than found in the searches by the patent offices – or may be invalid for other reasons, eg for lack of enablement.

- The patents may be unenforceable – eg if the patent owner is guilty of inequitable conduct in the United States.
- The claims of the patents may be so narrow that it is easy to design around.
- A company may have started secret use of the patented technology before the priority date of the patent – some countries respect prior secret use.
- Although there is a danger of infringing third-party patents, the third party also infringes your own patents – opening up a cross-licensing defence.

Hence, there may be *defences* against patent infringement. Examples of such defences are lack of novelty, obviousness, lack of sufficiency or enablement, extensions of scope or added subject-matter, no right to the invention. These defences may vary in the likelihood of success, ie on how reliable they may be. For the present purposes the actual success rate of each defence is not so important – what matters is that there is a significant *chance of failure with any defence*. So an FTO analysis is essential if one is to reduce the business risk of patent infringement to acceptable levels.

It is easy to write down the steps of an FTO analysis:

1. Search all known patent databases to determine those patents and patent applications that are relevant.
2. Analyse each patent or patent application to determine if the intended product infringes any claim either directly, by equivalence or in a contributory way.
3. If a claim is found that is infringed, determine whether that claim is valid.
4. If valid and infringed, take action, eg (i) design around or (ii) obtain a licence, or (iii) start a collaboration, or (iv) purchase the blocking patent.

FTO analysis is easier said than done. An FTO can only be based safely on an accurate technical description of the product or process. However, this may not be available at the time the FTO analysis is to be performed. In fact, one object of the FTO analysis can be to define which product and/or process is the safest one to implement.

A single search is often not enough – the search will often include multiple search strategies, and possibly multiple searchers, databases, or searching facilities. Given that there is no legal requirement to conduct an FTO analysis and that its cost can be high, obtaining such an analysis is sometimes not a top priority for many companies. But by performing an FTO analysis, the risk of infringement can be minimized (even if not eliminated), and consequently, it can potentially save a significant amount of time and money later on. It has been reported that an FTO can cost between \$20,000 and \$100,000 to conduct. When compared to the legal costs for potential patent litigation, damage to a company's reputation and/or forced withdrawal of the technology from the marketplace, the cost of obtaining an FTO analysis can be relatively small.

All aspects of the product or process need be considered and searched. Although the main emphasis will be on determining the relevant granted patents and published patent applications, the search may include non-patent literature. This can help to put the patent rights of others in the appropriate context. Searching in non-patent

literature is more difficult than in patent databases. When searching for patents that might be relevant, one uses keywords that hopefully catch all potentially relevant patents. By using such broad terms one gets a lot of ‘noise’ – patents that are clearly not relevant or are only marginally relevant. All these patents must be excluded by careful study. Highly relevant patents are typically analysed in separate non-infringement opinions. The prosecution file history and prior art of record should be obtained and analysed. A patent attorney usually analyses the relevant patent rights, explores expiry dates, payment of annuity fees and so on, and also assesses how the issued claims are to be construed and whether or not the issued claims might be invalid, eg by additional searching. A separate non-infringement analysis needs to be done for each independent claim in the patent. The non-infringement analysis of each independent claim involves (i) claim construction and (ii) reading each construed claim onto the accused product. For such patents it is often useful to investigate whether the patent has survived an opposition or has been litigated. Patents that have survived a challenge are much more powerful. Also, during litigation, patent claims may be construed by a court. This may help in determining the claim scope. Claims may be construed to cover some actions and not others; for example, because of definitions in the patent specification, or admissions made by the patentee while the patent application was being examined. Both direct infringement and infringement by any relevant doctrine of equivalents, as well as contributory infringement, need to be considered. The Protocol of Art. 69 EPC 2000 has now been amended to include a provision relating to equivalent infringement based on equivalents of a claim feature.

Invalidity analysis typically involves first construing the claims, then reading the claims on the prior art to determine whether the claims are valid. Sometimes, questions of non-infringement and invalidity are inextricably intertwined. For example, sometimes a patent claim can be reasonably interpreted in two different ways, eg a first broad interpretation that would render the claim invalid as failing to distinguish over the prior art, and a second narrow interpretation that preserves the claim’s validity, but fails to read on the accused product.

If one wishes to investigate the legal position abroad, competent foreign patent counsel should be engaged to report separately on freedom to operate in foreign countries.

Once generated, an FTO opinion has to be updated to cover changing business circumstances. For example, the product design changes may alter FTO. Unfortunately, the law is not static. This means that one has to review past decisions as case law or codified law develops. Moreover, new patents may be issued, and new patent applications may be published. The business strategy may change, thereby rendering the analysis of an earlier opinion invalid.

What to do if there are blocking third-party rights

If there are valid and blocking intellectual property rights belonging to third parties, several options are available. A first option is to license in the technology. The

licence may be limited to certain activities, in certain markets and for a specified period of time. The convenience of such an agreement will depend largely on the terms and conditions of the proposed licence – and the time and effort needed to obtain it. While there is a risk of a potential loss of autonomy determined by the terms and conditions of the agreement and the patent holder might/will require a lump sum and/or periodic royalty payments, it may also be the simplest way of clearing the grounds for the commercialization of a new technology or product. Sometimes a patent pool is available or a clearinghouse for patent rights. If a licence is refused, a compulsory license may be requested in some countries.

A second option is cross-licensing. Cross-licensing requires a patent portfolio that is of value to potential licensing partners.

A third alternative is to attack the validity of the patent, eg in an opposition or nullity proceedings before a court. Such a procedure usually takes several years, is of uncertain outcome and is usually too slow to be in time for the proposed marketing. One can also consider filing for a declaration of non-infringement at a court.

A fourth alternative is to invent around the invention. This implies making changes to the product or process in order to avoid infringing the third-party patents.

A more extreme solution is purchasing the patent or the patent owner's company.

Buying the patent, buying out the patent owner or negotiating for a licence with the owner of the IP rights is often time consuming and costly. In licensing, the most commonly reported problem by both academia and industry is that licensing negotiations are overly complex. Times to negotiate a licence can be several months, eg six months or more. The most common effect for industry caused by difficulties in licence negotiations is that projects are changed. A particularly difficult problem occurs when licences for many valid patents need to be obtained from many different parties.

If a company does not have FTO, and is thus subject to one or more third-party patents, then the question becomes how to get access to third-party intellectual property without incurring heavy upfront fees or reducing profit by paying royalty fees. A solution can be collaboration or some other type of sharing arrangement, where access to third-party intellectual property is part of the deal.

In the case of process patents it is also possible to move the manufacturing/processing offshore where blocking patents do not exist, until these patents have expired. One has to be careful in doing this as many patent laws protect not only methods or processes but also the direct product of such processes. So even though a process may be safely executed in a non-patent country, the import of the resulting product into a country where patent rights exist may still be patent infringement.

A few examples

A relatively simple example is that of Golden Rice. Potrykus succeeded in genetically enriching rice grains with beta-carotene, the precursor to vitamin A, which gives them a yellow hue. Potrykus wanted to transfer the Golden Rice materials to developing countries for further breeding, and to introduce the trait into the local varieties

consumed in developing countries. However, an FTO survey initially uncovered 70 patents, belonging to 32 different companies and universities. Let us imagine that 32 different licence agreements were then required to guarantee freedom to operate and let us assume that we want a 90 per cent chance of having that freedom. This means that the probability of obtaining each licence must be about 99.7 per cent certain if the cumulative probability is not to drop below 90 per cent – ie we must be almost 100 per cent certain of obtaining each licence otherwise the project will fail. Looked at in this way, an FTO can change its direction from the searching of patent databases to a search for reliable and safe licensors. In fact, in the Golden Rice case, only the six key patent holders were approached, and an agreement was reached that allowed Potrykus to grant licences, free of charge, to developing countries, with the right to sub-license.

In terms of numbers of licences, the Golden Rice case is a simple one compared to problems that can occur if one wishes to commercialize more ambitious projects – such as those involving a telecommunications system. Determining essentiality of patents for a patent pool is just like an FTO analysis. As an example, the MPEG-LA patent pool – to license just a small part of image processing involving the MPEG2 standard – includes more than 700 patents. Selection of these patents involved analysing about 8,000 patents. The determination was a laborious manual process entailing hundreds of hours of highly priced attorney time. If the patent pool did not exist, each company offering MPEG2 would theoretically have to perform the same FTO as was performed by MPEG-LA – and negotiate all the bilateral licences as well!

In 2003, three pharmaceutical companies, Cambridge Antibody Technology, Micromet AG and Enzon Pharmaceuticals, announced that they had signed a non-exclusive cross-licence agreement. In the agreement, all three parties were said to obtain substantial FTO authorizing each other to use some of their respective patented technology. Agreements of this kind have become more common in some sectors, as companies seek to ensure that their products, processes and services do not infringe on patent rights of others. However, horizontal agreements between competitors may be subject to unfair competition law, especially if they pool patents and create a barrier to market entry.

Some practicalities of FTO analysis

As FTO is costly, it is necessary to prioritize which projects should be considered and also determine the best time to execute the FTO. Ideally, a company should have a clear idea of the product or process that is going to be implemented, before an FTO analysis is carried out – but this is rarely the case. For some development projects a good time to execute the FTO would be at the start of the project, ie prior to a lot of investment. If the company conducts an FTO early in the process, an opportunity can be provided to design-around if necessary.

Also, by starting early, time is probably still available to explore other solutions if a design-around is not possible, eg challenging the invalidity of the patents, obtaining

licences, or getting a non-infringement opinion. However, starting early can also result in wasted time and effort, eg if the project is still too vague as to its likely outcome.

FTO can also be a long-term project. An ideal situation is always to be ahead of any third-party patents, ie to have a history of sales of product, filing of patent applications and technical publications that prevent third parties from gaining a proprietary position over your own products and/or processes. It has been reported that on average 35 per cent of the patent portfolio of companies is designed to maintain FTO compared to 47 per cent used to protect current products from imitation.

It's all about elbowroom – capture a piece of technology turf and then hang on to it.

William E Bird is a founder partner of the IP law firm Bird Goën & Co. During the past 20 years he has worked as both a corporate and a private-practice patent and trade mark attorney in Germany and Belgium. He has expertise in both common law and codified legal systems, in IP law, technology transfer, IP licensing and the setting-up of spin-off companies. He is a European, British and German patent and trade mark attorney, a tutor at CEIPI and a lecturer at the Vlerick School of Management. Further details: www.birdgoen.com.

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Collaborative ventures

Keep innovating by collaborating, but watch your IP, advises Dominic Elsworth at Hargreaves Elsworth.

When times are good, collaboration is not always high up on the agenda. If finance is available, why give away potential business?

However, when the going gets tough and the finance dries up, businesses must look for other avenues to allow them to continue to conduct research and develop new products. Collaboration is one such avenue, which if done well can be beneficial to all concerned.

That said, many prospective collaborations fail to materialize, and those that do often do not have happy endings. The sticking point is often about who exactly owns the intellectual property (IP). For collaborative ventures to work smoothly this fundamental issue of ownership must be resolved.

Before considering how to operate collaborative ventures it is first worth looking at some more fundamental questions, as one must know the answer to these before considering how to operate such a venture.

Why collaborate?

While collaboration is often talked about as a goal in itself, in fact organizations only ever collaborate for one reason: each party needs something that the other has. Research teams at different universities may have reputations in different fields, but a potential area of research may cross more than one field. To obtain a research grant it may be necessary to show that the research will be carried out by a team of people with experience in all the fields. Hence, the universities come together. In the more

commercial world a product may require development for a particular application. This may require knowledge of the product and the application, and such knowledge may not be held by one organization, hence the organizations in question collaborate. A collaborator may use a venture to learn about a market, be that a new geographical market or a new technical market. At a more basic level, the nature of the innovation to be embarked upon may be such that the costs are so great they cannot be borne by one party alone. This has happened in the defence sector for many years, but owing to the poor availability of finance could spread across other areas through the downturn.

Considerations for potential collaborators

Any collaborator should understand the motivations of its fellow collaborators. Such understanding may be gained from open discussions prior to collaboration beginning. It may also take the form of research and investigations into the potential collaborator.

Such research and investigations will pay dividends when seeking to negotiate a collaboration agreement. For example, if the investigations show that the collaborator has connections in particular markets, be they defined by geography or technology, it should then not come as a surprise if the collaborator seeks rights to exploit the outputs of the collaboration in those markets. They may also uncover a potential collaborator's real motives for collaboration.

Who brings what to the collaboration?

Organizations would not be collaborating unless each was bringing something to the venture. In order to avoid the possibility of disagreements down the line it is important for the collaborating parties to identify what they each bring to the venture. Of course, this will include details of the capabilities of each organization. It is also important that each party identifies what intellectual property it owns, in order that there can be no argument at a later date that a piece of technology resulted from the collaboration rather than the efforts of one of the collaborators alone.

How will the collaborative venture be managed?

Collaborative ventures need to be given continual impetus, with clear targets for each collaborator. One very important aspect of management is how knowledge arising from the collaboration is managed. This is very much a management issue and involves the provision of resources which allow information to be stored in a manner where it can be accessed easily by all collaborators, the scheduling of regular meetings between collaborators, and the establishment of reporting structures to provide for the screening of new knowledge for patentable inventions.

Who gets what?

Another vital aspect of any collaborative venture is for the parties to agree the rights of each party both during and after the venture. Is each party to have equal access to all outputs of the collaboration, or will the access depend on which collaborator came up with the particular idea? While unequal access may appear fundamentally opposed to the ethos of collaboration, there is no one correct answer. For example, there may be very good reason for collaborators to have rights in different territories or technical fields.

How is intellectual property resulting from the collaboration to be owned and what will be done with it?

In terms of patents, to determine ownership one must go back to the person who is the inventor and then look at how rights in the invention and to the grant of a patent may have passed from the inventor, which may occur by virtue of employment or by assignment.

It is usual for the right to an invention made by an employee in the course of employment to belong to the employer, the specific details being dealt with in national law. Hence, if the collaboration is between two businesses, under normal circumstances the businesses would each enjoy rights to the inventions of their own employees. A collaborator must satisfy itself that the key personnel of its fellow collaborators are in fact employees, and if not that other arrangements for the transfer of inventions and the right to patents have been put in place. This is a particularly difficult area for universities. Businesses collaborating with universities should seek undertakings that intellectual property rights arising from work performed by the university do belong to it.

It would often appear equitable for collaborators to own patents jointly resulting from collaboration. In some cases this works, but joint ownership of patents comes with its own pitfalls, one of which is that each joint owner may work the patent for its own benefit without reference to the other joint owner. Further, in many countries licences cannot be granted without the authority of all joint owners, whereas in other countries any joint owner may grant licences without reference to other joint owners. While this arrangement may work well for some collaborators, for others it may undermine the whole venture. It is often better for collaborators to set up a company in which they each own shares. The patents are then owned by a single legal entity and the questions regarding joint ownership do not arise.

Collaborators must consider what will be done with the technology resulting from the venture, what the rights of each party in terms of commercialization will be, and satisfy themselves that their fellow collaborators will not use the technology in a manner which might not be consistent with their values.

People

People are often the reason for collaborating. What happens if a key member of your fellow collaborator leaves? Is there still a reason for collaborating? What happens if a key member of staff of one collaborator wishes to leave to join another collaborator (which may be the reason why the other collaborator wished to be involved in the venture)? Such questions should be considered before entering into any agreement.

It is important for organizations located in different states who are proposing to cooperate to consider how they can gain the commitment of their staff. Problems can arise where the laws of nation states differ with respect to inventor remuneration. Some countries, Germany for example, have the notion of ‘inventor compensation’ written into their laws whereas others do not. This can lead to staff on the same project receiving widely different levels of remuneration for the same work. Obviously, such a scenario can lead to disquiet and needs to be addressed by managers of collaborative ventures from an early stage.

Who pays?

Collaborators should not only agree how costs associated with intellectual property rights are to be funded, but also who will be responsible for managing those rights, and what should happen in terms of ownership in the event that one collaborator wishes to withdraw from the venture.

What about other work?

Other than where two organizations merge, collaboration is usually project specific, even if the collaboration results in a spin-out company. This means that each collaborator will have ongoing business to attend to outside the collaboration. Where this business involves the development of new technologies it is vital that the boundaries between what rightly belongs to the collaboration and what rightly belongs to the collaborators are clear to all collaborators.

The golden nugget

For a collaboration to be successful for all collaborators, it must not be possible or even desirable for a collaborator who comes up with the golden nugget to attempt to keep it outside the collaboration.

All these issues should be dealt with in a collaboration agreement. Furthermore, such an agreement should be in place at the outset. There is often a strong desire to get on with the work of a collaborative venture, and let the negotiation of the agreement run alongside. This is a dangerous policy which collaborators should resist.

Conclusion

Collaborative ventures can work well, bringing benefit to all concerned, if everyone is committed and the collaborative venture is underpinned by a clear agreement.

Hargreaves Elsworth is a patent attorney practice established in Newcastle-upon-Tyne in January 2002 by its founder, Dominic Elsworth, a registered patent agent, trade mark agent, european patent attorney and European trade mark attorney.

The ethos of the practice is to bring to its clients a service of the highest quality, tailored to specific business requirements, at a reasonable cost.

The practice provides both UK and international clients with advice and support services in all areas of intellectual property law, and in particular patents, trade marks, designs and copyright, know-how, and technology transfer. Further details: Hargreaves Elsworth, 6 Charlotte Square, Newcastle-upon-Tyne, NE1 4XF, United Kingdom. Tel: +44 (0) 191 211 1974; fax: +44 (0) 191 247 7102; website: www.heip.co.uk.

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The competitive landscape

When everyone is innovating simultaneously and ideas flow across networks, how do you tie down the rights, asks Kim Simelius, Managing Director at Tampereen Patenttitoimisto Oy.

A patent is a right to prevent others from making, using, selling and importing the invention. Still, companies often make patenting decisions as if they were alone and without competitors in this world. The philosophy behind this behaviour is that a company should protect the fruits of its research and development (R&D) activity. The end result is that companies end up with great patents – which are only useful in a legal battle against the company itself!

In the good old days, a company would develop a new product, get a patent granted on the core invention, and reap the benefits of the innovation through dominance on the market for many years. Those days are over. Today, the fast development of technology and harsh competition have led to a situation where a single patent does not give enough power to hinder competitors. Today's business environment is one where everyone is innovating simultaneously, and also protecting their innovations actively. Indeed, in many industries we are seeing a patent race, where numerous overlapping and nested patents are granted for the same product. At the same time, products and services are increasingly created in a networked business environment, where a single player covers only a part of the innovation chain.

How does simultaneous innovation, competition and networking affect the optimal patenting strategy of a company? What kind of challenges does such an environment bring in terms of patents? And what can a company do to understand the patent landscape and to deal with the challenges?

Optimal patenting strategy

Where innovation is rapid and competitors close, the way of patenting needs to be considered carefully. In such an environment, individual patent applications cannot have a very broad scope of protection, but more patents may be needed. The reasons for limiting the scope are both to make sure that the company is able to file the patent application first among its competitors and to ensure that a patent can be granted for the innovation in light of what has become publicly known. At the same time, care should be taken to have a good patent specification with different implementation alternatives well described. Such patent applications are more likely to be first to reach the patent office and to sustain challenges against them and become valid patents.

‘Will this patent hit our competitor’s new products?’ should be the driving question when a company decides to file a new patent application for an invention. Of course, the invention has arisen from the research work of the company and may be very tightly related to a product the company is going to make. Even in that case, the patent application should be written in such a way that it covers the features that others are likely to want to use. If the invention is a solution to a problem that nobody other than the company itself will have, why bother filing a patent application?

The number of patent applications needed to gain a competitive edge may be clearly higher than in a blue-ocean situation where there are no or few competitors in the field. This easily drives up the cost of patenting in a competitive industry. At least two basic approaches can help in tackling this cost challenge. As patents are national rights and obtaining a patent in each country has associated costs, building the country programme carefully will yield cost savings. The geographical filing pattern is a decision that needs to be made relatively early in the patent process (around 30 months from filing the first application at the latest). Later in the process, it is still necessary to take care to maintain only those patent applications and patents that have a good likelihood of being useful against the competition. Moreover, it may not make sense to have an overly large number of patents in any single technology field. It is often enough to have a convincing thicket of patents per technology.

Networking and patents

Companies have good reasons for building networks. One is to gain access to a wider innovation pool than that found internally in the company. Another is to be able to utilize some of the internal innovation in the network when that internal innovation cannot be fully utilized inside the company. Of course, most companies have no other choice but to network – a company needs suppliers, since it cannot make everything itself.

In a networked business, innovation flows across company borders. It is therefore necessary to somehow ensure that both the company that innovates and the company

that applies the innovation are rewarded. There are many mechanisms for this, and intellectual property rights is one of them. Having the right patents and making sure that agreements between companies are made correctly are important. This enables the benefits of innovation to be shared fairly.

One of the original ideas behind patents is to allow ideas to be shared and give an exclusive right to the inventor in return. For many years now, the exclusive right may have been too pronounced. In a networked business world, we are moving back to a situation where the patent system is able to boost economy-wide innovation and help share ideas across companies.

Patent-related challenges in a competitive environment

When someone challenges your patent, eg through opposition proceedings, the dice have already been cast. The defence rests on what has been done earlier, but of course carrying out the defence well counts for a lot. Having a good description section in the patent, good sets of claims for all claim categories covering a reasonable scope, and more patents in the portfolio than just the one are things that may save the day. It is good to understand that more often than not the challenge comes from a company that has an issue with the patent.

Defending against a single patent that has been asserted against a company is in principle a simple procedure. One can choose to prove that the patent is not infringed or change the product so that the patent is avoided. Another option is to find documents that pre-date the first patent application for the invention so that it can be proven that the patent is not valid. Ultimately, such prior art can be used, eg in opposition proceedings or in a court of law, to invalidate the patent.

It is important to have a good internal organization both for defending against other companies' patents and for responding to challenges against one's own patents. External help, usually from patent attorneys, should be used for this work, but care must be taken to retain control of the work inside the company. Also, using the knowledge of the internal R&D people is a wise thing to do.

Understanding the patent landscape

Why does a company need to understand its business environment? Asking such a question sounds silly. Yet, many companies today still do not have any information about the patents that may be owned by their competitors and may allow these competitors to hurt the company's business seriously. Patents and other intellectual property rights should be a normal part of business. After all, an issue with a competitor's patent can slow down a product launch or, at worst, stop the sales of a company.

Understanding the environment starts from looking around. In patents, this means doing searches in patent databases using keywords and patent classifications. The search produces more targeted and meaningful results if business intelligence information such as competitor names, features of competitor products, inventor names or other such information can be used as a starting point. This produces many patent numbers for the searcher to investigate.

The most important thing in creating a patent landscape is to make sense out of the large number of patents and patent applications that come out of the initial search. There are some tools for creating statistics from this information, but beyond company names and geographical distribution, such information is not reliable and detailed enough.

There is no replacement for human interpretation of patents. The documents have to be read. Otherwise, the results cannot reliably be used as a basis for decision making. The people doing the reading should be patent attorneys or at least have good experience in patent interpretation. Or would you prefer to make critical business decisions based on computer-generated statistics?

Although individual patents interpreted by a qualified patent attorney are a good basis for decisions, the information is often too detailed. As they say in Texas, 'Don't cloud the issue with facts.' The issue is to see who the relevant patent holders are and what their strength is. Some competitors may have an aggressive history, and some competitors may never be a threat because there is a balance in patents.

It makes no sense to compare patents against patents. In understanding the balance, one needs to look at each competitor and try to understand how well your patents hit the competitors' products and how well their patents hit your products. This balance and the suggested actions are the tools for business decision making around intellectual property rights.

Creating the right balance in patents

At this point, the company has created a good patent portfolio and studied the patent landscape around it, and maybe responded to some patent-related challenges. It is now time to think about how to improve the balance to create business benefit for the company.

On a single-patent level, the options are to design around the patent and to find prior art (fast), to make agreements and to license patent rights (slower), invalidating a patent (slow), or getting patents granted against the competitor (very slow).

On a business level, one needs to consider what issues to deal with and what not. Some things are better done proactively and some need never be done. For example, if a random patent is found and there is no sign that there would ever be a conflict with the patent owner, why do a design-around or find prior art? Filing an opposition may alert the competitor that a patent is indeed problematic for you. So, deciding which fights to fight is also important.

Summary

In a competitive and networked environment, having the right patent portfolio, understanding the role of other companies' patents in your business and being able to defend against patent-related issues are important. Patents should be business as usual.

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Indirect patent infringement

In Germany, every supplier of semi-finished products should assume that they are fully accountable for what the customer is doing with their products, says Dr Klaus Hinkelmann at Hinkelmann & Huebner.

The owner of a German patent has the possibility of enforcing their patent against direct infringers: namely, a person not having the consent of the patentee is prohibited from supplying or offering to supply within Germany a person, other than a person entitled to exploit the patented invention, with means relating to an essential element of such invention for exploiting the invention, where such person knows or it is obvious from the circumstances that such means are suitable and intended for exploiting the invention. This is, however, not applicable when the means are staple commercial products, except where such person induces the person supplied to commit patent-infringing acts.

The damage to be compensated is the damage incurred by the indirect infringement plus the costs of legal procedures. The damage claim might instead be directed to an award of the indirect infringer's profits. In principle, direct and indirect patent infringers are held to be joint tortfeasers, but if an account of profits is demanded, the indirect infringer is liable only to account for their own profits and not also for an account of the profits of the direct infringer.

If the indirect infringer is a competitor of the patentee, it is highly probable that the patentee will not pursue the direct infringer as their potential customer, but as their competitor.

Indirect patent infringement is deemed to exist not only when a patented product is put on the market, but also in the case of a mere danger of indirect infringement, on account of corresponding advertisements. The

patentee is then entitled to an injunction. Whether the patentee is in this case also entitled to damages has so far not been conclusively decided.

Under these circumstances, it is important for a supplier to exclude or at least minimize the risk of being accused of indirect patent infringement. Every supplier of semi-finished products should assume that they are fully accountable for what the customer is doing with the supplier's products. The comprehensive case law of the German Federal Supreme Court (BGH) sets high requirements for a supplier in order to avoid any accusation of patent infringement. The suppliers have to exert extensive due care. Not only known, but also at least probable applications by the customer have to be taken into account. Concrete advance notice regarding protected uses of supplied goods can be sufficient to reduce the danger of indirect patent infringement or even avoid it.

Suppliers of intermediate or semi-finished products are often not aware of their further uses. It is often cumbersome and costly to obtain knowledge about these uses, but the burden is on the supplier to examine and consider their actual use by the customer.

The supplier commits indirect patent infringement if they know that the customer uses the non-patented goods which they have supplied in a patent-infringing manner. Any supply must then be stopped in order to avoid an accusation of indirect patent infringement. Trying not to know about the use by the customer does not change the situation since a patent-infringing use might be obvious.

In general, the supplier will roughly know the use of the supplied articles, but the customer will not provide further details. An example might illustrate how far the supplier must go in exploring the planned use. The supplier might have suggested and delivered to a customer a specific product for the non-patented manufacture of skin-care products. If the customer is known to produce and sell both skin-care and hair-care products, it is reasonable to expect that the customer will use the product for both applications. If the hair-care products containing the supplied product are patented, the supplier will be liable for indirect patent infringement in the absence of corresponding information or even an explicit warning to the customer.

If the customer has so far been producing only skin-care products, but has decided, without the knowledge of the supplier, to enter the field of hair-care products and to use the supplied product in a patent-infringing manner, it will depend whether it was obvious under the given circumstances that the supplied goods were suitable and intended for exploiting the patented invention. If the entry into an entirely different market segment could not have been expected, there is probably no indirect patent infringement.

The supplier has thus to take carefully into account all available information regarding the use intended by their customer and all uses which might be reasonably considered in conjunction with the supplied articles.

The supplier cannot exclude liability for patent infringement and the offloading of the burden of examining the situation to the customer via the terms and conditions of a supply contract. Concrete warnings or express directions of use are acceptable as long as one can reasonably assume that the customer will obey them. An effective but difficult-to-realize measure would be to demand from the customer an undertaking to use the supplied goods only for a specific use.

Indirect patent infringement does not exist if the supplier could not have expected the customer's patent-infringing use of the supplied article, but rather its typical and patent-free use. The existence of a patent-free use as such is insufficient. If a patent-free use is economically meaningful, but untypical for the customer, or economically meaningless, it has to be assumed that the customer does not desire this use.

The supplied product must relate to an essential element of the patented invention. Even a known means can trigger indirect patent infringement, if it is suitable to work functionally together with an essential element of the invention. This is true for a component which is not essential, but in the absence of which the advantageous effect of the patented invention is not achieved.

If a supplier wants to avoid the risk of an indirect infringement they should rule out that the product is either essential for the invention by itself or suitable to work functionally together with actually essential components.

A particular case of supply is when the product supplied is used for substituting a worn part. The question is then whether the replacement of the worn part constitutes a new manufacture of the patented article or whether it constitutes a proper use in the sense of a repair. Here the delimitation between admissible repair and non-admissible new manufacture is relevant, ie whether the identity of the distributed article is preserved by the measures of the customer or if these measures constitute the manufacture of a new product according to the protected invention. This can only be regularly assessed by considering the specific characteristics, effects and advantages of the invention. Moreover, the interests of the patentee worthy to be protected in the economic exploitation of the invention must be weighed against those of the customer who desires unhindered use of the distributed goods. The substitution in a machine of a worn part which needs to be regularly replaced during the lifetime of the machine does in general not constitute a new manufacture. However, if the part to be replaced represents an essential element of the invention, its replacement might again lead to the realization of the technical or economic advantage of the invention. Under these circumstances, the patentee cannot be deemed to have received the profits which they are entitled to receive when the whole machine has been put on the market.

Indirect patent infringement might also exist when some of the steps of a patented multi-step process, on whose result the further process steps are based, is not performed by the supplier or its customer, but rather a third party.

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Contract negotiations

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IP in commercial agreements

IP rights are the starting point, but it is contracts that give them commercial expression, says Leigh Ellis at Gillhams.

In the modern commercial environment, ownership of IP rights is the starting point for exploitation. Contract law plays a central and integral part in the managed exploitation of intellectual property rights, in distribution and agency arrangements. It is the property rights granted in those legally binding contracts that give value to the transaction; contract law is the device used to properly manage those rights.

Intellectual property rights are by their nature restrictive rights. Rights owners are granted the power to prevent third parties using their IP without their consent. When it comes time for materials in which IP rights subsist to be exploited, it is the law of contract that is called upon to permit use of the materials, subject to the conditions of contract.

Contract law

A contract is simply a legally binding agreement. Parties to a contract are at liberty to agree to what may take their fancy and in the terms that may please them. The law imposes limitations on what may be contracted for when the courts find that an agreement is contrary to public policy or otherwise restricted by statute. With this background, owners of intellectual property are free to agree to deal with intellectual property in any way that they see fit.

Contractual dealings with intellectual property

Dealings with intellectual property take two basic forms. First, intellectual property rights are personal property, which means that they may be assigned to another person, subject to very limited exceptions. An assignment of intellectual property rights conveys the title to the rights to another person. Far more frequently, however, these personal rights are licensed to other businesses for a limited purpose or a limited period, in accordance with the particular terms of contract. Among many others, movies, music, software, architectural plans, trade marks, designs and patents may be licensed to businesses or the public at large to use them subject to specified conditions and limitations. These licences, which are in essence permissions, allow the licensee to perform some act in respect to the intellectual property that would otherwise amount to an infringement of the owner's intellectual property rights.

In the commercial environment, contracts allow such dealings to happen.

Confidential information and know-how

A common form of licence is that granted by non-disclosure agreements. Non-disclosure agreements are legally binding contracts designed to impose restrictions upon information released to another person, pursuant to the terms recorded by the agreement. In the absence of a non-disclosure agreement, the discloser of information would be left with their rights under the general law to protect the information released from unauthorized disclosure or use. The general law requires that a claimant must show that the circumstances of the case justify the court finding that the information (1) retained the requisite quality of confidence, (2) was imparted in circumstances importing an obligation of confidence, and (3) that the information has been misused. Establishing such circumstances requires meticulous preparation of evidence. Thus in the vast majority of cases, proving to the satisfaction of a court that confidential information has been misused is an onerous exercise.

Contract law simplifies this. If it were the case that a contract has imposed obligations of confidence between the parties, the discloser is not simply left with their rights at general law. The non-disclosure agreement imposes separate and independent rights to the general law, and indeed when properly drafted, may far exceed the rights that a claimant would otherwise be left with under the general law. As with other types of contract, non-disclosure agreements may be framed to allow different types of uses of the information released – what those terms are depend on what the parties intend to achieve.

Trade mark rights

The law of registered trade marks and unregistered trade marks protect brands, business names, logos, slogans, packaging and shapes in many instances. In indus-

try, service marks and collective marks are also able to be registered, creating a device to set a standard of service and recognition that becomes associated with a particular standard of quality. Again, use of contracts allow businesses to license use of trade marks to other businesses; it may be that a licensor wishes to impose particular restrictions on the size, colour, geographical location or even the place on a website that their trade mark will be used. Provided that these requirements may be reduced to writing with sufficient clarity they may form part of the contractual relations and effectively restrict use of the trade mark. For example, franchises depend on trade marks to create a common branding, as do businesses authorizing others to manufacture packaging.

Copyright law

Copyright safeguards products of the arts, such as manuals, computer programs, commercial documents, leaflets, articles, song lyrics, sound recordings, photographs, film and many others. Businesses that trade using copyright works such as these are entirely reliant on granting licences to their customers on specified terms to generate revenue from using their stock-in-trade.

Contract law allows these companies to restrict and limit use of these copyright works to a fine degree. For instance, a photograph might be licensed for use in print media for a set price and electronic media for an entirely different price, or indeed these uses may be prohibited in their entirety.

Patent rights

Of all the different types of intellectual property rights, it is patent rights that provide the most extensive and complete monopoly over inventions. Products and processes which are inventive may be patented. As the monopoly rights granted are so extensive, so the bar to surpass for registration is higher than any other form of IP protection. Use of patent rights may be managed in the same way as other intellectual property rights.

Commercial environment

When it comes time to make commercial decisions as to the types of uses and licences that will be granted in respect to intellectual property, companies would be well advised to ensure that that contract accurately reflects the commercial intentions of the business. Failure to do so may have dire commercial and indeed legal consequences. Problems may arise by a variety of different courses.

For example, a company may inadvertently accept terms and conditions of the other business printed on the back of a purchase order authorizing the payment. In

such cases, the licensor's own terms of business may be found not to apply. The consequences of this are that the business contracts on unforeseen terms of contract that may well be contrary to its own intentions, and result in foreseen consequences. In one case that the author has advised on, the author of a university course inadvertently transferred the intellectual property rights to a company rather than merely license its use. This placed the university in a position whereby it had divested itself of the assets in which it had invested significant capital expenditure, and that it intended to use and reuse for years to generate income. It had assigned the ownership of the course to the other party inadvertently.

A company may wish to license a company to 'use' certain intellectual property rights on restrictive terms. Difficulties may arise in the contractual meaning of the word 'use' when it is not defined in the contract, and thus introduces ambiguity and uncertainty in the contractual arrangements between the parties. Where a licensor asserts narrow and restrictive rights for 'use' and the licensee asserts broad liberal rights to 'use' the work, unless there is other material in the contract indicating what the parties intended by 'use', it is extremely difficult to ascertain what the parties actually intended to agree, the interpretation that a court would be likely to enforce. In situations such as these where intransigence sets in, litigation is required to resolve the dispute, causing distraction and expenses that are otherwise perfectly avoidable.

Conclusion

Fundamentally, management of intellectual property rights takes place with contracts. Licences and assignment of owners' rights may be coupled with other objectives of the parties, for instance:

1. research grants and consequent dealings with the fruit of such research;
2. funding arrangements and contractual commitments for exploitation;
3. clinical trials and use of consequent results of the trials;
4. fixing royalties for exploitation of intellectual property rights;
5. commercialization of intellectual property and revenue-sharing arrangements;
6. granting of options over intellectual property;
7. grants for licences for evaluation of relevant materials, and onward licenses;
8. cross-licensing different intellectual property rights for mutual research or exploitation; and
9. software licensing.

Like any other commercial contract, dealings with intellectual property may be complicated. Frequently this is the case because the delineation of rights and use rights granted are set out in fine, granular detail. To truly appreciate the effect of such dealings, readers need to appreciate the particular types of rights that may vest in a particular form of intellectual property.

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Model agreements for collaborative research

Drawing on practice elsewhere in Europe, Johan Schlüter led an initiative to create model contracts for use by universities and enterprises in Denmark. He reports on the results and highlights the potential for improving the speed and efficiency with which IP can be transferred.

In 2006 the Danish government published a report about the challenges and opportunities for Denmark in the global economy. A specific paragraph of the report was dedicated to the importance of contractual arrangements between the public research sector and private companies. The ambition and objective of the government was ‘to make it easier’ for the universities and private companies to enter into collaborative research agreements. One of the tools to reach this goal should be ‘model agreements’ and the Danish Agency for Science, Technology and Innovation was asked to initiate and monitor the process towards the drafting of such model agreements.

The Agency appointed to that effect six industrialists and six representatives of the universities to form a committee under the chairmanship of the author of this article. The committee took its name from the chairman.

The experience in the past

The mantra of the committee was the word ‘easier’. The task was not to make it easy for the parties to reach an agreement – contract making will virtually never be easy – but to make it ‘easier’, notably easier than in the past.

So, the committee had to study and understand what kind of problems and obstacles in the past had made it particularly difficult to conclude collaborative research agreements. And the committee had to ask itself whether model agreements would ease the positions of the parties and, in the affirmative, how.

The committee found that the characteristics of the most severe difficulties experienced by the enterprises and the universities were:

- The economic expectations of the universities in relation to their inventions were considered unrealistic by industry.
- And vice versa: the willingness of the enterprises to pay an equitable remuneration for the inventions of the universities was considered too low by the universities.
- There was often a lack of clarity with regard to the nature of the enterprise's right to acquire intellectual property rights (IPR) from the university.
- There had often been difficulties in defining the scope of the rights to IPR acquired by the enterprises and, as a result, difficulties in the price setting.

To the committee it seemed that once the parties had come to an understanding with regard to the transfer of IPR, the rest of the agreement was quite easily completed.

Model agreements: What's the use?

As to the question of whether model agreements would ease the process, the committee was very much aware of the weaknesses embedded in such standards of a general nature: model agreements are made without regard to the specifics of each individual case or to the bargaining power of the parties, and the model agreements that were expected from the committee should embrace all industrial sectors, eg biotechnology, pharmaceuticals, energy, environment, IT, food etc.

The members of the committee were, however, in agreement that model agreements might be useful as paradigms for inspiration and as a practical tool, particularly in the hands of those who are less familiar with the content of collaborative research agreements. Paradigms must be handled with caution, and the manuals to the model agreements proposed by the committee emphasize the necessity of observing the facts of the individual case at hand and the intentions of the parties, which might differ from the thinking behind the model agreements.

The success of model agreements is not linked to statistics showing how many such agreements have actually been signed. The target has been met if the model agreements have been used as a starting point for negotiations, and have been useful in support of the positions and the decision making of the parties. From talks with some of the authors behind the so-called 'Lambert Agreements' in the United Kingdom – probably the best-known standard agreements in Europe in this field – the committee learned that the number of signed agreements has been rather limited, which fact, however, does not reflect any failure because the models most likely have been in the hands and in the minds of the parties before and during the negotiations.

The results of the committee's work

After two and a half years of work, heated discussions, numerous meetings, examination of practices and model contracts in other countries, primarily the United States, the United Kingdom and Germany, and after having scrutinized several hundred contracts previously used in Denmark, the committee published five model contracts with attachments and with extensive explanatory manuals. Furthermore, the committee published a booklet on all relevant Danish and EU rules to be observed when making contracts between Danish public research institutions and private enterprises and for those not experienced in this field, the committee made a 'frequently asked questions' (FAQ) note.

The five model contracts recommended by the committee are:

- Agreement on co-financed research (two parties)
- Agreement on co-financed research (more than two parties)
- Agreement on PhD study (employment of the institution)
- Agreement on industrial PhD projects (employment in a company)
- Agreement on commissioned research (commissioned research and other commissioned work).

The model contracts plus attachments – but not the manuals, the booklet on Danish rules or the FAQ – have been translated into English, see www.fi.dk/modelaftaler.

The main results of the work of the committee concerning co-financed research are the following:

- Within the field of application, such as defined by the parties in one of the attachments, the private company has an unconditional right to buy the inventions or the computer software created by the institution or to acquire an exclusive licence thereto. Only in 'exceptional cases' is the right of the company limited to a first right of refusal. In the committee there was not complete agreement about what constitutes an 'exceptional case', and this lack of guidance to the users of the model contracts is an obvious weakness of the work of the committee.
- In the case of disagreement about the purchase price or the licence fee, the model agreements contain a specific procedure for fixing the price through independent expertise.
- Within the field of application the private company always has a non-exclusive right to use the IPR of the institution.
- All unpublished knowledge (know-how and other background knowledge) made available by the company to the institution shall, regardless of whether confidentiality has been notified or not, be treated as confidential information which cannot be set aside by public rules about inspection of documents.
- Transfer of IPR from an institution to a private company at a price negotiated at arm's length and in good faith will not infringe EU rules against state subsidies.

- The model for co-funded research agreements with more than one company participating provides for a priority rule regarding acquisition of IPR in favour of the company whose field of application – if necessary after a binding evaluation by an independent patent agency – is considered to be closest to the invention of the institution. The other – losing – company or companies will be entitled to a licence within its or their field of application.

Consideration for the free research of the universities

All the model agreements are based on the fundamental principle that improved rights for companies to acquire IPR created by employees of universities must not jeopardize or harm the free and independent research of the universities and the right of the scientists of the universities to publish the results of their research.

Will the model agreements ease the process?

The Johan Schlüter Committee has approved unanimously the Danish model agreements and the additional documents (manuals etc). The model agreements are not mandatory, but are expected to be followed by universities and to be useful paradigms and sources of inspiration for Danish small and medium-sized enterprises (SMEs) in particular. The future will show whether we have made it easier for universities and private companies to come to an agreement about transfer of IPR created during collaborative research projects.

Johan Schlüter is the founder and one of the partners of Johan Schlüter Law Firm. Johan Schlüter Law Firm is a specialist in the fields of Danish and European intellectual property law and acts as legal advisers in highly specialized areas such as IT corporate and commercial, media and entertainment. Johan Schlüter was the chairman of the Danish Johan Schlüter Committee which made the model agreements in order to facilitate research cooperation between Danish private companies and universities. In addition, he is the chairman of the board of several distinguished Danish companies and the secretary general of a number of Danish trade organizations within the fields of film and music. Tel: +45 32 71 20 00; e-mail: jos@jsslaw.dk.

How to pitch safely

Don't fall into the tender trap, says Dids Macdonald at ACID.

Seizing opportunities to submit to a contract tender, or responding to a commercial interest in your services or product range, is a 'no brainer' – but not without its potential intellectual property (IP) hazards. No one could refuse such a business opportunity, but falling into the pitch or tender trap without safeguards can happen to us all! But how do you present your ideas without giving the game away? What safeguards can innovative enterprises implement to ensure that others do not use their intellectual property without permission? Many argue over the ethics of procurement competitions; for example, believing that you should never give away creative work for free because it devalues creativity and ultimately the creation of intellectual property. Nevertheless, regardless of the pitching arguments the key issue is to ensure that intellectual property is commercially exploited by originators and the risks from infringement or unauthorized use minimized.

Take the situation where a chair manufacturer responds to a tender for a major hotel group involving several thousand units. Economies of scale, unit costs, ergonomics, engineering, design, materials, environmental compliance, health and safety, and sustainability will all play their part in the time and costly investment necessary to respond competitively to a specific brief. Those who invest in this pre-tender work genuinely believe that there will be a level playing field. In many instances this is not the case. Some find that their IP has been infringed because their designs/products, if selected, are forwarded to other potential suppliers to provide cost comparisons and possible alternative manufacture.

It is at this stage that the tender originator/their procurement officers/buying departments may lay themselves open to legal challenge, because at this point they do not have your permission to pass on your products if you are the design creator.

Intellectual property is about ownership (ie *yours* – as a designer/manufacturer allowing third-party use). Many more within the creative industries are becoming IP aware, so copycats should be warned! Often, quality and health and safety specifications may be compromised by price, look and feel with scant regard to intellectual property ownership. It is also relatively easy for third parties to reverse engineer (and replicate) rather than invest in original design and skilled manufacture. Sourcing from China may be their option. While presenting positive opportunities for many, this may also lead to shortcuts on quality, reliability and safety. Many design-led companies have said, ‘If price is an option why don’t they come back to us for a re-quote and re-specification instead of going to willing copycats?’ These days, design-led companies will have several different price structures which can work alongside re-specification. The other positive alternative and legitimate route to different manufacture is, of course, through licensing and royalties, offering just rewards for specialist design or creative input.

The standards to which reputable manufacturers conform may not be maintained by copycats, leading to a compromise in quality. This can have an effect in a chair design, for example, when its structure is altered by changing a minute specification angle. This can completely compromise the spinal support integrity. Copycats have rarely studied the fine honing of design structure to produce ergonomically compliant seats or beds or sofas, nor do they have much regard for flouting specification details.

A chair is a chair, many cry – what intellectual property rights exist? When there is so much prior art, what’s new in furniture design? Many uninspired copycats look to design-led companies to flagrantly obtain just that, free-riding on the design equity of innovation and new ideas in furniture design. If a furniture designer and manufacturer, for example, produces a chair which is novel, has distinctive character and has not been copied, they can rely on unregistered rights (10 years in the United Kingdom, 3 years in the European Union) or registered design rights in the United Kingdom and European Union (25 years in 27 Member States). Rights mean ownership and protection!

Having a numbered certificate which says you own a new design provides a powerful currency in both safely exploiting your new designs and taking action when needed. A registered design right is a monopoly right and you don’t have to prove copying; so taking legal action can be far more straightforward. Copycats (and that includes some retail buying departments) are rarely able to produce a design audit trail or registered design in a response to legal challenge.

ACID pitch guidelines

- Register new designs if possible: www.ipo.gov.uk, www.oami.europa.eu or www.wipo.int (a new single registration covering 47 countries) – soon to include the United States and Japan.
- If you don’t want to be copied, say so! As you will also have copyright in any design drawings or plans, raise awareness by including the statement, ‘All intellectual property rights are and will remain the property of [insert your name].’

Any infringement of these rights will be pursued seriously.’ This statement can also be used on websites and marketing material. With ACID’s successful track record, if this is accompanied by the ACID logo (if you are a member) this will add preventative and deterrent ballast.

- ACID currently holds over 300,000+ copies of members’ designs in its Design Data Bank, for those relying on copyright or unregistered UK and EU rights. This has now been extended to include copies of documents used when pitching new ideas or responding to tender. This is a free benefit of ACID membership; however, non-members may access this for a nominal fee. On the front of the tender document the same statement should be repeated together with: ‘A copy of this response to tender has been logged with ACID (Anti Copying In Design)’. A Design Data Bank user number will be issued and a safe tender file opened on your behalf. Communication of your anti-copying message should be a key element of your IP strategy. The ACID logo is a registered trademark and only licensed users may display it.
- As part of your standard terms and conditions of business, include a reusable intellectual property or confidentiality agreement signed by all interested parties. This can act as compelling evidence should it be required. If you fail to succeed at tender/buying selection, always ask for your samples/design drawings/tender documents to be returned – after all, they are your property.
- Prepare a precedent letter covering all relevant details to use when responding to a pitch – this will create your own audit trail.
- Ascertain your client’s position regarding your IP – will they sign a confidentiality or IP agreement? If so, ensure the agreement is signed before any meeting commences. If not, consider whether you still wish to deal with that company.
- Always keep a written record of the discussions that you have with your client at any pitch meeting or over the telephone so that they cannot argue, for example, that you waived confidentiality in your ideas/designs.
- You should send a follow-up letter to your client a few days after your pitch to confirm the content of your discussions with them and to remind them about your intellectual property rights and the confidential nature of your discussions.
- It is particularly important, where your client is paying you a pitch fee, to make clear that you own the intellectual property rights in what you produce for the pitch and you wish to maintain the confidentiality in the ideas/designs presented to your client as part of the pitch. In certain circumstances, a person who commissions a design in return for payment can be the owner of the intellectual property rights in the design produced.

What can I do if my rights have been infringed following a pitch?

If you are unlucky enough to have pitched for business and subsequently found that a third party has infringed your rights, refer to your IP audit trail. Gather all your

evidence, eg dates, times, note the name of the person with whom you had a meeting, note any further action points or correspondence. If you left a prototype/sample or tender documents, refer to your intellectual property agreement. It really is best to consult an IP specialist lawyer or your trade association for initial advice. However, the more information you can gather and provide yourself, the less legal spend you will incur. Consider mediation as a viable alternative to litigation. Above all, if you write a letter yourself always preface it 'WITHOUT PREJUDICE' and never make groundless threats – because you could end up being sued yourself!

Intellectual property is a positive force and its value should be recognized and rewarded during all stages of the pitching process. Start by knowing and understanding your IP rights and establishing rights ownership and ensure that all original work is signed and dated.

ACID's Safe Pitch Kit is a one-stop journey to building your own IP Tool Kit for better protection and a 'must' in raising awareness that IP = VALUE! The new ACID Safe Pitch Kit – in a CD format with accompanying booklet – is an essential guide when responding to a pitch for creative ideas, or when meeting with a design/IP buyer. The kit includes downloadable and reusable generic agreements – confidentiality, intellectual property and an industry standard licence/royalty agreement. The kit includes common-sense tips and guidance prior to responding to a pitch, or attending a design buying meeting, and valuable information about what to do if pitches go wrong. There is also a glossary and explanation of legal terminology.

The Safe Pitch Kit provides three Codes of Conduct which ACID has produced for manufacturers, design buyers and retailers, who are invited to demonstrate their support and respect for the creator's IP rights by signing the appropriate document. In doing so they are also demonstrating that they support ACID's ongoing campaign, 'Commission it, Don't Copy it!' Signatories are invited to send signed copies to ACID.

For more information visit www.acid.designsales.co.uk.

Dids Macdonald is the Chief Executive Officer of ACID. Anti Copying In Design is a hard-hitting international member organization committed to fighting copyright theft within the creative industries.

Dids Macdonald has over 20 years' experience within the design industry, initially running and owning a London-based interior design practice and, latterly, as a partner in a global, niche market design and manufacturing company. She has a first-hand knowledge of copying – she launched ACID as a result of her design-led products being consistently plagiarized. ACID

began informally in 1996 as a round-table discussion group, all of whom were concerned at the threats posed by intellectual property theft. In 1998 ACID developed into a trade organization which now represents over 1,000+ companies with a collective turnover of £3 billion. There have been over 300 settlements and 2,000+ IP mediations. Website: www.acid.uk.com.

Trusting and checking: royalty audits

Royalty audits can go a long way to ensuring the smooth operation of the relationship between licensor and licensee, as David Eastwood of KPMG Forensic explains.

Al Capone is reputed to have said that you get much further with a kind word and a gun than with a kind word alone. Not that I think royalty audits should be compared to a gun against the head, but the basic principle seems broadly to apply.

Almost all licensing transactions are held together by an element of trust: the licensee pays a sum to the licensor based on sales or some other metric which is only known with certainty by the licensee. The licensor therefore has to rely upon the good faith of the licensee. Typically, the licensor is given some tools to ensure that this faith is not misplaced: a regular flow of information and a right to verify this, ie a royalty audit.

The primary purpose of a royalty audit therefore is to validate the information exchange. It is not to threaten the licensee, or to find evidence to terminate the relationship, or to seek confidential information. Royalty audits are, of course, used for these aims, but their principal purpose is to ensure the smooth operation of the relationship. They are a business control.

It is a mystery why royalty audits are not more frequently invoked. The principal concern which we encounter is (misplaced) worry about the effect on the relationship with the licensee. As with all business controls, the effectiveness of royalty audits diminishes if they are not used. Frequently, we find that licensors have got into a position where the exercise of a royalty audit clause is seen as hostile by the

licensee. If the licensor is then unable to exercise control without damaging the relationship, it has fundamentally weakened its ability to control and manage its licensing activity.

How best to avoid this risk? The answer lies in treating royalty audits in the same way as any other business control: to implement them frequently, consistently and dispassionately. Importantly, this means that royalty audits should be done not just when there is a hope of cash recovery, or a suspicion of under-reporting. To do this clouds the objectives and raises barriers. Unfortunately, most royalty audits are launched in just these circumstances, and for good reason: because they can be expensive and few finance directors (FDs) are likely to countenance them without an expectation of a reasonable return. It is important therefore to be clear about the benefits of royalty audits, and to find ways of making them cost effective.

The business case for royalty audits

How then to persuade an FD of the business case for royalty audits? Some or all of the following reasons may form part of this:

1. Royalty audits are generally cash generative and often pay for themselves, whether or not cash recovery is the main aim.
2. There is usually a cost transfer clause, which means that if there are significant errors then the costs may be borne by the licensee.
3. You cannot expect a licensee to take much effort over accurate reporting of royalties if the licensor does not demonstrate its own concern for this.
4. Royalty audits can act as a lightning conductor for a licensing relationship. They provide a test of cooperation and intent.
5. They provide information on the licensee's conduct of the agreement and, sometimes, more broadly. This helps manage the relationship.
6. Other aspects of the agreement can be verified, eg commitments to research or marketing spend, the target markets, or the indications for which, say, a medical technology is intended.
7. Royalty audits provide insight into the financial condition of the licensee, which in the current environment may be especially useful.
8. Royalty audits can reduce the risk of counterfeit products or other unauthorized use by increasing the likelihood of detection.
9. Early royalty audits allow key elements of the agreement to be clarified if they are ambiguous. For example, with early-stage technologies, the way in which the products and business models develop in practice may not have been anticipated by the agreement.
10. A licensee may be a licensor's face to the market and its conduct of the customer relationships may create risks to the licensor, for example in relation to corruption legislation, technology restrictions, sanction and similar regulatory matters. A royalty audit can provide an opportunity to assess this.

Some examples of what goes wrong

A very common reaction when a royalty audit is announced is the ‘offended innocence’ defence. Licensees may assume that there is an implicit allegation of bad faith. It should be clear from the above that this should not normally be the case. However, it is worth considering some examples of where errors can arise to counter the view that misreporting is usually deliberate: in our experience it usually is not.

In a recent royalty audit we found that staff changes meant that the royalty calculations were not well understood by the licensee’s current staff. As a result, they failed to take into account new products which were launched with our client’s technology. In another case, the licensee had made two exactly offsetting errors in its calculations for many years. These calculations had been audited twice before without detection. Unfortunately, a change in the royalty rate meant that the error no longer offset and a substantial underpayment had occurred.

These two situations were clearly simple mistakes. More common is where judgements have to be made. In one industry that we look at frequently, the royalties due have to be determined by comparing two vast ever-changing databases. Inevitably there are many transactions which arise whose treatment under the agreement is unclear. Estimates have to be made, and some general assumptions, in order to complete the task each month. Unfortunately, these were not discussed with our client and the cumulative value of these judgements became substantial. They favoured the licensee, as judgements usually do in these circumstances. This is typical of many audits: most agreements will have some ambiguities in them and no licensee is likely to interpret these in favour of the licensor. A royalty audit gives the licensor an opportunity to counter this.

What you can do at the beginning to get this right

It helps, of course, if the licence agreement provides a strong context for royalty audits, as well as putting in place other controls and sanctions to encourage good performance. Among other things, these should include:

- clear requirements for a flow of information back to the licensor;
- sufficient evidence for some level of verification to be carried out by the licensor;
- some degree of certification of the accuracy of information provided;
- a broad and strong royalty audit clause – and especially one that deals effectively with the frequent challenges of confidentiality and scope;
- a separate dispute resolution mechanism – there is a creeping trend to treat royalty audits as a dispute resolution tool rather than a business control, effectively disabling the licensor;
- cost sanctions on the licensor for any significant mistakes.

A good agreement is also an opportunity to set the tone of the relationship, and the time to be clear that the controls will be implemented.

Licensors have to trust their licensees, but trusting without checking is a lopsided arrangement. It is not one that is easy to defend with hindsight once problems have emerged. Done well, royalty audits have much to contribute to oiling the wheels of licensor/licensee relationships.

David Eastwood, partner, KPMG Forensic, leads the company's intellectual property and contract governance group. He is a chartered accountant, a founder member of the Expert Witness Institute, a member of the Licensing Executives Society and a fellow of the Chartered Institute of Arbitrators.

David Eastwood advises clients on developing and delivering compliance programmes in relation to intellectual property and self-reported relationships and on broader issues of intellectual asset management. He has undertaken numerous forensic and other investigations, including royalty and licence audits in the retail, software, music, merchandising, film and pharmaceutical industries as well as advising on royalty and licence agreements and management and controls.

He has acted as expert witness on the proper conduct of royalty audits and on losses arising from IP infringement, among many other expert witness assignments.

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Technology rights

What can and can't be protected

The scope of patent protection at the EPO, particularly in two major areas of technology, IT and medical, is affected by subject-matter exclusions, explains Ilya Kazi at Mathys & Squire. These exclusions differ from corresponding provisions in the United States and Japan.

Computer-implemented inventions

It has long been held that the presence of a 'technical effect' renders an invention patentable. Recent developments mean that a computer-related invention is now unlikely to be found *inherently* unpatentable at the European Patent Office (EPO) if there is at least some technical means involved. However, following Duns Licensing (T 0154/04), non-technical aspects are disregarded when assessing inventive step. Coupled with a general recent shift in the threshold applied to inventive step, apparently stemming from an internal policy shift rather than any case law or agreement among contracting states, this means that computer-related inventions are more likely to be objected to as *obvious* rather than inherently unpatentable. Considerations of technicality discussed here apply to other related subject-matter exclusions (business/mathematical methods, presentations of information etc).

The EPO's approach is not directly followed by all Member States. In particular, the UK courts currently apply a slightly harsher patentability standard (although they have recently acknowledged the EPO approach) and curiously the UK Intellectual Property Office (UKIPO) applies its own harsher still approach (despite this having been criticized by the courts). As a result, simply dealing with

the current EPO approach to obtain a patent may present problems with enforcement if the subtleties of national law are not considered.

The discussion below gives some advice on how to present an invention to bring out the relevant technical character, and the technical nature of the inventive contribution, to ease the process of both obtaining and enforcing a patent. Although written from a European perspective, this may be of some guidance also to practitioners in the United States who have observed a shift in the United States Patent and Trademark Office's (USPTO) approach following in *Re Bilski*.

Medical innovations

Methods of treatment by way of therapy, surgery or diagnosis are unpatentable. A problem arises where an existing product is used, or modified slightly, for a new medical application. For pharmaceutical products, it is possible to protect an existing drug on the basis of a new treatment regime or application with the so-called Swiss form of claim or second medical use claim but this does not currently apply to medical devices.

A further complication arises in the case of medical devices owing to the EPO's practice concerning the interpretation of purposive or functional claims; the EPO will tend to consider any prior apparatus suitable for a particular use irrespective of whether that use was contemplated unless it is conclusively established that the device is not suitable. Use claims are allowable for compositions following the Enlarged Board Decision [G2/88] in the Mobil case but such claims cannot be used in the medical device field as they are considered to be unallowable method claims.

These factors combine, with the curious result that the scope of protection generally available for medical devices, which typically undergo extensive clinical trials to gain acceptance for a particular novel medical application, may be less than that available to a simple mechanical device. It is a source of frustration to US applicants and practitioners that the scope of protection available for medical devices is considerably reduced in Europe compared to the United States. Practical approaches to the problem are discussed below.

Practical advice

Computer-implemented inventions

Where there is a clear technical application, for example software improving the operation of a mobile telephone, there may be no objection at the EPO. However, the recent Symbian UK Court of Appeal case [2008] EWCA Civ 1066 demonstrated that national courts and bodies may take a different view. In that case, the UK court did follow the EPO but the case highlighted the different approach with which

UKIPO persists. This conflict might manifest itself in revocation at first instance by the UKIPO of a patent granted by the EPO.

In more general computing applications, commercially minded innovators are rightly more excited about the end result of an insight or a major investment in programming, what the product achieves in terms of user experience. Generally speaking, innovations in computing which improve user experience do so because they have made interaction with a system more efficient. Making a user happier to use a given system is unlikely to be considered a technical problem. However, the way this is achieved, for example reducing the number of accesses to a database cluster, reducing the amount of data transmission between a server and client, reducing online communication time, reducing the number of servers required to process a given user demand or the volume of communication required between different systems, may solve technical problems. Thus, looking beneath the surface, one can often find that, from the machine's perspective, there has been a technical improvement.

A problem that can occur with prosecution of US-originating cases is that there is insufficient detail of the underlying technical features, the draftsman having taken, quite reasonably, the view that explaining the end-user benefits is sufficient to justify patentability. In practice the Patent Cooperation Treaty (PCT) procedure exacerbates the problem as a European application is effectively filed without the opportunity to review whether it will meet the EPO's criteria for patentability. Sometimes having US-originating cases reviewed from a European perspective prior to the priority deadline can be very helpful in the subsequent European prosecution. This may even help identify cases which are likely to be highly problematic in Europe and help applicants take a better commercially informed decision on the merits of foreign filing. A bonus is that a review to meet European requirements for 'technicality' will often help considerably in Japan (although the tests are not the same, clear recitation of technical means is helpful in both jurisdictions).

Medical innovations

The problem of 'accidental anticipation' of claims to a medical device by an earlier device designed for a totally different application is exacerbated by the similarity of target applications and the varying sizes of medical subjects. For example, a particular device originally intended to be applied to an adult nerve may be considered in Europe *suitable* to be applied to a child's artery or vice versa, even though this was never contemplated. An allegation of lack of clarity or novelty of the one device with respect to the other as prior art can thus arise in Europe, when there is no inventive step issue, which may be problematic to overcome within strict basis requirements. Lateral thought from a European perspective prior to filing as to how to distinguish similar-looking art structurally may be helpful.

One important consideration is to ensure at the outset that all structural features of the device, and relevant dimensions, are fully described in the application, *in a readily separable manner*. The tendency in US practice simply to give independent

lists of nested broad ranges of possible dimensions or parameters, or to describe sub-features only in the context of a particular embodiment, is often inadequate during prosecution in Europe, particularly owing to the difficulty in the EPO of ‘mixing and matching’ from different lists or parts of the disclosure.

It can prove helpful to explore with applicants specific related sets of parameters for specific applications, so that appropriate structural limitations can be introduced if required. In particular, subdividing parameters and sizes into sets of related parameters for specific applications, for example into specific sets for adults/males/females/children/infants/patient height/weight/target application etc, can be more useful than a simple range which spans infant to adult, and happens to overlap with a range for a different device for a different part of the anatomy. Another helpful step is to provide detailed functional requirements, *coupled with objective tests to validate the functional requirements*, so they can be considered sufficiently clear and used as a basis of distinction from prior art that happens to appear suitable otherwise.

Another consideration, particularly with methods which are partly surgical and/or diagnostic, is to formulate method claims carefully to cover methods which are directed only to allowable subject-matter in Europe, and *to provide support for non-excluded uses*. This requires some knowledge of the current state of the law, which is in a slight state of flux (for example, there is a pending Enlarged Board referral G1/07 on the precise scope of the exclusion). A brief review prior to PCT filing by a European attorney where there are method claims or claims which potentially rely on use or function to distinguish prior art can be highly beneficial as sometimes a saving amendment can be made.

The future

Computer-implemented inventions

In October 2008, EPO President Alison Brimelow referred a number of questions relating to the patentability of computer programs for consideration by the Enlarged Board of Appeal under G3/08. These questions cover whether the category of the claim is relevant and where the line should be drawn between aspects contributing to the technical character of the claim and aspects that are excluded from patentability.

Given that the majority of innovations occur within corporations, whose motivation can be assumed to be financial, most innovations are at a level of abstraction invariably intended to solve a business problem. To illustrate this, a method of making a vehicle saleable at a higher gross margin may be considered less technical than a method of reducing global energy consumption or the requirement for communication bandwidth and infrastructure. However, a typical solution to the first problem, such as an improved temperature controller for a heated seat, is less likely to face objection than a typical solution to the second problem, such as a method of processing a transaction between users which requires fewer user steps to complete

the transaction, or a display arrangement which presents the information more efficiently so that fewer scrolling operations are required (which in a large enterprise with large numbers of users will require significantly fewer servers or less communication traffic).

It is generally also the case, particularly in computing, that once a solution is proposed at a high level, it is simply a case of engineering person-hours to produce a complete solution. Thus hindsight can make most inventions in the computing field appear obvious, particularly if the initial motivation is disregarded as the Duns Licensing case suggests.

In the pharmaceutical field, most inventions comprise application of routine synthetic chemistry to the discovery that certain entities have a beneficial therapeutic effect. Discoveries are not patentable *per se*, nor are methods of treatment or therapy. If the same 'salami slicing' test, disregarding the excluded discovery or treatment method, were used to assess inventive step of pharmaceuticals, few if any would pass.

It is submitted that, providing it is established that a given innovation does not lie wholly within an excluded field, the only approach to assessment of inventive step which is free of the risk of subjectivity or hindsight-based analysis of the invention is to consider whether the invention, taken as a whole, is obvious from the prior art. This was the original approach and its return is welcomed.

Searching issues

However, a problem has arisen that non-technical art has not routinely been searched and catalogued by patent offices. As a result, patent offices have found practical difficulty assessing fairly whether inventions taken as a whole are known or obvious when 'non-technical' elements are present. In this age of Wikipedia, a creative approach may be constructively employed. It is noted that the EPO has launched an initiative to improve its knowledge of traditional medicines so that pharmaceuticals can be more rigorously assessed. Mechanisms already exist so that those who are opposed to patenting of computer-related or business-tinged methods can submit evidence of known processes so that the office may more easily form an objective assessment of what is known and what is obvious in the computing field, and these can be better publicized or expanded. The United States is experimenting with a 'peer-to-patent programme' in which contributors are invited to supply relevant art. Thus concerns about protecting the public against the risk of granting patents which are too broad can today be directly addressed by the public telling the patent office what is known.

Medical innovations

Whereas the referral to the Enlarged Board G1/07 may clarify the question as to how the exclusion applies to possibly surgical steps in diagnostic methods, there is no current pending referral dealing with the more general issue of the lacuna in protection for medical devices.

The medical device industry in the United States has been significantly more successful than the European industry. The author has worked with a number of growing innovative US medical device companies and has observed that the greater availability of local patent protection makes it easier for them to gain investment on the basis of a protectable innovation than their European counterparts.

The US approach allows medical methods to be patented but prohibits enforcement against a medical practitioner. This is one effective solution to the concern about patents being used to inhibit treatment. In practice, medical device manufacturers require protection not to stop their clients, doctors, but to stop their competitors.

However, because the EPO is a patent granting body and does not deal with enforcement, which (pending the ultimate adoption of the Community Patent) has been left to the Member States, this approach is not straightforward to adopt in Europe.

An alternative simple fix to the issue, which does not require a revision of the European Patent Convention, would be for the EPO to deem that a claim directed to ‘a device [intended/packaged/marketed/approved] for use in medical procedure x’ is *not* anticipated by a device designed for another use which might appear superficially suitable unless it is conclusively established that such use was contemplated. It would of course still be assessed objectively as to whether the new use was inventive over known uses of such a device. This would require no legislation and this might well improve the prospects of medical device innovators in a difficult economic climate.

With appropriate published guidance from the EPO as to the basis for the granting of such claims, it is considered that national courts, which are increasingly seeking to harmonize with the EPO approach, would readily find an appropriate interpretation for infringement purposes and there could be no harm to manufacturers of previous devices for old uses. If, however, a manufacturer chose to modify or re-market their existing devices for the new process, to take advantage of the new market created by the patentee, the patentee would legitimately be entitled to protection for this market they had created.

Conclusion

The patentability exclusions in Europe differ from the rest of the world. There are practical steps which can be taken to mitigate the impact of these differences. There are also possible small changes in the application of the law in Europe which the author perceives as likely to be beneficial to industry in the computing and medical devices fields; those who agree are invited to lobby for them to be adopted.

Ilya Kazi is a European patent attorney and a partner at Mathys & Squire, having graduated from Cambridge University and worked at IBM developing networking software. He has spent some time in a US law firm gaining insights into the practical application of exclusions from either side of the Atlantic. His clients include a number of medical device and IT/software/telecoms companies ranging from start-ups to numerous well-known multinationals. His practice includes both prosecution and opposition, particularly in technologies bordering on excluded subject-matter, as well as advising on efficient and commercially effective strategic management of substantial portfolios and enforcement. He has personally been involved in the filing or prosecution of approximately 2,000 of the 2 million applications published to date by the EPO. He can be contacted at ikazi@mathys-squire.com or tel: +44 (0) 207 830 0000.

How to knock out a patent

Alan MacDougall and Chris Hamer of Mathys & Squire explain how to challenge the validity of a competitor's European patent rights.

Any business that develops new products or processes runs the risk of infringing third-party patent rights, which can result in the business being drawn into patent disputes. It is therefore good business practice for companies to maintain a regular watch on the patenting activities of at least their main competitors. Where potentially relevant patents or patent applications are found, strategies can be developed to reduce this risk by designing around the patents, by challenging the validity of the patent rights or by amicable business resolution.

The European Patent Convention (EPC) provides an opposition procedure which allows the validity of a granted European patent to be challenged. The opposition must, however, be filed with the European Patent Office (EPO) within nine months of the grant of the European patent. The opposition procedure is a consolidated process which allows a single challenge to be made that is effective in all countries covered by the granted patent. Third parties that are sued for infringement under a European patent may also intervene in existing opposition proceedings provided they do so within three months of the start of the infringement proceedings.

What challenges can be made?

The European patent can be challenged on the grounds that the claimed invention is not patentable (for example, it is not new or not inventive); that the patent does not

describe in sufficient detail how the claimed invention can be carried out; and/or that the granted patent contains new matter that has been added since filing.

How to build a case

The strength of any opposition is only as good as the evidence that is provided to support the grounds on which the European patent is challenged. It is therefore critical to consider what contribution the patent claims to have made over existing knowledge, and to assess whether this contribution meets the patentability requirements set by the EPC. To make this assessment, companies need to investigate and understand what was publicly known before the effective filing date of the patent. This will involve searching for earlier publications, such as papers, journals and earlier patents and patent applications. The EPO will itself have carried out a search for such material, and in granting a patent will have concluded that the claimed invention is patentable over the material it found. You should, however, double-check this yourself, as the EPO might not have had access to all the relevant prior art at the time it granted the patent.

Another useful source of material is the official files of corresponding patent applications possibly filed in other countries. The material found by other patent offices may be more relevant than that found by the EPO. Consideration should also be given as to whether or not anybody (including the proprietor) had publicly used the claimed invention prior to the effective filing date of the patent. It is worth checking the proprietor's sales and marketing material, since some companies forget the need to file their patent application before publishing the invention. With this knowledge it is then possible to assess whether there is a case to be made that the claimed invention is not patentable.

With regard to the other grounds, consideration should be given to whether or not it is actually possible to carry out the claimed invention from the information in the patent (supplemented by common general knowledge that was available before the effective filing date of the patent), as well as whether any amendments have been made since the filing of the patent which may have inadvertently introduced new matter (whether by addition or deletion). If there are any gaps in the patent's teaching or if there is such new matter, there may be a case to argue on these other grounds as well.

Once you have built a case, what next?

Once you have built your case and know its strengths and weaknesses, you can then consider the best strategy for achieving the desired result – that the patent will not affect your business. One way to achieve this result is to try to negotiate a licence under the patent with the proprietor before the deadline for filing the opposition. If your case is strong, you may be in a position to negotiate a free or nominal licence

with the proprietor, or persuade them to narrow the patent claims to exclude the technology of interest to you. If you cannot agree terms with the proprietor before the opposition deadline, you can still file an opposition and withdraw it if terms can be agreed before the conclusion of the opposition proceedings. However, the EPO may well continue the opposition on its own if it believes the case has merit.

What is needed to file the opposition

An opposition must include a written reasoned statement of case (the notice of opposition) in English, French or German, which provides, among other things, an indication of the facts, the evidence relied on and the arguments. An opposition fee must also be paid. The notice of opposition must be filed and the opposition fee paid within nine months of the publication of the grant of the European patent. There is sometimes the opportunity for evidence to be filed later, but this should not be relied upon.

What happens after filing the opposition?

If the opposition is admissible, then the EPO will forward the opposition to the proprietor for comment. The proprietor is given a period of time (usually four months) to consider the opposition and to file counterarguments and/or amendments to overcome the objections. As the opponent, you will be sent the proprietor's response and given a period of time to file further arguments based on the proprietor's response. Further opportunities for written correspondence may be given, but usually at this stage the case is considered by an Opposition Division, which is a group of three EPO examiners.

If either party has requested a hearing, the Opposition Division will summon the parties to a hearing where each party can present their case orally. The summons usually includes an indication of the Opposition Division's view of the case and what in its opinion needs to be discussed at the hearing. The hearing usually ends with the Opposition Division announcing its decision, which will be to revoke the patent, to maintain the patent as granted, or to maintain the patent in amended form. A written decision is then issued detailing the reasoning underlying the decision.

How long it takes and how much it costs

The opposition proceedings (from the date of filing the opposition to issue of the decision) usually take two to three years, and sometimes longer in complex cases. The costs involved vary depending on the complexity of the case, the extent of the searching carried out and the thoroughness with which the opposition is handled. Typical costs that can be expected are from €7,500, for a simple case which does not

need significant preparation or searching, to €45,000 or more, for complex cases involving difficult subject-matter or complex evidence issues. The costs are spread over the duration of the opposition proceedings, and are far lower than would be incurred by separate revocation actions in each country, particularly if the opposed patent has been validated in all 38 possible countries (as of 4 February 2009).

Help with an opposition

European patent attorneys can advise you on a strategy, prepare and file the opposition on your behalf and represent you at the hearing (and at any subsequent appeal).

Can you get an award of costs?

Usually each side bears its own costs, but costs can be awarded if the other party has acted inequitably, such as by the late filing of evidence or amendments.

What happens to a European patent when an opposition is pending?

The European patent remains in force in each country where it has been validated. If the proprietor attempts to enforce the patent in a country's national court, the court will decide whether or not to wait for the outcome of the opposition.

Can you appeal the decision?

Any party to the opposition that is adversely affected by the decision can file an appeal. A notice of appeal must be filed within two months of the date of the written decision. A grounds of appeal must be filed within four months of the date of the written decision, setting out the basis for the appeal.

What happens after filing the appeal?

In theory the appeal is a review of the decision, but in practice it often results in a complete rehearing of the case. The procedure is very similar to that of the opposition procedure described above, and takes about the same time to complete. The costs involved in an appeal are typically similar to those of the opposition. As with the opposition procedure, each party usually bears its own costs, except when one of the parties has acted in an inequitable manner.

The appeal is terminated by a decision, which may be to revoke the patent or to uphold the patent as granted or as amended. In some cases, where the Board of Appeal does not uphold the Opposition Division's decision and there remain issues yet to be considered by the Opposition Division, the Board of Appeal can remit the case back to the Opposition Division for further consideration.

Can you appeal the Board of Appeal's decision?

In general there is no right of appeal against the decision of the Board of Appeal. There is an Enlarged Board of Appeal whose main purpose is to rule on important points of law and to ensure a uniform application of the law, where for example, two Boards of Appeal have issued conflicting decisions.

However, the EPC was recently amended to allow parties to an appeal to request that the Enlarged Board of Appeal review an appeal decision. The grounds for requesting such a review are very limited and require a fundamental procedural error on the part of the EPO, or even a criminal act to have occurred. As far as the authors are aware, as of 20 April 2009, all such requests made to the Enlarged Board of Appeal have been considered to lack merit.

Of course, if the appeal decision is to maintain the patent, either in amended or in its granted form, then the opponent (or indeed any third party) can always file revocation actions in each of the European countries covered by the patent.

Tips for opposition/appeal strategy

When opposing a patent:

- Understand the extent to which the patent conflicts with your business so that the opposition can be targeted to the relevant parts of the patent.
- Perform a comprehensive review of what was known before the effective filing date of the patent to be opposed.
- Leave plenty of time to carry out the review so that time is available to fully understand the situation.
- Before filing the opposition, consider settlement with the proprietor.
- Where possible, try to keep the arguments simple and to the point.
- Link the grounds of opposition and the arguments so as to force the proprietor to narrow the claims in a direction away from your technology.
- Do not withdraw any grounds of opposition, so that the objection can still be raised in any future appeal.
- Always ask for a hearing (even though you may decide not to attend).

When defending an opposition:

- Consider the importance of the patent to your business and defend accordingly.
- Beware of arguments based on hindsight which are often made by opponents.

- If amendments are necessary, consider different limitations of the patent which are commercially acceptable.
- If appropriate, multiple independent claims can be filed.
- Do not withdraw any requests for which you may wish to file an appeal.
- Always ask for a hearing (even though you may decide not to attend).
- Prepare with great care for the hearing to avoid unwelcome surprises.

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Mathys & Squire is a leading firm of patent and trade mark attorneys, providing the full range of IP advice and services to clients worldwide. Combining technical expertise, specialist legal skills and commercial awareness, Mathys & Squire help to maximize their clients' rewards from innovation while minimizing their risks in bringing that innovation to market.

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When IP matters...

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How to design around a European patent

Claims are still interpreted nationally, so the limits on what you can do vary, says Dr Armin K Bohmann, of bohmann || bohmann .

From both the number of patent filings and an increased number of disputes on patent-related matters, it is obvious that companies focus on intellectual property rights these days more than ever. One reason is that competition has been and still is becoming fiercer ever since the beginning of the information age. Basic and even advanced technical skills are widely available and no longer limited to established economies. Therefore, companies try to resort to intellectual property rights so as to protect their own technological assets and their markets. Patents link the industrial age to the information age.

Designing around a patent is therefore, depending on the point of view taken, either a threat or a chance. Whichever side one is on, the principles and considerations to be taken into account are the same and can thus be used both for creating a business opportunity by entering into a market served by a competitor, and for improving one's own patent portfolio when one tries to design around a European patent.

The European patent system

The European patent system is based on the Convention of the Grant of European Patents of 1973, which is also referred to as the European Patent Convention (EPC).

Its institutions most visible to the public are the European Patent Office (EPO), which started its operation in 1977, and European patents granted by the EPO.

The term ‘European patent’, however, might be misleading to a certain extent as it gives the impression that, similar to national patents such as US patents or German patents, an office grants a patent for a given jurisdiction and thus the granted patent is as such enforceable in said jurisdiction. This, however, is not the case with European patents.

European patents are granted by the EPO, whereby the procedures before the EPO are governed by the provisions of the EPC. Once such a European patent has been granted, it splits into national parts which constitute independent and separate national patent rights conferring the same rights as national patents granted by the respective national patent authorities. Such national patent rights are enforceable in accordance with the national provisions and the claims and their scope of protection are interpreted by national infringement courts rather than by a European infringement court. The concept of a truly European patent which is granted by the EPO and enforceable effective all over Europe by the decision of a single European infringement court is basically that of the Community patent which, however, has not yet been put into practice.

Claim interpretation

In order to determine the scope of protection and thus to determine the bounds and limits of a patent claim, the claims have to be interpreted. Only in the light of such interpretation can one develop some ideas on how to design around a patent.

Claim interpretation thus basically occurs at the level of the EPO and, accordingly, under the EPC in connection with the examination procedure, and at the level of the national infringement courts when it comes to enforcing a patent against an alleged infringer.

Claim interpretation under the EPC

The EPC sets forth in Art. 69 (1) that the extent of protection conferred by a European patent shall be determined by the claims. This provision further sets forth that nevertheless the description and the drawing shall be used to interpret the claims. There is some guidance in the EPC which already aims at the national infringement courts trying to harmonize such divergent claim interpretations as the previous German claim interpretation, which was a very broad one protecting a general inventive idea, and the previous British claim interpretation, which was a very narrow one adhering to the exact wording of the claims.

The concept of harmonizing claim interpretation is further strengthened by the Protocol on the Interpretation of Art. 69. This protocol made it clear that the interpretation of the claims serves not only to resolve any ambiguities in the claims, but

also to clarify the technical terms used in said claims, and also to determine the scope of the invention and thus of the claims. It is acknowledged that the claims have to be interpreted by a person skilled in the art.

However, the EPO is rightfully very reluctant in addressing the scope of protection of a claim, thus acknowledging the competence of the national infringement courts. The case law of the EPO, dealing with claim interpretation and the involvement of the description and the drawings, is thus mostly limited to the issues of clarity, novelty and inventive step. The only true assessment of the scope of protection under the EPC is made in opposition proceedings where it has to be decided whether an amendment made by the patentee would extend the scope of protection conferred by the claims as originally granted.

One of the basic principles established by the EPO on claim interpretation is that a patent must be construed with a mind willing to understand and not a mind desirous of misunderstanding. Accordingly, using a somewhat twisted view of the claimed subject-matter to get out of the scope of protection is not appropriate. Another principle is that the patent document acts as its own dictionary. Accordingly, the specific meaning of a term as defined in the description prevails over its common meaning in the art. A still further principle established by the EPO is that only features actually contained in a claim are relevant and, normally, no additional features might be read into the claims. There is at least one exception to this principle as acknowledged by case law, namely where despite the feature not having been included in the claim wording, such feature is an overriding requirement of the invention.

In the light of this, a person trying to design around a European patent is thus recommended: to give the claims a fair meaning taking into consideration the contribution of the patent to the art; and to give the terms as used in the claims their actual meaning as intended by the patent.

Claim interpretation under the national laws governing the national parts of a European patent

As outlined above, claim interpretation for deciding whether or not an embodiment actually falls within the scope of protection of a claim is governed by national law, more specifically by the national law governing the national part of a European patent. Accordingly, for example, for a German national part of a European patent, German national law is applicable for deciding on whether or not an embodiment infringes such German national part.

Despite harmonization efforts as subject to Art. 69 EPC and the Protocol on the Interpretation of Art. 69 EPC, to date no legal provision exists which would be binding and would provide the courts dealing with patent infringement matters with a clear guideline on how to interpret the claims of a European patent. Part of the underlying problem might be that the contracting states of the EPC are not identical to the European Union and that the EPC has not been created by the European legislator, ie the European Parliament. Therefore, the mutual understanding of the national courts

and judges dealing with patent infringement matters and their willingness to provide for a unitary and consistent interpretation of the claims of a European patent is setting the pace, which should ultimately allow a person to know what is covered by a European patent and, ultimately, to design around such a patent.

Given the long-lasting traditions on claim interpretation in at least some European jurisdictions and despite the above harmonization tendencies, there are – still – significant differences in the interpretation of the claims of a European patent which have to be taken into consideration when trying to design around a European patent. Nevertheless, at least the principle that the scope of protection of a claim is not limited to its wording seems to be generally acknowledged, which means that designing around a European patent requires some effort. It is thus necessary to be aware of all of the various national provisions on claim interpretation.

Questioning the legal validity of a European patent and its national parts

In trying to design around a European patent, one should always take into consideration whether a European patent is legally valid. With the centralized European opposition proceedings, a powerful means is available to challenge the legal validity of a European patent which can basically result in the revocation of a European or the maintenance of it in amended form. The amended form of the European patent may make it easier to design around it. In connection with such opposition proceedings, all of the considerations on claim interpretation under the EPC would then become applicable and could be helpful.

Even if the option to file an opposition against the European patent is no longer available owing to the expiry of the opposition period, quite a number of national jurisdictions allow the legal challenging of the national parts of a European patent, taking into consideration national law and case law. This, too, could result in revocation or maintenance of the respective national parts in amended form being advantageous for the person trying to design around the European patent. In connection therewith it is noteworthy that the national parts of some kinds of patents granted by the EPO are more or less *per se* legally invalid given the different standards applied by both the EPO and the respective national patent authorities.

Summary

Owing to the particularities of the European patent system, the interpretation of the claims of a European patent is subject to the individual national provisions of the jurisdiction where the European patent and its national part, respectively, are to be enforced. Such individual national provisions have to be taken into consideration when designing around a European patent. The principles on claim interpretation as developed by the EPO are typically not binding for the national patent infringement

courts, but might be helpful when assessing the legal validity of a European patent. Challenging the legal validity of a European patent, preferably by European opposition proceedings, might be a preferred way of ‘designing’ around such a patent.

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Where applications go wrong

Former examiner Marco Serravalle has three suggestions to set the parameters of a claim to prevent subsequent objections.

The basic criteria for an invention to be patentable are novelty, inventive step and industrial applicability. There are two other important requirements of the application: clarity and sufficiency of disclosure. Clarity means that the claims must define the scope of protection clearly and concisely. Sufficiency means that the description must describe the invention in a manner that enables the skilled person to perform the invention. In fact, a patent is a monopoly offered to the inventor who, in exchange, has to disclose their invention to the public. The Boards of Appeal of the European Patent Office (EPO) have developed criteria to determine if the application enables the skilled person to reproduce the invention.

At the beginning of my career as a patent examiner, I considered insufficiency of disclosure a very difficult ground for an objection, since it was quite a common approach that if the application contained at least one example, then it was sufficiently disclosed.

In the past 12 years, however, after becoming a European patent attorney, I have acquired a different perception of the importance of sufficiency. Experience gained in opposition and appeal cases makes me aware of the fact that sufficiency can be sometimes a very powerful tool to attack the validity of a patent. At the same time, I feel that the boards of appeal of the EPO have modified the approach to sufficiency, making a clear view of the standards used by the EPO much more relevant.



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Sufficiency is often impossible to restore

The first consideration to be made is that sufficiency is mostly inherent in the original description and it is very difficult, if not impossible, to obviate during examination. In this respect, it differs from all other requirements for patentability, which normally can be restored by proper amendments or submission of evidence.

It is also important to note that the concept of sufficiency is different in Europe and, for example, coming from the United States. When working on European patent applications originated in the United States, I have noticed that the US attorney could not easily understand why there was a problem. Even if patent law is harmonizing more and more, there are still major differences between the European and US approaches. Thus, it is very important that US attorneys, when drafting a patent application that is of potential interest in Europe, keep in mind the requirements of the EPO in order to avoid loss of rights years after the EPO filing.

It is important to note that sufficiency often becomes a 'battleground' in opposition and appeal proceedings, while it is of less importance during examination. The result is that the loss of rights often takes place 5 to 10 years after entrance into the European phase, perhaps while making use of the patent or negotiating licences.

In this contribution, I would like to outline a few important concepts that might help during drafting of a patent application.

Parameters in claims

Measure of a parameter

It is quite common to define a product in terms of parameters. This is accepted by the EPO; however, when using a parameter in a claim, it is important to define how the parameter is to be measured. In the decision T 0444/97 a parameter of claim 1 was measured by *gas chromatography* (GC) using a capillary column packed with polyethylene glycol (PEG) having an average molecular weight of from 15,000 to 20,000. The opponent submitted evidence that two different columns having average molecular weight within the specified range gave differences in the result which were higher than the expected standard error. The board concluded that the invention was not sufficiently disclosed. If the description contained the specification of the column used for the determination of the parameter of the product obtained in the example, the objection would not have been moved.

There are decisions of the board of appeal which diverge from T 0444/97. For example, T 0943/00 decided that the lack of indication of certain measurement conditions is not detrimental to the sufficiency of the disclosure but could raise a clarity problem. I will not make an exhaustive list of all decisions going in one direction or the other, but I would like to say that there is a serious risk that a patent containing insufficient indication on the measure of an important parameter will be refused by the Examining Division or revoked during opposition proceedings.

Consequently, my advice is that, when drafting a patent application, maximum care should be given to the definition of the method used to measure all parameters present in the claims, and all relevant information should be present in the experimental part of the description.

Variation of a parameter

Another important concept concerning sufficiency is that the description should enable the skilled person to perform the invention not only in one embodiment, but in the whole area claimed. In the decision of the board of appeal T 0193/04 it was decided that the patent did not fulfil the requirements of sufficiency. Claim 1 of the patent was directed to a ‘method for producing a film/support laminate’ and it defined a specific parameter of the film (the extent to which it stretched up to the point at which it broke). The patent also contained an example of the production of the film/laminate according to the patent. However, the patent did not contain any indication of how this parameter is to be reliably achieved under the broad conditions covered by claim 1. In other words, if elongation at break is an important parameter for the material of claim 1, it is not enough to define a range of values for this parameter, but it is important to explain how the value of the elongation at break changes when the other physical parameters of the material are changed. If these indications are not present, the EPO might consider that the skilled person is subjected to an undue burden of experimentation to define the conditions wherein the elongation at break falls within the claimed range.

Thus, my second advice concerning patent drafting is that it is not enough, when making use of a parameter, to indicate how the parameter is to be measured, but it is also important to indicate which factors influence the parameter. In this way, the skilled person will have enough information on how to modify the experimental conditions to achieve products across the entire breadth of the claim.

Choice of a parameter

Sometimes we are tempted to define new tests or to use new parameters to characterize an invention in view of the prior art. This is sometimes essential since the new material is intended for a new application or because the property characterizing the new material is new when compared with the prior art. However, we have to be careful to define the test in an unambiguous way. Reproducibility of the test is essential in order to have sufficiency of disclosure.

T 0583/05 dealt with a similar case, where a diaper was claimed by using a specific test developed by the applicant. The test was considered not to be reproducible and, consequently, the patent was revoked based on insufficiency of disclosure.

Thus, my third piece of advice is to make a critical evaluation of any new parameter or test before introducing it in the claims of a patent application. Consider the reproducibility of the test or the measurability of the parameter. If the test is not a standardized test, be very careful and consider possible weakness, such as too broad variation of results, and check that all experimental details are defined in the description of the patent application.

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When to use utility models

Italy, like 13 other European countries, operates a system of utility models. When should you use them in preference to patents of invention, asks C Silvano Reniero at Dr Reniero & Associati.

Italy is one among many other two-tier countries where two kinds of patent can be obtained, ie patents of invention and utility models (UM), or petty patents as they are also known in the intellectual property (IP) literature.

Two features of the utility models are generally known by IP operators (innovators, entrepreneurs, patent attorneys, attorneys at law, investors etc): a utility model is concerned with a new shape or configuration of an article as long as the new shape serves some useful purpose, and there is generally no pre-granting examination regarding novelty and inventive step, which means that a utility model is simply registered.

A substantial number of countries (more than 52) in the world (in Europe: Austria, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Italy, Poland, Portugal, Slovakia, Spain) have IP law provisions concerning utility models. Consequently, utility model protection is a widespread kind of monopoly, a kind of patent whose importance is anything but negligible.

The utility model, however, is a way of obtaining protection perhaps ignored more often than not by IP operators in non-UM countries where utility models, at most, are deemed to be suitable for 'local' people who, when dealing with the functional features of a design or the like, might apply for utility model protection. It should be emphasized, instead, that generally speaking, an IP operator acquainted with the



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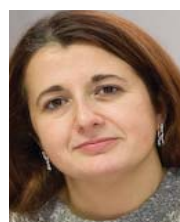
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kind of protection provided by utility models in a given UM country is in a far better position to establish, preserve and enforce otherwise indefensible monopoly rights in that country.

Unfortunately, there is no uniformity of thought about UMs throughout the world. Most UM countries have their own UM law provisions and their own means of implementing UM law. A well-known example of specific local implementation of a UM is the German *Gebrauchsmuster*, whose peculiarities are unique in the UM universe, as most IP operators would probably agree.

No surprise then that peculiarities of some weight are also to be found in the Italian UM law. Art. 82 of the Italian IP Code states:

‘Patents for utility models can concern new models suitable for conferring specific efficiency or convenience of application or of use to machines, or parts thereof, instruments, tools or articles of use in general, such as new models consisting in specific conformations, arrangements, configurations or combinations of parts.’ It is a definition not exempt from ambiguity.

An Italian UM apparently:

- relates only to *machines, or parts thereof, instruments, tools or articles of use in general*, ie it concerns an ‘*article*’, an object;
- must be *suitable for conferring specific efficiency or convenience of application or of use* to the article (*utility*); and
- consists in *specific conformations, arrangements, configurations or combinations of parts* of the article, ie briefly stated, it consists in a specific ‘*space configuration*’ or shape of an article or object.

Therefore, a first rough distinction between a patent for a utility model and a patent of invention (PI) can be made in relation to the subject-matter (article) to be protected by a utility model. A UM can concern merely a *new and useful space configuration* of *articles*, objects, ie machines, parts thereof, instruments etc, *useful* in terms of functional feature(s). Any aesthetic feature (ornament, colour etc) is obviously irrelevant or of no concern to a UM.

Thus, a new and non-obvious industrial process, a new use of a known compound, a new and non-obvious invention in the fields of biotechnology, chemistry, electronics, vegetal varieties etc, cannot be the subject-matter of a UM because it does not concern specific space configurations *per se*.

However, a patent of invention may also concern space configurations (configuration, arrangement, combination of parts etc), which is a common experience for an IP operator. This overlapping in subject-matter that can be protected either as a UM or as a PI (or both) may have important consequences which are not always fully appreciated, as we shall see below.

The question of establishing whether a technological innovation can be correctly monopolized in Italy by a patent for UM rather than a PI has been long debated in Italy. In past years, court decisions and doctrine (learned law commentators) have developed two main theories, the so-called qualitative and quantitative theories, which I do not intend to explore in detail here.

One can say that according to the ‘qualitative theory’ a UM is intended to protect an innovation concerning a (known) article having a space configuration suitable for providing some kind of utility in use without involving a new manner of implementing the laws of physics. In other words, a UM is considered to be a patent ‘genus’ that differs from that of a PI. This theory, although still adopted by Italian courts (and recently confirmed by the Supreme Court judgement of 2 April 2008, no. 8510), no longer finds convincing arguments or enthusiastic supporters.¹

The so-called ‘quantitative theory’, instead, maintains that the subject-matter of a UM is a *smaller invention* (as is the case with the German *Gebrauchsmuster* which is generally considered to be *eine kleine Erfindung*), for which the ‘height’ of inventive step required in order to be considered valid is lower, and even much lower than that of a PI.

‘Smaller invention’ is to be understood in the sense that the article which is the subject-matter of a UM can be a machine, parts thereof, or instrument, etc already known *per se* in the state of the art, the innovation consisting in a new useful (in the functional sense) space configuration suitable for ‘*conferring specific efficiency or convenience of application or use*’ to the article (even if the article, as said, is already known *per se*, although in a different lesser or otherwise useful configuration), ie suitable for improving its utility or convenience of use.

Of course, this might be all well and good, but an invention, such as many improvements, can also comply with such a requirement. So, although a space configuration has to be involved, a distinction between protection through UM and PI cannot be made exclusively in connection with the subject-matter.

A space configuration covered by a UM may imply, as already said, a minimum level of inventive step, much lower than that required for an invention to be patented: the limit as so low as to be lacking or almost lacking any inventive step, and all that is required is that the article shape is new and suitable for being of better use in practice than the shape(s) known in the art.

Another distinctive trait of a UM as opposed to an invention concerning a space configuration is apparently the ‘*utility provided for*’ by the specific space configuration of the article when used in practice rather than the inventive step thereof. In other words, utility is understood as higher efficiency, typically in terms of advantages from at least one of an economic, constructional, working, handling, storing etc viewpoint, of a specific improved space configuration even if it is at a doubtful or clearly inadequate inventive level for being considered an invention.

Efforts to ascertain whether a UM is provided with an inventive step are then pointless as, strictly speaking, no inventive step is required by law for the validity of an Italian UM. Of course, this does not mean that protection as a UM is not available, or should be refused, to highly innovative models, ie provided with a substantial inventive step. Valid UM protection can be obtained for space configurations that are either highly or poorly innovative, or even almost obvious in some cases.

This being the situation, problems might arise when dealing with protection in Italy of an innovation concerning a space configuration (shape) of an article (ie machines, or parts thereof, instruments, tools or articles of use in general). The

patent of invention route may be generally advisable so far as possible (especially when the shape to be protected is provided with an inventive level), both in view of the length of time that protection is afforded (20 years against 10) and the possibility that, should the patent be found by a court to be lacking any inventive step and thus void, it may be possible to ‘convert’ it into a UM.

What happens if one has chosen the ‘wrong’ route? The consequences could be costly, although not necessarily disastrous. A first consideration is that the fact that Italian IP law provides for a two-tier system (patent of invention and UM) clearly implies that the inventive step required for a patent of invention concerning a space configuration to be considered valid before an Italian court is to a certain extent higher than that required for passing the test of validity before the EPO or the United States Patent and Trademark Office.

A UM can validly constitute the subject-matter of a European patent (EP). Art. 87(1) EPC provides for articles, the subject-matter of UMs and utility certificates (France), to enjoy a right of priority of 12 months under the Paris Convention, likewise inventions. This clearly implies that new space configurations, even when provided with quite a poor inventive step, such as those which are the subject-matter of an Italian UM, may be considered as inventions validly protected by a European patent. In this context, Art. 140 EPC is also of interest.

Problems may then arise, particularly with the nationalization of European patents entering into force in Italy.

When a European patent concerning space configuration(s) of an article enters the national phase in Italy, an IP operator should be aware that the actual life in Italy might be found by a court to be no longer than 10 years, the rationale being that the subject-matter of the European patent is, in fact, that typically provided by law for a UM. The more so the poorer the inventive level involved, or when *ab initio* the patentee conceded that the subject-matter of the EP was in fact that of a UM.

Decisions of Italian courts have already been issued in which Italian phases of European patents were found to be void as patents of inventions because they lacked an inventive step, although they were sometimes convertible into UMs.

Thus, the patentee and especially investors or licensees of an Italian national phase of a European patent should be aware of, and carefully evaluate, the possibility that the actual protection in Italy might be much shorter than 20 years (even if renewal fees have been regularly paid after the 10th year).

As a partial remedy to such invalidity situations, Art. 76 of the Italian IP code gives the judge the power to convert (upon request by the patentee, either plaintiff or defendant in a nullity court suit) a patent (of invention or for UM), found to be void in a nullity action brought before him, into a different patent (ie a UM or a patent of invention, respectively) provided the void patent meets the requirements for validity as a converted patent.

Obviously, the possibility that a patent of invention concerning a space configuration can be converted into a UM is much higher than that of a UM being converted into a patent of invention.

It is worth bearing in mind that conversion from patent of invention to a UM may take place only during the first 10 years of the life of a patent. Thus, if the validity of a

patent older than 10 years is challenged in a lawsuit and the patent of invention is found to be void, it is too late for it to be converted into a UM, although it would be possible in theory, because the full term for a UM has already expired.

Outside the European route, another way of limiting the consequences of a possible nullity action is provided by Art. 84 of the IP Code, ie the possibility of filing one or more UM applications together with (ie on the same date as) a patent application. Of course, the UM(s) will concern specific shape(s) of the space configuration constituting the subject-matter of the patent application. This procedure differs from that followed in Germany where one or more *Gebrauchsmuster* can be derived from a parent patent application any time before grant of the patent.

Note

- 1 See, for instance, *Invenzione e Modello di Utilità* by M Franzosi – Dir. ind. (3) 2008, and *Note sui modelli di utilità e invenzioni* by A Vanzetti – Dir. ind. (4–5) 2008.

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Technology standards and IP

In order to grow, many innovations depend on pooling patents in an industry standard. So how can you maintain your IP position, asks Dr J J Hutter, of Nederlandsch Octrooibureau.

It is no news to say that different markets develop in different ways. For instance, in the pharmaceutical area, firms may have a monopoly position as to the production and sale of a specific medicine carefully protected by patents: ‘the winner takes it all’. Pharmaceutical firms do not (or hardly ever) need cooperation with their competitors to gain a high profit. The firm that has the ‘best’ product (or medicine) can, in many cases, produce such a product without being hindered by the patents of a competitor.

Other sectors, such as the electronics industry, are a different matter. For decades, companies in the electronics industry have known that they cannot invent, produce and market products on their own and obtain a monopoly position in the same way. It is almost impossible to produce products that do not contain components that are protected by the patents belonging to their competitors. Moreover, producing a consumer product, such as a DVD player that is incompatible with DVDs from competitors, would be fatal for one’s market share. So, they know that they have to standardize their products to a certain extent.

Because of the need for standardization in several fields of technology, people from competing manufacturers are getting together to discuss and agree upon technological standards. In order to be sure that their companies gain from the technological standard as agreed, they all try to develop their patent portfolio in such a way



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that other firms (including third parties not sitting around the table) have to pay a licence fee for every product made in accordance with the standard.

This chapter discusses whether such a strong interdependency between technological standards and patents that are claimed to be essential to those standards is a blessing or a curse for innovation.

History

It is mainly in the field of electronics that companies have learned their lessons well. For instance, in the 1980s, JVC, Philips and Sony tried to conquer the world market with a new video system. JVC produced the VHS system. Philips, together with Grundig, developed the Video 2000 system and Sony produced the Betamax system. Many technicians believe that the Philips' Video 2000 system was superior to those of its competitors. However, in the end it was the JVC VHS system that won the battle.

The price of losing was high and within the electronics industry a new trend developed whereby representatives of competing firms came together to discuss standardization of new products. They firmly believed that making agreements on new technology would benefit all participants and, thus, would favour innovation. Indeed, the companies that agreed upon the content of the standard could *de facto* dominate the world market, especially where the technology as laid down in the standard was protected by patents.

As long as there were only a few major players in the field of electronic equipment (mainly from Japan, Europe and the United States), the main problems related to the internal 'game' between the participants in the standardization negotiations. Their main problem was how to develop a patent portfolio with as many 'essential patents' as possible, ie patents that it was impossible not to infringe when applying the technology of the standard. Or, in other words, how to ensure that licensing the technology of the standard to other parties gives your own firm the best royalty income.

Those firms involved in such negotiations have now learned how to play the game. During negotiations it is a matter of 'give and take' in the sense that all parties involved must gain from the standard as agreed. So, a balance should be sought between all proposals from different companies for technology to be incorporated in the standard.

At the same time, the patent departments of these participants were deeply involved in drafting patent applications on those parts of their own technology that had a high chance of being incorporated into the standard. To be as sure as possible, they also used all possible options during the prosecution of patent applications pending before the patent offices throughout the world. One such means was (and still is) to file patent applications that are as detailed as possible on all possible routes along which the standard may develop and file such patent applications before discussing their content within the standardization body concerned (filing later may result in the patent being invalid in several countries).

The trick then is to keep such patent applications pending as long as possible such that legal claims can be drafted that read on the standard as agreed and are

supported by the originally filed patent application. In Europe, filing a divisional application from the original patent application with new claims shortly before it is granted or rejected can be used for that purpose. And since it is (still) permissible to file a divisional application from a divisional application, companies can make endless chains of pending applications and keep their options for drafting such 'essential' claims open for years.

In the United States it is also possible to file such divisional applications. Also, in the United States it is possible to file so-called 'continuation in part' applications where an applicant adds subject-matter to an earlier patent application, making the game even more interesting.

Third parties excluded?

Can third parties that were not involved in developing such standards enter the markets concerned? The simple answer is: yes, they can. However, the cost may be high.

Since in most jurisdictions it is impossible to establish a *de facto* monopoly by making agreements between firms (due to unfair competition laws), the parties which have agreed on a technological standard that is protected by a pool of patents should allow third parties to enter the market relating to the technology concerned. So, they should allow third parties to produce and sell products relating to the standard. However, such parties should then pay royalty fees to the proprietors of patents in the patent pool.

But how high might such royalties be? Might they be so high that there is still a deterrent from entering the market because the licence fees to be paid would make the products of the third parties excessively expensive? The general feeling in the world today is that the answer to this question is: no! Many use the term 'FRAND' for the licence terms, ie the terms should be Fair, Reasonable And Non-Discriminatory. However, there are no fixed rules for establishing when licence terms do meet the requirement of being 'FRAND'. There is only a little case law on this subject, although the case law that does exist in Europe and the United States seems to encourage competition in the sense that it seems to try to block attempts of companies to establish monopolies or unreasonably high royalty incomes by developing a patent portfolio that reads on a standard without informing the (other) parties involved in due time.

Some examples may clarify this. In the United States, several cases have been heard by courts on different levels. One famous case is between Rambus and Infineon before the Federal Circuit in Virginia. Rambus had participated in JEDEC SDRAM and DDR-SDRAM standardization talks. After the standard had been finalized, Rambus asserted against Infineon that they (Rambus) had patents that were essential to the standard. However, Infineon filed a counterclaim for fraud based on the argument that Rambus had not disclosed the existence of these patent applications while the standard was being developed. So, according to Infineon, they were taken by surprise and they accused Rambus of unfair competition. At the same

time the Federal Trade Commission (FTC) investigated this issue, ie whether Rambus had tried to obtain an illegal monopoly position based on anticompetitive conduct.

In 2003, the Federal Circuit decided that Rambus had not committed fraud under Virginia state law by not disclosing their patent applications relating to the SDRAM technology concerned. However, in 2006, the FTC presented its opinion that Rambus was involved in illegal monopolization. And, some months later, it stated that a remedy should be that Rambus could ask for a maximum royalty of 0.25 per cent for SDRAM and 0.5 per cent for DDR-SDRAM, and that these royalties had to decline to zero in three years.

Interestingly enough, the FTC also suggested that it is not necessary for all standardization bodies to require participants to disclose their relevant patent applications at the time the standard is being developed. But also, that if such a standardization body does require such disclosures to be made, then *‘non-disclosure – followed by adoption of a standard incorporating the intellectual property, and royalty demands against those practicing the standard – may be considered a material omission and may constitute deceptive conduct’*.

Since then, the debate about standardization and patents has been ‘hot’. Several other cases have been heard in the United States. For instance, another important case was between Broadcom and Qualcomm. In that case, the main issue was whether Qualcomm’s licence terms for patents essential to the UMTS Standard were ‘FRAND’ or anticompetitive.

In Europe, so far, there is hardly any relevant case law. Still, one can say that a global trend can be summarized as follows:

- A growing number of standardization bodies require participants to disclose essential intellectual property at an early stage of development of a standard based on the idea that, at that time, the participants can still make different choices if the intellectual property concerned may result in too high a price for applying the standard.
- Judges tend to protect third parties that wish to enter a market dominated by standardized technology in the sense that they should be able to do so by signing FRAND licence contracts, although it is unclear at the moment when licence terms are indeed FRAND. Moreover, they may ‘punish’ those parties that do not disclose their intellectual property in time before the standardization body concerned.

So, the world is moving ahead. Standards are good for some industries and good for consumers. They stimulate innovation as well and they do not block third parties from entering the market. However, the price for third parties to do so may be uncertain. So, third parties should be well informed before they attempt to enter such a market.

Why file in the United States first

There are ten good reasons why an early-filed US patent application will put you in a strong competitive position, says John Moetteli, an international patent attorney.

With respect to patent strategy, patent attorneys best advise their clients by suggesting that they start their patent filings in the country of the most commercial importance to them as determined by the market in that country, or by the presence of competitors or potential licensees.¹ The practice of merely filing locally without justification other than tradition only haphazardly serves the client's best interests. Why? Because where the US market is important, failing to file first in the United States needlessly handicaps the client's US patent rights, which may ultimately cause commercial damage to the client.

Yes, for companies whose markets are local, and whose inventions have little licensing value in the United States, advising the client to file a patent application locally is certainly legitimate. On the other hand, for globally minded clients and for clients whose inventions may have a significant market in the United States, the patent attorney should advise their clients to file in the United States first or at least concurrently with or immediately after a home country filing. Why? If a client does not file early in the United States, they can lose significant rights because with each passing day that the US filing is delayed, more prior art can be cited against the client's US application. Besides this, the United States has a developed patent system (more than 200 years old) which, in many ways, has helped shape the laws of many other industrialized nations. This developed patent system helps reduce uncertainties which increase the risks of litigation. Still further, the United States remains a domi-

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nant force in international commerce and if a client is forced (because of budget constraints, for example) to choose one single *national* patent to have in their portfolio, most clients choose a US patent.²

For these and other reasons listed below, the client's US patent rights are likely to be the most flexible and powerful tools for monetizing an invention, particularly where a potential licensee or infringer resides in the United States. To fail to communicate the advantages of early filing in the United States is the strategic equivalent to a chess instructor failing to tell his student that the queen is allowed to move in all directions as far as the way is clear. In other words, failing to communicate these advantages typically results in diminished US patent rights caused by an up to one year loss in priority for the US application. Winning at the game of intellectual property (IP) is difficult enough without being handicapped by ignorance of the rules of the game. The game is global now and clients expect to be informed of the basic rules affecting their international patent strategy.

The author has identified more than 20 reasons supporting a patent strategy that begins with an early US filing. Besides the case where a co-inventor is a resident of the United States (in which case filing in the United States first is obligatory), here is an ordered listing of the 10 most compelling such reasons:

1. First and most important: To better ensure the client obtains the broadest possible US patent. Filing in the United States first allows the applicant to jump back in time one year in defining the prior art against which the client's US patent application will be judged. In other words, filing early in the United States is necessary in order to take advantage of the one-year grace period by which prior art is defined one year prior to the filing of the client's first US application, thereby excluding from the prior art the client's own as well as third-party disclosures that take place during the one-year period immediately preceding the US filing. Here's why: Title 35 U.S.C. section 102(b), states the following:

35 U.S.C. 102 Conditions for patentability; novelty and loss of right to patent.

A person shall be entitled to a patent unless –

... (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, *more than one year prior to the date of the application for patent in the United States...*

Consequently, although the priority filing date is the date that determines prior art for a European patent, and in fact most national or regional patents, for a US patent, prior art is defined one year before the earliest filing *in the United States*.³ Yes, although the practice of 'swearing behind' using the client's non-US priority filing as evidence helps to a limited extent because the client can claim inventorship at least back to his priority filing date (only available for member countries of the World Trade Organization (WTO)), this allows the client to go back in time only to their priority filing date, not *one year earlier* than their priority filing date, as they would have been able to do if they had filed first in the United States. Consequently, if the client chooses to file anywhere but the United States first, they are choosing to put themselves at a disadvantage vis-à-vis other patent filers who have a 102(b) filing date in the United States which is earlier than the

client's priority filing date. In almost all cases, this would be a strategic mistake that the rational client, if fully informed, would never expect to make were it not for their ignorance of the rules. It's our duty as patent attorneys to inform our clients of current law and rules, in order to help ensure that the client does not make such mistakes.

One may fairly ask, why does early filing in the United States offer this very significant advantage? Because the United States is a *first-to-invent* country (not a *first-to-file* country) and US authorities consider the filing of a US application to be the best proof of date of invention. Further, by the provision of a grace period of one year, the client receives the benefit of the *de facto* assumption that it took a year to develop the invention from its date of conception, prior to filing in the United States. *Consequently, if the client files first in the United States, the US patent examiner can assert less prior art against him, and therefore, the client's US patent claims are likely to be broader than elsewhere in the world.* In addition, if a third-party competitor wishes to defeat the client's US patent, the competitor must find prior art that is one year older than they would otherwise have to find if the client's first filing was a non-US filing. Alternatively (the downside), the client must find prior art that is *one year older* than a competitor's US filing date in order to defeat that competitor's US patent.

2. Fortunately, the European Patent Office (EPO) and the patent offices of essentially all industrialized countries of the world consider a US patent filing a valid priority filing for their own purposes, thereby serving to reserve rights in these countries as of the US priority filing date. Of course, the Paris Convention requirement that the regular filing be made within one year of the first filing still applies. In other words, a Swiss resident filing a US patent application first and later (within one year) a European patent application can claim priority to the US patent application and thereby fully preserve their rights in Europe, just as if the client had filed in Europe or their home country first. It should be noted, however, that in some countries like France a first US filing might be considered as valid because of national law requiring that residents file first in France for national security purposes.⁴ In addition, UK and German law forbids filing patent applications abroad for military technology developed by residents.⁵ The United States has a similar requirement.⁶ Fortunately, essentially all other industrialized nations allow their residents to choose where to file first.
3. US patent applications can be filed in any language. Only six months or perhaps a year or more after filing in the United States (within at most six months of receiving an official notice to do so) must the application be translated into English. This means that the client/applicant can gain the above advantages by filing a non-English US provisional patent application concurrently with a home country filing, for a cost of an additional perhaps €500 over the costs of filing in the home country alone. Further, for those practitioners or clients that wish to file a Patent Cooperation Treaty (PCT) application in a language other than English, filing a priority US filing (in any language) is essentially the only way for the client to avoid the detriment of filing a non-English PCT application with respect to the client's US patent rights.⁷ Where the client chooses to file a non-

English language PCT application, the English translation of the PCT need not be filed in the United States until at least several months after the filing date of a non-English US continuation application of the PCT, perhaps 36 months after the priority date. In this way, the patent attorney may be able to justify continuing to work in a non-English language in a manner that does not potentially damage the client's interests in the United States (subject, of course, to meeting the other requirements mentioned in, for example, point 6 of this article).

4. The filing fee for a US provisional application is \$210, significantly lower than the filing fee in most other industrialized countries. For individuals or companies having fewer than 500 employees, the official filing costs and most future official fees are reduced by 50 per cent (so, \$105 for a US provisional filing).
5. Monetizing a patent is generally much easier in the United States than in other countries because the US legal system allows clients with valuable patent rights to negotiate a contingent fee agreement with even the largest law firms. Depending on the perceived value of the patent, these firms will not charge for their time or expenses, unless and until they win the case and a damage award is granted. This is the so-called 'no win, no fee' legal service. In Europe, most countries do not allow lawyers to accept contingent fees, and so the client must pay their lawyer by the hour in Europe no matter how strong their case is. Large companies know this and so sometimes ignore the European patent rights of others until a suit is actually filed. Because of the advantages that a US patent offers in this regard, many large European research institutions and universities often file for patent protection only in the United States for certain technologies.
6. The United States has the most stringent filing requirements in terms of 'best mode', 'enabling disclosure', completeness of the drawings, as well as the US duty to disclose.⁸ Filing first in the United States using a patent firm which is thoroughly familiar with these filing requirements ensures that the patent application filed internationally will have fewer troubles during global prosecution (ie during substantive review by examiners in national or regional patent offices). Failure to respect these requirements may result in the US part of any PCT filing being held invalid in court.⁹
7. Because the United States represents the largest domestic market for a broad range of products and services and because the likelihood is high that if any patent in the client's portfolio is litigated, it will be litigated in the United States, the US market is arguably the most important single market for the client. In fact, based on anecdotal observations of the author, including discussions with Jeremy Lack, an international attorney experienced in IP mediation with Altenburger Attorneys in Zürich, the US patent can represent half or perhaps 70 per cent of the value of the client's entire patent family. Further, the size of the US market and the fact that a single patent covers this market means that, on a *per capita* consumer basis, the United States is by far the least expensive jurisdiction in which to obtain patent protection.¹⁰ A US patent typically costs half that of a European patent, for example. Further, renewal fees are only due every 3.5 years, not yearly as in Europe. This means that if the US market is most important to the client, and the client later decides not to file anywhere but in

the United States, starting with the United States is the least costly alternative, one which avoids aborted filings while preserving all options for the client.

8. English is the language of computer science, information technology, business and law, and the native language of many industrialized nations around the world, such as the United States, the United Kingdom, Ireland, Australia, Canada, New Zealand and Singapore. Further, Japan and Switzerland permit filing in English, subject to the submission of a translation at a later date. In addition, patent rights in Germany, Switzerland, France, the United Kingdom, the Netherlands, Denmark, Sweden, Luxembourg, Monaco, Slovenia, Iceland, Latvia, Liechtenstein and Croatia can be protected via a later English-language European patent application, without further translation costs, thanks to the London Agreement.¹¹ Therefore, a patent application drafted in English first can be prosecuted through grant in many important jurisdictions without translation and so is less likely to suffer from losses in meaning due to translation in these important regions.
9. An early US filing date means that the client's application won't be rejected by the United States Patent and Trademark Office (USPTO) under 102(b) or (e) of the US Patent Law, when another party's US patent application has been published during the prosecution of the client's application, even though the non-US priority filing date of the other party is earlier than the client's US filing date. Conversely, if the client's priority filing is a US filing, then the publication of the client's application creates 102(e) prior art against competitors.¹²
10. Provided the client does not file any foreign applications and requests non-publication of the US application at the time of the US non-provisional filing, their US application is kept secret and never published by USPTO, until it is granted. Therefore, the client who practises a secret process need not relinquish trade secret protection until convinced that the patent protection obtained in the United States will protect them more effectively than merely maintaining the secrecy of the technology. Preserving trade secret rights in this manner is simply not possible once a European, Japanese, Chinese or Korean patent application is filed because publication of the application prior to examination and grant is the norm.

Exceptions

Despite the above-enumerated advantages of filing first in the United States, as already mentioned, for companies whose markets are local, and whose inventions have no real licensing value in the United States, advising the client to file a patent application in their home country remains legitimate. Further, owing to national security laws, French residents must file in French, in France first, using a French patent attorney. UK and German residents must file applications comprising military secrets in their respective countries first. In most other countries (including Switzerland), clients are free to file first wherever they choose.

In addition, when publication or disclosure is imminent, and the inventor is not an English speaker, preparing an application in their mother tongue (say German) and filing in the most convenient location using an available home country patent attorney in order to obtain the earliest filing date may mean that filing in the United States first or on the same day as the home country filing is not possible. Fortunately, if the US application is filed soon after the priority filing, most of the advantage of early filing in the United States can be preserved.

Finally, if the client would like to receive a US patent quickly, the filing of a US provisional patent application (which is not reviewed substantively until a regular application is filed) can delay the ultimate issuance of the patent. Therefore, this may be a factor in the client's decision not to file a US provisional application. In this case, the client should file a US non-provisional application (which will result in a US search) as soon as possible *or* file a US provisional application along with a regular home country application, paying the search fees and any fees for accelerated review in the home country, in order to get an early search report through the home country patent office while at the same time securing an early US filing date.

Conclusions

If the client wishes to maximize the potential scope of protection they can obtain for their invention as well as its licensing value, and the client is not a resident of France (or, if a resident of Germany or the United Kingdom, whose invention does not comprise sensitive military technology), they should be advised to file a patent application in the United States first or at least concurrently with or soon after a priority home country filing. If the patent application covers a commercially valuable and patentable technology with applications in the United States, then ignoring these advantages may result in commercial loss to the client. Because most European clients rely on European patent attorneys for such strategic information, the author hopes that the European patent bar will do its part in educating clients of these important particularities of US law. If this is done, the typical client will be able to augment the value of their patent portfolio while keeping related costs to a minimum. What's more, the client will no longer operate at a disadvantage vis-à-vis US-based competitors.

Notes

- 1 Where such a choice is permitted under national law, discussed *infra*.
- 2 Companies and institutions that, from the public record, do this include: IBM Rüschlikon, Logitech, the University of Geneva, HUG, the EPFL, and many large Swiss chemical and pharma companies, for example.
- 3 When it comes to issues in US patent law dealing with proof of inventorship, which is a unique characteristic of US patent law vis-à-vis other countries, the equal treatment provisions of the Paris Convention do not apply.

- 4 See Article L. 612–9 of the Code de la Propriété Intellectuelle français – however, this requirement is considered by many invalid under GATT TRIPS.
- 5 German law forbids filing German state secrets abroad. German state secrets are defined as facts and knowledge accessible to a limited number of people whose revelation would damage the external security of the German nation, 93 Nr. 1 Strafgesetzbuch (StGB)(Ger.), *translated in* Joseph J. Darby, *The Penal Code of the Federal Republic of Germany* 118 (1987). Therefore, this covers almost all military-related inventions the details of which are known by only a few. As for the United Kingdom, filing applications abroad on military technology, or technologies that could harm national security or public safety, is prohibited under Section 23 of the UK Patents Act.
- 6 Where a co-inventor is a US resident, a foreign filing licence must be obtained from the USPTO before filing abroad.
- 7 See 35 U.S.C. 102(e).
- 8 See Title 35 U.S.C. 112, First and Second Paragraphs for requirements for support ('best mode') and enabling disclosure, and 37 C.F.R. 1.83(a) for drawing requirements ('drawing in a nonprovisional application must show every feature of the invention specified in the claims'). The 'best mode' requirement is a safeguard against the desire on the part of some people to obtain patent protection without making a full disclosure as required by the statute. The requirement does not permit inventors to disclose only what they know to be their second-best embodiment, while retaining the best for themselves. *In re Nelson*, 280 F.2d 172, 126 USPQ 242 (CCPA 1960). The duty to disclose (aka 'duty of candor') is a statutory obligation that seeks to ensure that stiff penalties may be assessed against those who wilfully withhold known prior art in hopes that the patent examiner will not find it and thus accord the client a broader (albeit invalid) patent.
- 9 PCT requirements deal primarily with formal matters. Therefore, the PCT examiner is not charged with reviewing an application to determine whether it meets US standards. Consequently, the applicant is solely responsible to ensure that such requirements are met.
- 10 The licensing value of a US patent is therefore likely much greater than any other national patent.
- 11 See <http://www.epo.org/topics/issues/london-agreement.html> for further information.
- 12 See *Supra*.

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Readers interested in setting up a program permitting direct US patent filings from Europe are invited to request further information via email at jmoetteli@patentinfo.net. Note that although this article is subject to copyright © 2009, the author does not object to reproduction provided it is copied and distributed in its entirety including footnotes.

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IP in the Czech Republic

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The Czech Republic is a country in which several important and nowadays widely used inventions, such as soft contact lens, polarography or the pharmaceutical agent Tenofovir have origin. What these inventions have in common is that they were made in research institutions.

The Intellectual Property protection in the Czech Republic has a long tradition, based on the legislation of Austria-Hungary, of which the Czech Republic was a part. Czechoslovakia of the 20th century was a state with well-developed industry and licensing activity; the Czechoslovak Patent Office and Patent Court were established as early as year 1919.

In the year 1948 Czechoslovakia became part of the Eastern block dominated by the Soviet Union. The progressive development in the IP protection area was disrupted for 40 years.

In 1989, after the political system changed, new conditions including full restoration of private property were established and great boom of private enterprise started in Czechoslovakia. The laws governing the Industrial Property protection were harmonized with the legal system of EU countries. The Patent Law from 1990 restored all provisions, identical or similar to these of other EU member countries.

In 1993, Czechoslovakia had split, thereby forming two independent countries – Czech Republic and Slovakia. Both countries have taken over the established IP protection system and later, in 2002, have become parties of the European Patent Convention. Since May 2004, both Czech Republic and Slovakia are member countries of the European Union.

The legislation of the Czech Republic dealing with intellectual property has been harmonized with that of other European countries. Thus, all forms and conditions of intellectual property protection, existing under European Patent Convention are available in the Czech Republic.

Presently, there are innovative small and medium enterprises carrying out their own research and large companies having research and development departments in the Czech Republic. A substantial part of the research and development leading to patentable technical solutions is still carried out at universities and in public research organizations including institutes of the Academy of Sciences and independent research bodies.

The cooperation of patent attorneys with universities and public research organizations in IP protection and commercialization requires a specific approach. It is necessary to make the scientists leave their „publish or perish“ attitude and teach them to consider the benefits they and their institution could gain by protecting and commercializing their technical solution in the first place. In order to achieve this, it is vital to deliver

information about the innovative solution protection process and the need for timely decision to apply for a patent or a utility model protection shall be emphasized. This decision must necessarily be taken before the research results are published. In fact, the decision to file a patent or a utility model application may not represent a major delay in the publication process. The publication can be submitted immediately after the filing of a priority application describing the invention, taking into account the fact that if there is a new subject matter introduced at the time of filing an application claiming priority from said priority application, the publication may represent a prior art which can destroy inventiveness of the added subject matter.

Since there are costs for filing and for patent attorney services and eventually for translation services involved in each filing, the decision to file a patent or a utility model application shall be made on the basis of a reliable search of the prior art. The chances of marketing success of a product or a technology based on the invention should be kept in mind.

Nevertheless, the priority right and the system introduced by the Patent Cooperation Treaty (PCT) are very advantageous for non-profit research and educational organizations. Since they usually do not manufacture and sell the products based on the innovative technical solution themselves, they have to look for a licensing partner, which could turn the invention into profit by producing and marketing the product or the technology. The research institutions usually come up with extraordinarily innovative solutions; however, their inventions are usually not readily marketable and need more than minor developments. Thus, rather frequently, there is another task for the licensing partner, which is the further development of the technical solution in cooperation with the inventors, which is often necessary in order to enable profitable production of a competitive, successfully marketable product or a competitive offer of a ready-to-use technology.

The costs of the priority application and then the PCT application are bearable by research institutions in most countries. The costs for entries into national and regional phases in the 30-month time limit are, however, too high for non-profit institutions. Therefore, a major part of the research institutions is beginning to search for potential licensees very early, often just after the priority filing. As a rule, the inventors should be involved in this search, because it is often they, who have the best idea about the market and position of companies in their respective field of the art.

Before the publication of the first patent or utility model application, only non-confidential offer should be available to potential licensees before concluding a non-disclosure agreement. Even after the publication of the patent or utility model application, it is advisable to negotiate under a non-disclosure agreement, because often the information and data provided to the other party are much more extensive than those appearing in the application.

The negotiations should be finished and an agreement should be reached within 30 months from the priority date, which is the time limit for entry into national/regional phases pursuant to PCT. Firstly, the licensee shall participate in making the decision of

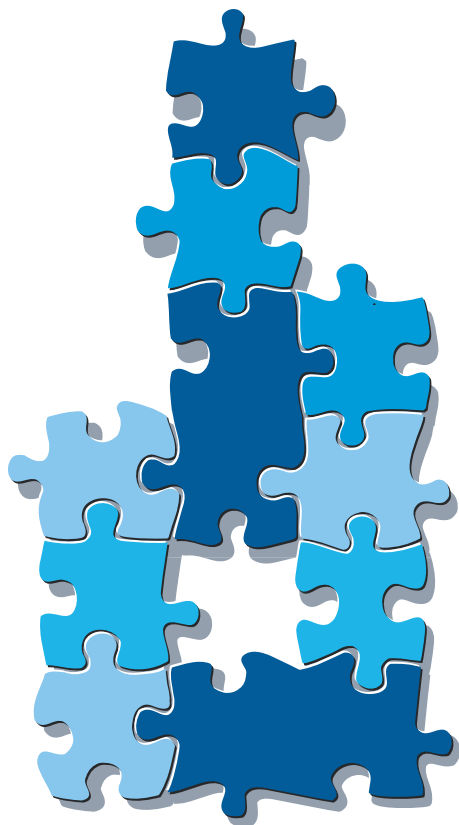
the final geographic scope of the protection of the invention, and secondly, the licensee often bears at least part of the costs involved in national/regional phase entries. Quite frequently, the agreement concluded in this stage is not a pure licensing agreement; it is usually more an agreement on cooperation in further development which, however, lays down the basic conditions of a future license. Under these conditions, the licensee habitually requires an exclusive license, eventually with the right to grant sublicenses. The inventions for which a licensing partner cannot be found within the 30-month time limit are usually considered commercially unattractive and it is decided to abandon the PCT application.

When deciding between a patent protection or a utility model protection, in view of the amount of time needed for further development of the invention in order to convert it into a marketable product or technology and of the time commonly spent by searching for a licensing partner, it is advisable to elect the patent protection, which is in general longer than the utility model protection. It has an added advantage of being available in almost all countries worldwide, harmonized and in several regions accessible regionally through a system set up by an international treaty.

Inventia is a leading company cooperating with universities, public research organizations and small and medium enterprises and advising them in the matters connected with protection and commercialization of their IP. Inventia also provides services for foreign entities seeking to obtain protection of their trademarks, designs, or inventions in the territory of the Czech Republic.

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We share the same background having worked as patent examiners at the European Patent Office in München during the 80ies. Now we are brought together again as partners at Hynell Patenttjänst AB. Back in those days the success of the EPO could not be taken for granted, but today EPO has problems of increasing backlogs. Below we present some important changes and trends regarding the interpretation of a few articles of major relevance for patentability according to EPC and also regarding changes due to EPC 2000 that came into force 13.12.2007.

Article 52 EPC – Patentable Subject Matter

Generally, Article 52 EPC is very similar to provisions in many other patent laws, i.e., excluding therapeutic methods, discoveries, computer programs, business methods, etc. In relation to applications for business methods and/or computer programs a trend has, however, rather recently been established with the significance that distinguishing subject matter relating to those fields are not considered to support an argument for inventive step, due to lack of technical character. Our impression is that more and more subject matter relating to those fields are seen as features not considered for inventive step. As a consequence, applications within those fields will probably meet more and more obstacles.

Article 54 EPC – Novelty

Already at the start, EPO chose a very strict approach regarding novelty giving "trivial" features the same attention as "more essential" features, i.e., a very strict analysis was adopted comparing the wording of the claim with exactly what was unambiguously shown in a single act of disclosure. Very rarely, a prior art document was interpreted to include implicit disclosure. Typically, the "benefit of the doubt" was accorded to the applicants.

This approach has changed and there is a tendency that inventions within the software/computer field more often will face an interpretation of prior art including implicit teachings. Moreover, EPC 2000 has entered some changes. Firstly, a new Article 2 EPC introduces that "account shall be taken of any element which is equivalent to an element specified in the claims", if obvious for the person skilled in the art. This approach will make the examination regarding novelty less strict. Furthermore, Article 54 (4) EPC will be deleted meaning then that novelty needs to be absolute among EP-countries.



Article 56 EPC – Inventive Step

The problem/solution approach is a basic structure concerning patentability at the EPO. Together with the application of the concept of a virtual skilled person – who knows everything within his field but who is without creative skill – this creates a basis providing good foreseeability, especially in combination with the approach that a decision has to clearly present why the skilled person would combine, thereby arriving at a solution according to the claim; despite the fact that it is clear that he could combine. These general basic principles have remained more or less unchanged, but due to an increase of reading implicit features into prior art foreseeability may be reduced.

Article 82 EPC – Priority

Here, the important decision G2/98 by the Enlarged Board of Appeal stated that explicit and unambiguous support is needed in the priority document, for valid priority. This is a big change compared to the old approach when the “gist of invention” formed the basis. As a consequence a priority application nowadays needs to be much more detailed, e.g., to also include embodiments that may seem evident, and further the addition of subject matter in connection with subsequent filings, (e.g. PCT, have to be handled with extra care during prosecution) and to not mistakenly add matter to the claims that might invalidate the priority.

Article 83 EPC – Sufficiency of disclosure

Also here major changes have occurred from a rather liberal approach to a more formalistic one. Accordingly, there is a tendency that applications need to be more detailed, e.g., including numerous embodiments/examples to safeguard validity, especially if the claims are very broad.

Article 84 EPC – Clarity

The EPO has always paid great attention to clarity, but has also been forgiving in the respect that many non-mother tongue applicants do reside within the system. An important change which has occurred is that the skilled person cannot easily be used when making amendments, e.g., on the basis of the drawings, due to a stricter view, i.e., more or less explicit support by the original description is needed. Also from this point of view, it is important to be as detailed as possible when drafting the description.



Articles 105 a-c EPC

EPC 2000 has included new Articles 105 a-c, according to which it will be possible for the patentee to file a request for limitation or revocation of the patent. In this context, novelty and inventive step will not be examined, but the patent will be examined due to the Implementing regulations of the EPC.

Article 123 EPC – Support in the patent application as filed

For many applicants article 123 (2) has been the main obstacle, which has hindered them from obtaining a broad and/or valid protection. The EPO approach was already from the beginning relatively strict. During recent years a more and more stricter approach has been established. Accordingly, it is extremely important to have unambiguous, preferably explicit, support when performing amendments. Especially, when combining features from different independent claims, one need to be very careful, since if it hypothetically encompasses something that was not explicitly supported, validity may be jeopardized. The reason is that Article 123(3) prevents from extending the protection conferred, which in combination with Article 123(2) EPC, may end up in the “fox trap”, i.e., granted claims containing unsupported matter which may not be deleted and as a consequence the patent will be lost.

Conclusive remarks

All in all, it is evident that the European patent system, and thereby also the Swedish national jurisdiction, has a tendency to move towards a more and more formalistic approach; where preferably explicit support for any amendment, preferably word by word, shall exist and whereby a large number of different embodiments/examples are needed to support a broad claim. As a consequence a detailed description, mentioning numerous embodiments/examples, is of utmost importance and will probably remain to be so to obtain strong protection in European jurisdictions, and also the use of divisional applications to supplement for patents with more limited claim.



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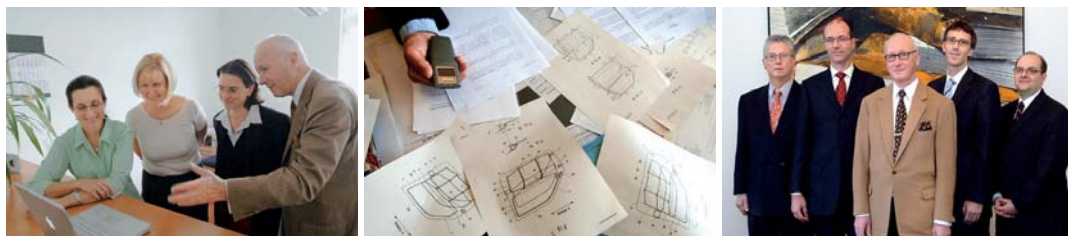


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A Utility Model Derived from a European Patent Application: A Powerful, Cost-Effective IP Right

Dr. Gunnar Baumgärtel and Dr. Michael Maikowski, MAIKOWSKI & NINNEMANN

A utility model derived from a European patent or patent application is a highly effective and cost-efficient instrument to enforce rights to an invention against third parties. Under German IP Law a utility model may be derived (“branched off”) from any European patent application (and any European patent under opposition) designating Germany within 10 years from the filing date. The claims of the utility model can be reformulated to cover those products in respect of which the utility model is to be enforced before the competent courts.

I. Utility Models

For the protection of technical inventions German IP Law makes available patents as well as utility models.

According to the German Utility Model Act (“Gebrauchsmustergesetz”), utility model protection is granted for inventions that are new, involve an inventive step and are susceptible of industrial application. These prerequisites are essentially identical to the legal requirements for obtaining patent protection; the main differences being that utility model protection is not granted in respect of processes and that the maximum term of protection is 10 years.

A utility model is registered without examination of its subject matter as to novelty or inventive step. Therefore, registration is typically ordered within two to three months.

After registration a utility model may be enforced against third parties before those German courts which also decide patent cases.

During infringement proceedings the owner of the utility model is entitled to request

- injunctory relief,
- compensation for damages,
- information as to the origin and distribution channels of infringing products,
- destruction of infringing products.

Although several countries provide utility model protection, the German Law is unique in that a utility model may be derived from a pending (European) patent application or a patent under opposition.

II. Deriving a Utility Model from a European Patent Application

Section 5 of the German Utility Model Act stipulates that the applicant of a patent application with effect in Germany, such as a German or European application, is

entitled to file an application for a utility model and to claim for this application the filing date of the earlier patent application. Such utility models are said to be derived or “branched off” from the earlier patent application.

Section 5 (1) of the German Utility Model Act reads:

5.-(1) Where an applicant has already sought, at an earlier date, a patent with effect in the Federal Republic of Germany for the same invention, he may file together with the utility model application a declaration claiming the date of filing relevant for the patent application. ... The right under the first sentence may be exercised up to the expiration of two months from the end of the month in which prosecution of the patent application or any opposition procedure is terminated; at the latest, however, by the end of the tenth year from the date of filing of the patent application.

The possibility of deriving a utility model from a (European) patent application exists at any time while the (European) patent application is pending and also during opposition proceedings in respect of a patent granted hereon.

III. Claims

Because a utility model can be derived (“branched off”) from an earlier German, European or International patent application designating Germany at any time within a period of 10 years from the filing date of the earlier application, a utility model will be derived specifically in such circumstances where additional protection is needed in order to enforce the claimed invention.

When formulating the claims for the utility model, the applicant may make use of the whole disclosure of the earlier (European) patent application. This means that the scope of protection of the utility model may extend beyond the scope of the claims of the earlier patent application or a patent granted thereon.

Furthermore, it is also possible to derive several utility models from a single (European) patent application, including unpublished patent applications, with each utility model having a different set of claims.

IV. Bringing the Claims into Line with an Infringing Product

Typically, an applicant will derive a utility model from a (European) patent application when an infringing product is put on the market by a competitor.

Based on the knowledge of the infringing product and the relevant prior art (from an European or International search report drawn up for the earlier patent application) the claims of the utility model can be formulated such that they cover the infringing product and at the same time involve an inventive step with respect to the prior art. This facilitates the enforcement of the utility model because the validity of its claims may be established by referring to the earlier search report/office action.

In particular, if a utility model is derived from a patent application containing claims which were identified as being allowable in a search report/office action, then the utility model may be regarded as a quasi-examined IP right.

V. Enforcing the Utility Model (Litigation and Seizure)

The possibility of deriving a utility model from a European patent application generates interesting opportunities for companies operating in Europe to protect and enforce inventions in a cost-effective manner.

By filing a German, European or International patent application a filing date is established. In addition, search reports and office actions received in respect of the patent application allow the applicant to assess the relevance of the prior art.

The applicant may then wait patiently until infringing products appear on the market. Subsequently, the applicant will derive a utility model from the patent application and will formulate a set of claims which, taking into account the available search reports and office actions as well as the characteristics of the infringing products, ensures optimum chances of success during infringement proceedings.

Because the utility model is not examined as to novelty or inventive step, it will be registered within two to three months after it has been derived from the (European) patent or patent application and may then immediately be enforced before the competent courts ("Patent Litigation Chambers") which will also investigate the validity of the utility model.

In addition, a utility model may form the basis for requesting the seizure of allegedly infringing products by the customs authorities.

VI. Costs

The Official fee for deriving a utility model from a (European) patent application amounts to 40,00 Euros, only.

Upon (optional) payment of an additional fee of 250,00 Euros the German Patent and Trademark Office will draw up a search report in respect of the utility model.

If the earlier (European) patent application from which the utility model was derived is not written in German, then a German translation will have to be filed. But a translation into German will be needed anyhow whenever an IP right is to be enforced in Germany.

Summarizing, the expenses involved in deriving a utility model from a European patent or patent application are minimal in view of the exceptional opportunities to enforce the utility model shortly after it has been derived from an underlying patent (application).

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Technology commercialization



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Early-stage IP

Dan Richardson and Dr Paul McEvoy at Technology from Ideas describe key early-stage technology development activities in making your IP ‘market ready’.

Bridging the gap between the lab and the market is a challenge faced by technology creators throughout the world. Whether the technology is created in a corporate research lab, a university or a lone inventor’s garage, the difficulties of creating a market-ready technology mean that many potential projects fail on the way.

To take a technology to market requires a combination of a number of factors, including market insight, investment, a creative entrepreneurial environment, a skilled team with multidisciplinary expertise, good management and the right networks. It typically follows a two-stage process: 1) proof of concept (POC) development and 2) customer-specific application development. These early-stage development activities lie at the interface between research and formal product development processes (often called the ‘fuzzy front end’), and are critical if valuable resources are to be deployed efficiently in creating and protecting intellectual property (IP). These activities are often not conducted well, and may be best outsourced to specialist companies.¹ In this chapter, the key commercialization activities are described.

Sourcing ideas

It is important that developers of technology recognize that good IP can come from any source, not just internally. The transition towards open innovation² demonstrates

that successful technology companies exploit IP from multiple sources (eg universities, small and medium-sized enterprises (SMEs), customers, competitors) and organize themselves to engage with a multiplicity of potential IP suppliers. However, the global marketplace for ideas, products and technologies (or the ‘Innovation Bazaar’ as some have called it³) can seem a difficult place in which to operate. For small companies, with a clear understanding of what they are trying to deliver to their customers, something as simple as a patent search on their competitors can kick-start the assessment of the IP landscape. For others, such as universities, with raw technology and unclear customer requirements, far more detailed patent searches focused on both the technology and the potential application areas are required. It can also be beneficial to explore aggregating IP from multiple sources to create more substantial opportunities.

Selection/filtering

Once a potential idea has been identified, a decision needs to be made whether to invest in it or not. This decision-making process should ensure critical issues are highlighted at an early stage:

- Be clear on the benefits of the technology to the end customer. Technologists are often poor at framing the benefits of their technology (eg it saves €15 million per year; it generates €50 million in new revenue over three years). This is best linked to known problems or shortfalls that can be ultimately linked to the bottom line of a business (what is the corporate ‘pain’ that your technology is relieving?).
- Estimate, reduce and eliminate risks. Be clear where your risks are (market? IP? technology?), and use the initial analysis project to reduce them. For those that cannot be removed, assess whether your planned POC project will reduce them sufficiently to make the IP ‘market ready’.
- Calculate the potential return on investment (ROI) for the project, considering the outstanding risks. Sometimes this is difficult to do where new products or new markets are concerned. Whatever discount factors you use in establishing the viability of your project, be realistic about the risk of the project. Early-stage projects are invariably risky, and therefore should have discount factors attributed appropriately.
- Include strategic fit as part of the process. Do not be sidetracked on interesting projects which do not fit with the longer-term plans of the company.

Proof of concept development

Golden rules

- Don't run them like research projects – they will fail.
- Maintain a business case summarizing the market opportunity, the robustness of the IP position, the viability of the technology and its estimated valuation⁴.
- Have well-defined project deliverables that map onto the key risk areas identified by prospective customers.
- Maintain objectivity and be prepared to terminate a project at any stage.
- Manage the four key work packages in parallel but focus resources on market validation.
- Speak to prospective customers and engage them throughout. (But take care not to make disclosures which could harm future patent applications.)
- Understand the cost structures in the market.
- Engage your IP advisers early and incorporate them into your extended team.
- Use partners to conduct some or all of the work – co-invest and risk-share where possible.

Market analysis and validation

As in any market-led project, market research fundamentals (eg analysis of competitors, technology cost structures and business models) underpin this analysis. It is vital that before embarking on a POC project, discussions with key decision makers at potential customers are conducted. Attendance at market-relevant trade shows can be an ideal method of rapidly gauging market interest. The aim of this activity is to direct your project towards specific customer requirements, which transforms your project from 'technology push' to 'market pull'. This should be the objective of all POC projects as this can significantly reduce market risk.⁵

IP creation, development and protection

In the vast majority of well-run POC projects, new and valuable IP is created which enhances the value of the original invention. This can include, for example, IP relating to manufacture, know-how related to application-specific designs, relationships with component suppliers, and deeper understanding of customer needs. This directly enhances the value of the original idea and increases its attractiveness to prospective customers.

The best and often most efficient method to develop and actively manage IP through the project is to engage professional advisers as part of a team. You should ensure that search results inform other work packages and that your new IP is mapped onto markets/segments/products of interest to prospective licensees.

Technology prototyping

The level of evidence required to make your IP ‘market ready’ will vary from sector to sector and from customer to customer. Some may be happy with simulation results and some may require laboratory-scale prototypes. Your plan must establish this in advance to ensure you will meet the expectations of the customer by the end of your project.

A useful method for measuring the maturity of your technology is the NASA technology readiness level (TRL) scale.⁶ This provides a view on the maturity of your IP and how close it is to the market in a systematic fashion. For example, TRL 1 is ‘Basic principles observed and reported’ – the typical level of IP emerging from universities, and TRL 9 is ‘Actual system proven through successful operations’. Don’t forget to consider the TRL of other technologies that your IP may be reliant on. In reality the customer is not only interested in your TRL but the combination of all IP and the readiness of the overall system solution.

Finally, perhaps the most valuable activity that is conducted during POC is building relationships with key suppliers to add value to your proposition. For example, during a wave energy project conducted by Technology from Ideas, our materials supplier DuPont has become a key strategic partner and we are now filing joint IP and investing in our technology development activities with key customers.

Product development roadmap

This is the element that is most often missing from the marketing of IP. It essentially outlines what is required next to take the IP to market (risks? investment? timeline? other IP?). Often the customer may be best placed to establish this, and therefore this roadmap can be developed further through dialogue with them. This roadmap, however, will significantly affect the value of your IP and so it is important to understand it even if the potential customer is putting it together.

Customer-specific application development

Although your POC project may have proven the concept, prospective customers often require specific demonstrations that prove the application of interest to them. For example, if you have been proving a platform technology with multiple uses, then it is unlikely that you have proven it for all applications and specifically in the shape or form that your customer requires.

It is essential that customers are engaged in this development activity. This involves them setting the technical and commercial success criteria, and ideally providing supporting resources and funding. As a minimum, a target specification should be sought although even this may be difficult if your technology is seen as too disruptive in your target sector. Key activities are:

- proving that the technology fits the product/application requirements (eg shape, size, performance, cost, compatibility, safety); and
- identifying fabrication routes and component suppliers for the bill of materials.

Many proven technologies eventually fail because they discover at a late stage that there is an essential product or application requirement that they can't meet. The most common failure point is cost, where managers fool themselves into believing that cost reductions will occur, but when they actually get to designing the technology into final solutions these fail to materialize. It's often not the cost of the technology but the surrounding components that causes these problems. That high vacuum, or highly stable power supply that the technology needs and was easily available in the laboratory, is not available and just too expensive to deliver into the product or manufacturing process.

A key part of the development is often solving component problems and not the core technology itself. This can involve:

- redesigning around the core technology to allow cheaper components to be used;
- downgrading performance to allow for particular cost or size constraints to be met;
- identifying and working with sub-component experts to design solutions needed for your technology to perform.

This work often culminates in field trials of your technology to prove that it works successfully in a real-world environment. The more formal product design and development activities then take place.

Summary and future trends

The dramatic increase in the levels of licensing within the IP market over recent years, and the trend towards open innovation, mean that there are an increasing number of IP creators and intermediaries pitching their wares in the innovation bazaar. However, the challenge of taking IP from the lab to market remains as demanding as ever, with many technologies on offer just not ready for customers to license. To make technology 'market ready' requires a commercially focused, multi-disciplinary team to address the key concerns of prospective customers. Engaging specialists in this field is becoming increasingly common. It enables companies to source high-quality opportunities more cost effectively and helps IP creators take their technology to market more quickly and with greater success.

Notes

- 1 A good example of this is the Innovation Capitalist as described in 'Meet the Innovation Capitalist' by Satish Nambisan and Mahanbir Sawhney, *Harvard Business Review*, March 2007. An Innovation Capitalist, like Technology from Ideas, will invest in raw ideas or technologies and make them market ready in return for a share in its future success.
- 2 Henry Chesbrough (2003) *Open Innovation*, Harvard Business School Press, Boston, MA.
- 3 This term was coined by Satish Nambisan and Mahanbir Sawhney in their article 'The buyers guide to the Innovation Bazaar', *Harvard Business Review*, June 2007.

- 4 There are a number of different methods and all are covered in Richard Razgaitis (2003) *Valuation and Pricing of Technology Based Intellectual Property*, Wiley, New York.
- 5 For a more thorough description of proof of concept projects, see 'IP and proof of concept', Chapter 3.3, *The Handbook of European Intellectual Property Management*, 2007.
- 6 See http://esto.nasa.gov/files/TRL_definitions.pdf.

Dan Richardson and Dr Paul McEvoy are the founders of Technology from Ideas (TfI), a technology development company that delivers innovative intellectual property (IP) driven technology solutions to industry. TfI bridges the gap between the lab and the market, creating and delivering valuable market-ready technology. It sources, creates, develops and licenses early-stage physical sciences and engineering technologies in the areas of clean-tech, medical devices and enabling advanced materials. It works collaboratively with industry to understand and solve their problems, and with IP creators such as universities, to support their commercialization activities. Further details: www.technologyfromideas.com; tel: +353 51 374410.

Technology trading

Buy in? Sell out? Cross-license? Mark Cohen, Head of Intellectual Property Services at Sagentia, explains how technologies now work their way along the value chain to market.

Many companies trade technologies for financial and other reward. This means buying in external technology and expertise to accelerate internal developments, or out-licensing internal technologies for financial gain. Many companies practise both aspects: in-licensing to bridge technological/capability gaps, while out-licensing to generate additional revenue or extend brand. Often, companies cross-license their own and competitors' intellectual property (IP) to gain freedom to practise and avoid expensive litigation. With the ever-increasing complexity of commercial and technical supply and value chains, these activities are now mainstream in most industries.

Given the high and still growing importance of such technology trading activities, it is critical that the companies involved take a structured and systematic approach to IP management and licensing to protect themselves and their technologies going forward and to meet the challenges posed, which include:

- For the technology owners, cost-effectively ensuring that the technology is protected across the broadest possible range of uses to ensure the largest potential market.
- For the technology buyers, ensuring that their own enhancements to the technology are appropriately protected so that these developments themselves can be licensed back to the original owner or other parties.
- For all parties, ensuring that licence agreements are appropriate to ensure access to ongoing developments of the licensed technology and are commercially viable for all parties.

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Platforms, subsystems and products: different angles on IP ownership

Platform technologies are those that have applicability and utility across many different application areas. These technologies range from the wholly abstract (such as sensing algorithms) through to embodiments such as the sensors themselves. Such technologies will be codified in informal IP (trade secrets, know-how and so on) and formal IP (patent applications, granted patents, utility models and, if appropriate, copyright). It is this formal IP that is critical to long-term protection.

Platform technologies are bundled with other technologies (platform or otherwise) to form components, subsystems and products. These days, it is often the case that these are offered by separate players along the value chain. Given this, it is also usual that the IP relating to each element is owned by the corresponding player.

Example: Consider the IP on an automotive sensor for determining the position and velocity of a moving piston in a cylinder. This IP comprises:

1. An abstract sensing mechanism which provides for the measurement of a fast-moving, metallic object and algorithm IP which interprets the outputs of the abstract sensor and translates them into predictable values. This is the platform IP.
2. IP on the incorporation of the abstract sensing mechanism into a component which delivers known reference values for position and velocity relative to the sensor.
3. IP on the incorporation of this component into the hostile environment of a piston engine.
4. IP on the use of the automotive sensor's outputs for modifying engine behaviour.

Note that 'IP' is used in the abstract sense and may relate to one or more patents covering the technology described.

The first element of the sensor IP relates wholly to the underlying platform technology. The second element relates to a real-world component that uses the platform technology. Here lies the first pitfall: it is possible for different parties to own these two elements. Often, this is by design, with a sensor company licensing platform IP to a sensor manufacturer, and the sensor manufacturer owning the IP that protects the inclusion of the abstract sensor in the real-world component. Occasionally, this position can be more hostile, with other players identifying new application areas for platform technologies and filing for patent protection for specific embodiments in high-value applications. This can create significant issues for the owner of the platform technology, either blocking them from the application area entirely, forcing them to license to the owner of the application-specific IP or to pay licence revenues to gain access to that application.

This picture repeats along the value chain. The component supplier can be prevented from entering the automotive market by a third party that owns IP on how to incorporate items into the cylinder head, and the eventual end-user (most likely a car or engine management system manufacturer) can be prevented from using the sensor outputs in a similar way.

There are no simple answers to prevent this from happening. However, with good planning and strategic patenting, the risks can be minimized. Before discussing how to achieve this, a word of warning: broad platform patents which disclose or claim many application-specific embodiments for a platform technology are not the answer. Such patents have little long-term value as they will have been drafted without full knowledge of how the technology will actually be used for a given application and will almost certainly create prior art preventing the gaining of viable application-specific IP.

The layered approach to strategic patenting

For the owner of the platform technology, it is important to break down the technology into small chunks as much as possible when generating patent filings. Given that patent applications tend to get narrowed during the prosecution process, a single patent covering a platform technology represents a single point of failure. Consider the above automotive sensor example: it is possible that the owner of the sensing mechanism and the algorithm could cover these in a single patent application. However, should this patent application be denied or narrowed by the patent examiner, then coverage may end up being minimal or non-existent. Far better to file for each element separately, either as individual patent applications or, preferably, multiple applications for each element, each covering a slightly different aspect, or the same aspect with a different set of claims (the United States Patent and Trademark Office's (USPTO) system of continuation applications is optimal for this). Although few applications will pass through prosecution unscathed, the overall combination of the eventual granted patents will be significantly stronger than a single filing and will make workarounds more complex.

When moving from an abstract platform technology to components, subsystems and products, a 'layered' approach should be taken, with each 'layer' of IP building on the last. Where possible, actual uses and applications should be deferred until the highest layer possible. This is well illustrated in our example with the platform IP (1) forming the foundation, the component IP (2) building on this and the incorporation IP (3) and output usage IP (4) both building on the sensor IP. The deferring of usage-specific IP until the highest possible layer leaves opportunity for additional application-specific IP generation, for example novel methods of incorporating the sensor into other environments, ways of using the sensor outputs to control machine behaviours and so on. As with the platform IP, single points of failure should be avoided and high-value elements of the layer IP should be protected by multiple filings.

Patenting timelines and the layered approach

When using this layered approach, the delays in the patenting system can be used to the technology owner's advantage. Typically, there is an 18-month delay between a

patent application being filed and it being published. This gives the technology owner the ability to start negotiations with potential licence partners, without the technology being visible to potential competitors.

This invisibility means that useful additional layers of IP can be developed in this 18-month window, either by the technology owner or by the licence partner. If the IP is developed by the licence partner, the technology owner should seek rights to use the IP in application areas outside of those served by the licence partner. This can be done through appropriate back-licence or sub-licence agreements. Such agreements need to be negotiated early on, as without them the technology owner may lose their ability to access market areas of value.

It is also possible to start negotiations with third parties before filing for formal patent protection, but this is a risky strategy even if these discussions are conducted under confidentiality agreements.

One issue of this 18-month approach is that the true value of the patents cannot be wholly assessed as their final status (granted or rejected, claims narrowed or unscathed) will not be known until their examination is complete and, in certain geographies, the opposition has ended.

‘Surround’ IP and ongoing developments

To give additional protection, thought also needs to be given to the technology ‘surround’. This consists of the indirect IP which relates not to the technology itself, but points in the technology’s lifetime for which valuable IP can be generated. Examples include methods of manufacture, methods of use, packaging and methods of disposal. This IP may add significant protection and can prevent competitive ring-fencing. For example, if a competitor found and patented a much more cost-effective way to manufacture the aforementioned sensor, although it could not sell the sensor itself, it could prevent the sensor owner from using this low-cost process.

Any licence agreements must take into account that the technology will continue to be developed. Such developments may include improvements to the platform technology, improvements to the components that it is embodied in and additional application-specific developments. Licence agreements should be appropriate to ensure that these developments can be used as widely as possible while ensuring that the owner of the new IP is rewarded appropriately.

Conclusion

Trading of technology and its supporting IP is complex and there are many risks. However, with appropriate planning, sensible negotiation and commercial realism, it can be highly rewarding for all parties, increasing margins and speeding time to market for new technology developments.

Mark Cohen (mark.cohen@sagentia.com) is Head of Intellectual Property Services at Sagentia, with many years' experience working with clients, helping them to protect groundbreaking new technologies and understand their issues around IP management and the IP landscape they operate in. He is the developer of the 'Six IP Zones' strategic patenting framework.

Sagentia is a leading international technology consulting, product development and IP licensing organization with a reputation for successfully commercializing emerging science and technology. Sagentia creates, develops and delivers business opportunities, products and services for its clients.

Established in 1986, the company operates in six global market sectors – medical, industrial products, consumer products, chemicals, materials and energy, telecoms, media and public sector – developing new technologies, products and services that change the basis of competition. The company also assists business leaders to create strategies for technology, innovation and growth.

Sagentia has more than 200 employees and has resources situated in state-of-the-art facilities in Europe, the United States and China. Sagentia is listed on AIM (SAG.L), the growth market of the London Stock Exchange.

Profiting from science

As part of Matrix, Damien McDonnell, Norman Apsley, David Brownlee, Ian Wilkinson and Bryan Keating embarked on a two-year journey to discover how best to combine ‘technology push’ and ‘market pull’ in creating a world-class infrastructure for innovation in Northern Ireland.

The key challenge to address in accelerating innovation is to effect a permanent cultural change in which the responsibility for leading the innovation agenda lies with business and *not* government or academia. For Northern Ireland to compete effectively then *market-led*, cross-sector and multidisciplinary innovation must become at least as important over the coming decade as *technology-led* innovation was in the past.

We need to create and maintain a new working environment for business, government and academia in which each can combine their resources in a market-led approach to innovation. Within these innovation communities the risk and the tension between ‘technology push’ and ‘market pull’ can be better managed to achieve greater economic benefit.

Three typical challenges face businesses as they strive to innovate:

- How do they gain awareness and access to technologies unknown to them but which could solve their problems?
- How can they achieve effective technology insertion?
- How can they anticipate technology-related threats and opportunities?

Business do generally recognize that they must innovate, because if they always do what they are currently doing then they know they will end up getting what they already have. Meanwhile, their competitors – both known and unknown – are not

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standing still. Therefore if they do not innovate they will lag behind in productivity and competitiveness terms and begin the slippery slide into oblivion. However, there is a knowledge integration conundrum that has to be overcome to enable innovation, namely:

How do we get what we know to where in the business we need to know it, particularly when that knowledge is not explicit to us because it is tacit knowledge or it is from another sector? It is difficult to ask for something if you are not aware of its existence. Moreover, it is often the case that an owner of a possible solution is unaware of the question or the need.

While invention is the work of an individual or a few individuals, innovation is the work of a community that can harness all the skills necessary to realize the successful commercial exploitation of knowledge (Figure 8.3.1). The key to bringing these skills from the business, academic and government stakeholders together in a harmonized way is to create a new workspace which is led by business and provides a single risk-managed governance which applies to all community participants irrespective of their parent organization.

Industry-led innovation communities can build on existing innovation activities by coordinating and aggregating their innovation resources within existing regional, national and international programmes. They can create technology and market roadmaps or value chains to drive more effective technology and market knowledge between the community stakeholders.

These roadmaps can facilitate better exchange of information, assist with technology brokerage and allow members of the community to combine their resources for greater and more value-adding information sharing to optimize the commercial management of intellectual assets.

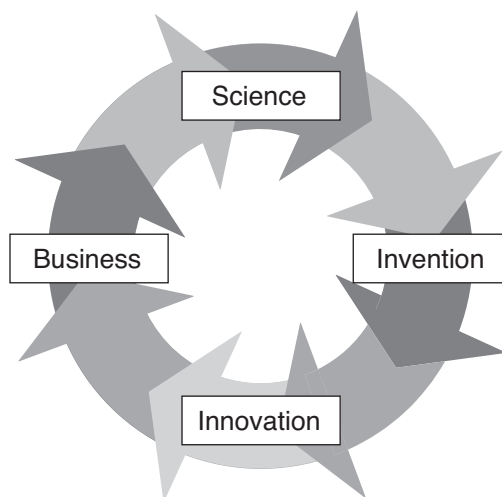


Figure 8.3.1 Industry-led innovation communities

In early models of knowledge-driven enterprises, when the process took a long time, the research, development and production phases seemed to occur in a linear and sequential manner. In particular, this linear model worked fine with large, knowledge-dominant, vertically integrated companies and was adopted into the language of governments. In today's 'make anywhere sell anywhere' global economy such company structures are hugely uncompetitive. The world of high technology has therefore moved on to the non-linear fourth-generation model shown schematically below, in recognition that no one has a monopoly on good ideas.

Intellectual asset management

In this model (Figure 8.3.2), market intelligence feeds a requirement need through a company's channel to market which it maintains at considerable expense – typically a third of its cost centre. The company or enterprise develops, produces and tests a product or service to meet this need and markets and distributes it for profit through the same channel. In some markets, especially those deliberately driven by consumer fashion and taste, the time from Market Need to Distribution and Market can be amazingly short and measured in months.

Knowledge can be fed into the enterprise to make the product more beneficial to the customer in terms of making it better, faster, cheaper or greener. The insertion of new knowledge is carried out in parallel rather than serially in order to accommodate faster product cycle times, which are typically now in some areas measured in months. Moreover, increasingly enterprises realize that this knowledge may not reside in their own solution space.

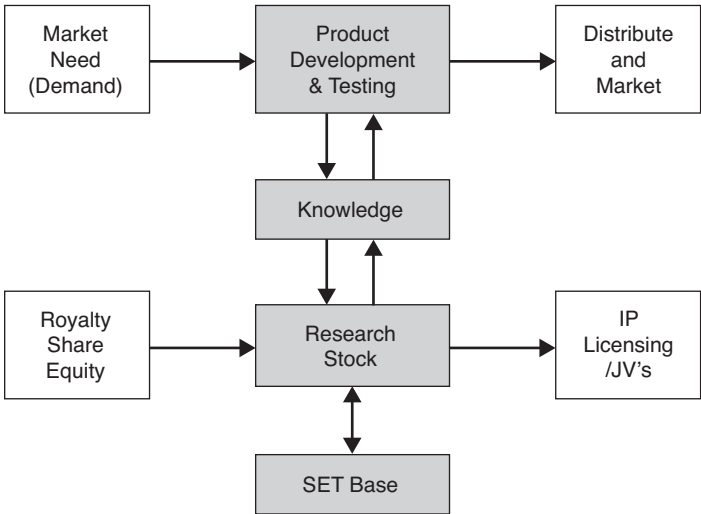


Figure 8.3.2 Intellectual asset management

Knowledge is the output from research and often broadcast globally through learned papers, published patent applications and increasingly the internet; today it must be regarded as a universal commodity. It is not an easy acquisition and may be deliberately obfuscating; so several years may elapse before it might produce outputs that add value in its markets. Enterprises must invest in and build appropriate research stock in order to understand it and to inform it. Reconciling a production cycle time-constant measured in months with a research time-constant measured in years requires tremendous skill, experience and foresight supported with excellent communication interchanges between production and research. This is especially difficult even in the best organized businesses since research has to be managed as a naturally divergent process while development must be managed as a convergent process, and this often leads to tensions and ultimately complete communication breakdown. This communication barrier is an even greater obstacle when the research community is detached from the enterprise and its market intelligence. The difficulties are further compounded at regional level where the enterprises are largely small and medium sized (SME) and the research stock is in universities and public sector research establishments (PSREs).

Over the years this has given rise to two approaches to innovation: technology push from the research community which is largely funded by government; and challenge-led innovation which is largely funded by business.

Both have their successes and both, to some degree, are necessary. Technology-push innovation can bring forward market disrupters where businesses are unable to cope with disruptive innovations that would involve cannibalizing their business, while on the other hand, much of the technology-push innovation fails to reach the market and ends up in a 'valley of death'. Good management of the formal IP generated by the process can help manage the timescales but the costs can be prohibitive without an accelerated route to market and return.

Therefore, a more efficient solution for achieving greater competitiveness and accelerating economic growth would be to create an environment or new workspace³ to enable a holistic approach to innovation in which business provides leadership, academia provides inspiration and government provides inspiration.

Within this new model for enterprise, the regional research stock can maintain a market-informed horizon-scanning function through its connections into the global science engineering and technology (SET) base and can provide a repurposing of intellectual property function into adjacent markets through licensing agreements. This in turn can generate additional, royalty income. Even more importantly, this adjacent sector engagement encourages significantly more interdisciplinary and inter-sector activity and it is in this 'white space' where innovation can be most prolific.

Although many regions, including Northern Ireland, have many of the components for innovation in place, they lack efficient and effective processes for information and knowledge flow between them (the arrows in the above schematic). It is the absence of some or all these arrows that give rise to fragmentation in the innovation eco-system, leaving regions with all the costs but insufficient profit to enable sustainable economic growth.

It is useful to take a more detailed look at the growth of intellectual capital as a function of time (or accumulative cost) to gain a better appreciation of why a 'joined up' approach is quicker and therefore more cost effective.

Invention/innovation life cycle

Figure 8.3.3 shows an idealized growth curve of knowledge as a function of time and partitions the intellectual capital into three phases:

1. primary or fundamental intellectual property which is usually defined as a new or first insight from scientific research;
2. secondary intellectual property which denotes a particular product embodiment of the new science with development work that comes from a convergent process to focus its function;
3. tertiary intellectual property which largely involves methods of manufacture and technical know-how.

The cost scaling of the three phases may typically follow a €1 : €10 : €100 ratio reflecting the cost difference between Research: Development: and Manufacture.

The time axis reflects a typical 10-year span from research bench into manufacture for a physics-based product. For a chemical-based product the time from invention through to manufacture may be 5 years, or 15 years for a pharmaceutical product because of the additional trialling and approvals required for human use. Interestingly, with respect to the latter, this extra 5 years for pharmaceuticals is reflected in the 5-year extension which may be granted to the normal 20-year lifetime

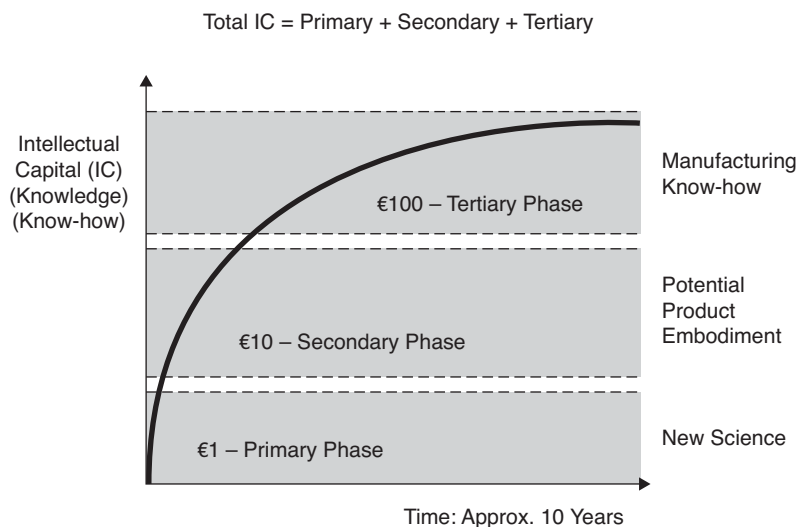


Figure 8.3.3 Cost scaling

of a pharmaceutical patent. These are all relatively long times, even when the transitions between phases go well and the accumulative costs are significant. It is also interesting to observe from an intellectual asset-management point of view that the total royalties due on a product are a few per cent of the retail price and that this divides approximately as a third to each of the primary, secondary and tertiary categories. Thus, the best return on investment is on the primary or fundamental intellectual property. It is also noteworthy that the innovation cost is two orders greater than the invention cost, which strongly argues in favour of business-led innovation rather than government or academia.

Transitioning through the three phases can become enormously complex and time- and cost-protracted when different organizations are involved in the various phases of the cycle, adding to risk. But international businesses have well-developed processes for judging pragmatic business cases once the scientific unknowns are removed.

Looking from the other end as a function of risk, it is obvious that knowledge is inversely proportional to risk (the more that is known the less risk there is).

An enthusiastic inventor-researcher can drive a new idea well along this curve using government or charitable research funds. In a fragmented or incomplete innovation ecosystem such as may be found in a sub-region like Northern Ireland, there may be an imperfect join between the two curves. This is the infamous 'valley of death', in which so many ideas die. The fragmentation is in part a result of the different risk management governance regimes which government departments, academia, PSREs and business work under, as well as the communication difficulties that arise between the optimist at the technology-push end of the process versus the pragmatist at the business end. It can only be minimized by very hard work to bridge the gap and communication between the disparate groups to combine them into one harmonious innovation community. One such effective method is CONNECT from San Diego.

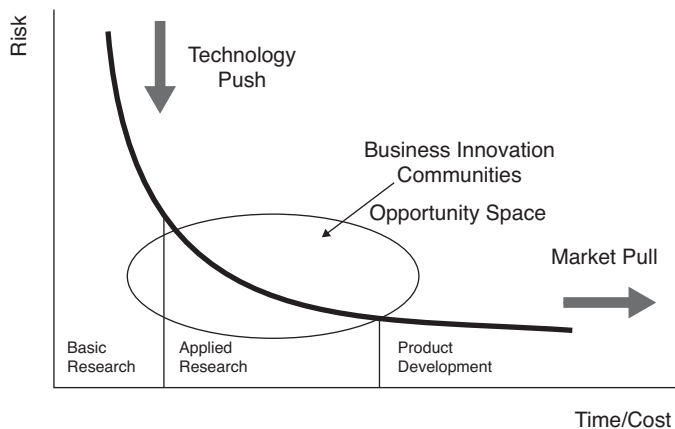


Figure 8.3.4 Technology and market drivers

Managing patent costs

It is recognized that the divisions between basic research, applied research and product development broadly map onto the three categories of intellectual property, namely primary, secondary and tertiary. It is important that these are recognized by universities, research institutes, PSREs and business when they are contemplating patent action and building and managing patent portfolios, as the cost of patent action is significant.

Figure 8.3.5 sets out how these costs accumulate with time.

Through the 20-year life of a patent with annual renewal fees, these costs can grow to in excess of €30,000 per patent. Clearly it is important that from the outset organizations must have an exit or exploitation strategy before committing to this expenditure. While the greatest return on investment can come from primary patents as discussed above, it may take 10 or more years before the invention is innovated and income is generated. It is hardly surprising, given these costs and the complexities in bringing ideas to market, that around 85 per cent of patents filed at the UK IPO are not active. This is not an argument for taking no patent action to protect intellectual property but a recognition that invention and innovation must be managed as a single process and that marketing must be a forethought in the process and not an afterthought.

The costs set out above can escalate significantly should a third-party organization challenge the validity of a patent which may impinge or infringe on their intellectual property. Therefore patents need commitment and resources to protect them. Because this can come down to size and depth of pockets, and beyond what some individuals and small organizations can afford, help may be needed.

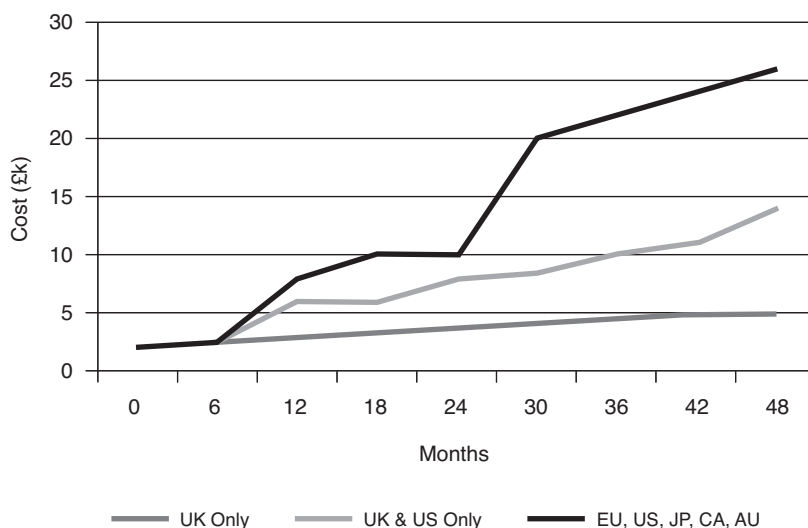


Figure 8.3.5 Accumulation of costs over time

In the exploitation of a patent, it is rare for a single patent to earn all the royalty from a product. All of the intellectual property involved in a product (primary, secondary and tertiary) competes for a share and the hierarchy and value of these must be appreciated in the negotiation by both the licensee and licensor. It may even be the case that complex international cross-licensing negotiations are required. All of this adds to the case for regions taking a community approach to innovation.

In these communities it is important to have reward schemes that recognize both the inventor and those involved in the innovation. A good inventor is not usually a good innovator as a combination of different skills is required.

It is also often the case that scientists are not motivated to protect patents as they see this as a process that can delay their publication in learned journals and a risk of losing out to one of their peers with resultant loss in kudos. It can take a good deal of a scientist's time working closely with a patent attorney to draft patent claims well and this is seen as lost research time. It is vital in a healthy invention/innovation structure to implement reward schemes and revenue share agreements to secure exploitation of IP and not just IP ownership on its own.

Managing technology transfer

Key to successful innovation is the management of the technology transfer process. This is not a simple endeavour in which an idea is launched across the 'valley of death', fuelled by belief and some market knowledge as an afterthought.

It requires a systematic approach that builds market applications that reflect the maturity of the technology matched to the pull from a market segment. In this approach many players and market segments may be involved over a period of many years before the full benefit of a technology breakthrough is realized. This roadmap journey requires careful, well-researched strategies that match market-needs technology-readiness levels with what consumers in those market sectors are prepared to pay for the benefits. A good example from the electronics world was the evolution of flat panel liquid crystal displays (LCDs).

The proposed Business Innovation Communities in Northern Ireland should create technology and market roadmaps which can facilitate better exchange of information, assist with intellectual asset management and technology brokerage, allow community members to aggregate their existing resources and support programmes for maximum impact, and to increase the absorptive capacity of new ideas. Importantly, the communities should play an active role in skills development aligned to their technology roadmap strategies to assure sustainable growth.

Conclusions

Matrix has recommended that a select number of market-focused innovation communities should be developed in Northern Ireland. These should be led by busi-

ness, facilitated and supported by government and inspired and informed by academic excellence. The Business Innovation Communities would address the challenges and opportunities of intellectual asset management and technology transfer discussed in this chapter. They would act as agents for change in driving forward a real and sustainable step change in our innovation capability. The new model would build on the existing fundamental capabilities within our science and technology base and undertake a greater level of connectivity through multidisciplinary industry-led communities to deliver enhanced routes to market for science and technology.

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Damien McDonnell, Norman Apsley, David Brownlee, Ian Wilkinson and Bryan Keating are members of the Northern Ireland Science and Industry Panel, Matrix, Intellectual Property Working Group, which was tasked in February 2007 to bring forward focused advice on the future policies necessary for Northern Ireland to ensure economic growth and wealth creation through greater commercial exploitation of its science and technology capabilities. In response to this challenge, Matrix embarked on an ambitious two-year work programme, supported by the Department of Enterprise Trade and Investment (DETI), which involved many of the region's leading high-tech businesses and senior academics and consulted extensively across the wider stakeholder community. For further details of the Matrix report, published in October 2008, see: www.Matrix-NI.org.

From IP assets to IP revenues

Understanding your patent landscape enables you to be more effective in earning revenue from your IP assets, say Quentin Tannock and Ilian Iliev at CambridgeIP.

Patents are structured, comparable, objective and information rich. You can use these features to efficiently and reliably collect an enormous amount of patent data and extract meaningful analytics, which are relied upon by businesses of all kinds as they form and implement research and development (R&D) and business development strategies. We also consider particular challenges in understanding your patent landscape, including how to understand rapidly increasing patent activity in China, Korea and elsewhere in Asia.

The chapter concludes with case studies that illustrate how understanding your patent landscape can assist your patent licensing, marketing and other business development activities.

Patents as a source of business intelligence

A move is under way from traditional Phase 1 uses of patent data and analysis (such as Patentability and Freedom to Operate or 'FTO' analysis) to new Phase 2 uses (such as competitor relationship mapping, technology trend analysis, proactive identification of out-licensing and in-licensing opportunities, identification of new markets, short listing of acquisition targets, building of an investment case to internal

and external investors).¹ Phase 1 uses concern *obtaining patents* and the *quality of your patent assets* for your business needs, Phase 2 uses *add value* to your IP assets, and assist your *revenue generation* activities.

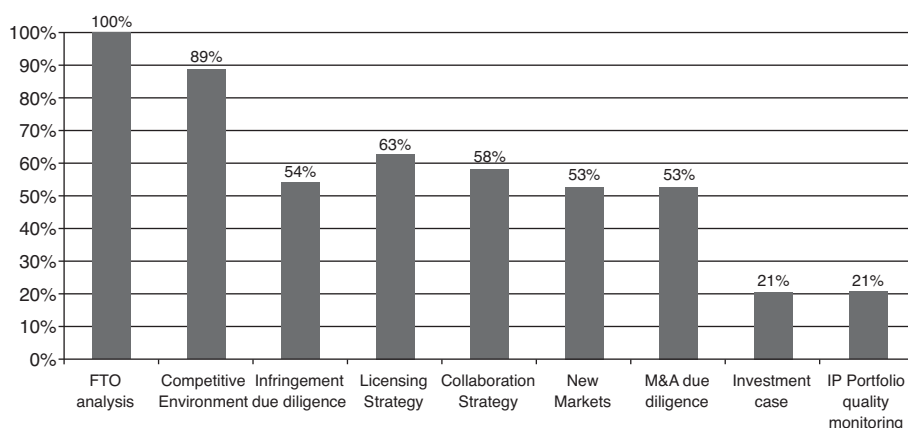
The move to Phase 2 uses of patent data analysis is illustrated in the results of a 2008 CambridgeIP survey of UK-based Corporate R&D and IP Managers (Figure 8.4.1).

All survey respondents use patent data for FTO analysis (Phase 1) with significant numbers using patent data analysis to inform the multiple other uses identified, including developing licensing strategies and identifying new markets (Phase 2).

Challenges in understanding your patent landscape

One of the key challenges facing the modern patent searcher is the sheer volume of patents in existence – there are well over 50 million patents published in global patent databases. The result is that even highly focused patent searches can result in hundreds of patent documents for your experts to consider. Companies like CambridgeIP have developed software tools and sophisticated analysis techniques that assist clients cut through the clutter to extract meaningful intelligence. In addition, we take advantage of the vast amount of patent data to extract meaningful statistics and undertake trend analysis on the innovations that others regard as worthy of patent protection.

Another challenge to the modern patent analyst lies in the multiple patent data sources which are now readily available, ranging from free databases to costly commercial services. Multiple data sources results in a need to manage multiple data formats and data quality variances. Turning this challenge into an opportunity, we



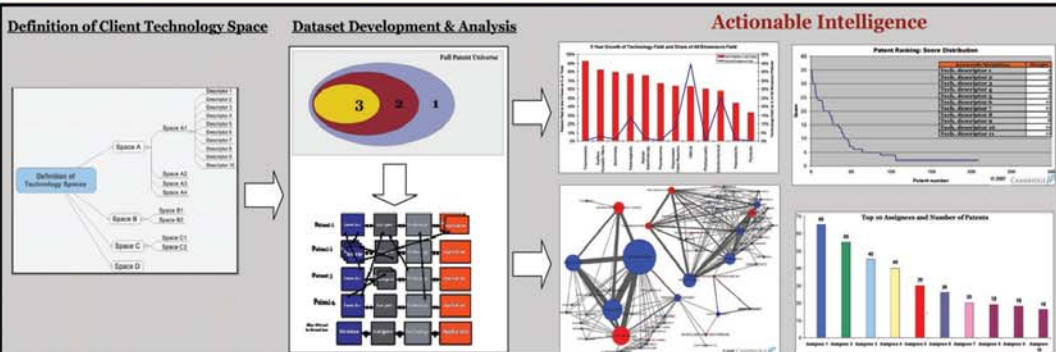
Source: Survey conducted by CambridgeIP in Dec 07–March 08 with the kind support of EEDA

Figure 8.4.1 Key corporate uses of IP-related intelligence: R&D managers and IP counsel

CambridgeIP provides actionable IP intelligence to the technology sector in the UK and internationally.

With offices in Cambridge and London, and representation in Boston, USA we provide a novel and cost-effective approach to the IP intelligence needs of Corporate IP counsel, CTO/CSOs, R&D and Business Development managers in young dynamic and established enterprises alike.

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Typical uses of CambridgeIP's services include:

- **R&D strategy:** investment case development & project progression decisions
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- **Freedom to operate and patentability analyses:** for use in the patenting process or as part of due diligence,
- **Competitor and technology trend monitoring:** benchmarking of patenting and litigation activity, portfolio strength and gap analysis, assessment of patent related financial outlay of competitors, and more
- **High-impact patent profiling:** key patents in your space, and their technology impact
- **Licensing strategy:** Due diligence and identification of opportunities for in- and out-licensing opportunities
- **Due diligence on IP aspects of M&A strategy**
- **Offensive and defensive infringement due diligence**
- **IP Intelligence for Spin-off business development**
- **'Submarine patent' detection**
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Client Feedback:

"We were very impressed: CambridgeIP's IP Landscape tool picked out all of the main inventors and competitors we knew of and showed us some new entrants. As a mature technology company we found the IP Landscape an important input for our IP management and investor communications needs."

Billy Boyle co-Founder of Owlstone Ltd

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seek to merge results from multiple patent databases to create a higher quality and more comprehensive picture of the whole.

A growing challenge is to understand patent activity in Asia where language barriers are compounded, especially for those schooled in alphabetic systems, by the use of Chinese (hanzi), Japanese (kanji) and Korean (hanja) logograms for written text. Last year there were more patents filed, and granted, in China than in the United States. And China is becoming an important patent destination for European innovators. Our recent research² into patents held by AIM-listed³ companies reveals that China is an increasingly important patent-filing destination for the most patent-intensive AIM-listed companies.⁴

Machine translation tools are available and are being improved, but they remain unreliable, especially when highly technical subject matter is being translated, as is usually the case with patent texts. CambridgeIP uses regular and comparable features of Asia patent documents to efficiently extract meaningful business intelligence from them, and we have developed methods to reliably identify those patents requiring translation – helping our clients understand Asian patent activity more efficiently.

The patenting activity of Chinese organizations and enterprises is increasingly sophisticated: making patent data a valuable source of business intelligence for Western companies considering an engagement in the Chinese economy. As an example, we invite you to review our case study of Tsinghua University, which in 2005 filed over 400 patents in fields ranging from ‘container inspection apparatus’ to ‘multifunctional ceramic sensors’ and ‘displacement measurement sensors’. CambridgeIP’s analysis of these Tsinghua University patents identified a number of industrial collaborators working jointly with Tsinghua University, including Honhai Precision, Nuc Tech and Capital Biochip, as well as well-known multinationals such as Samsung and Fujitsu. You can read more about this case study and access CambridgeIP’s Tsinghua University patent profile from our blog at www.CambridgeIP.com/blog.

Case studies illustrating how understanding your patent landscape can improve revenue generation

We now present several additional case studies, drawn from our recent work with clients, to illustrate Phase 2 uses of patent data analysis – adding value to your IP assets and helping you earn additional revenues. The case studies show how a range of client types in a variety of sectors use patent analysis to inform their patent licensing strategies, marketing strategies and business development tactics.

Informing your patent licensing strategy

We were approached by a CEO of a university spin-off company in the Renewable Energy space who needed independent analysis of the industry’s patent landscape for use in technology licensing negotiations and in structuring a strategic partnership.

The anonymized example output of statistical analysis of relevant patents, shown in Table 8.4.1, was used to analyse the R&D strategy of our client's competitors, and to develop a licensing strategy.

The findings suggest that Company 7 in the last row is aggressively expanding into the client's field: it has the highest growth rate of patenting activity – if you look in the last column you will see that 100 per cent of its patents have been in the clients, field in the past 5 years. In turn Company 2 is most dependent on this field for its strategic success: if you look at the second last column you can see that 100 per cent of its patents are in the field of focus. These strategic insights helped our client structure their licensing negotiation strategy: who needs my technology most, who to approach first.

Assisting you with patent (and technology) marketing

The patent activity of others is a rich source of information and ideas on how and where to market your patents, and your technology more broadly.

Analysis of relevant patent activity can provide ranked lists of top corporations active in your technology area and shortlists of geographical markets and commercial application areas considered important by those who own similar technologies. Lists of top authors and inventors, together with their work affiliations, provide a convenient 'go to' list of named individuals in that technology space.

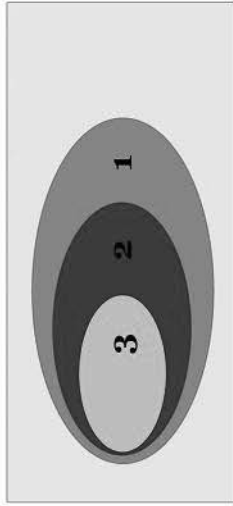
Figure 8.4.2 shows some of the standard outputs from a CambridgeIP IP Landscape™ used to inform patent and technology marketing activities.

To provide just two specific examples: A Fortune 100 company in the security space used these findings to identify technology migration opportunities, and license into new areas. A medium-sized biotech company used the information to identify joint venture opportunities with major corporations, and to motivate investors to sponsor joint venture costs.

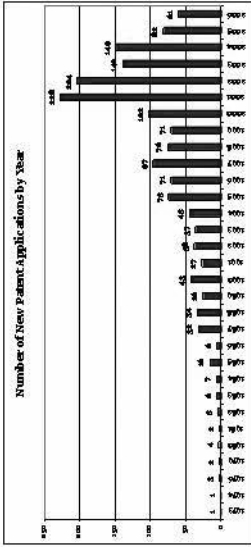
Table 8.4.1 Example output of statistical analysis of relevant patents

<i>Assignee name</i>	<i>Rank by number of patents in Client Tech. space</i>	<i>Total patents in Client Tech. space</i>	<i>Year of entry into the field</i>	<i>Total patents in Overall Industry</i>	<i>Portfolio proportion of Tech. Space</i>	<i>5-year growth in Focus Field</i>
Company 1	1	37	1993	6,575	1.6%	48.6%
Company 2	2	25	1998	33	100%	50%
Company 3	3	19	1997	2,007	7.1%	15.8%
Company 4	4	16	1992	1,646	2.1%	62.5%
Company 5	5	14	1999	840	7.2%	92.9%
Company 6	6	11	1995	8,838	4.1%	63.6%
Company 7	15	6	2003	400	1.8%	100%

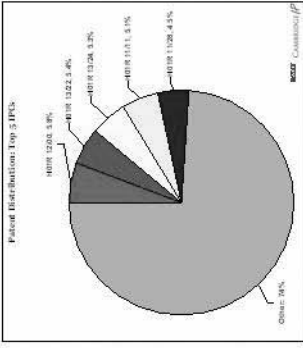
Full Patent universe



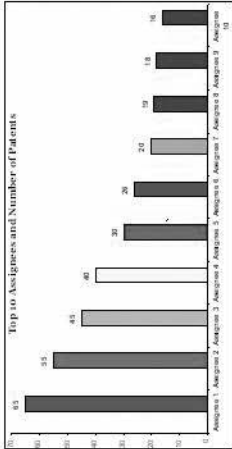
History and Trends



Key Technology Applications



Top Inventors & Top Assignees



Analysis of Corporate IP Portfolios

Selected Assignees: Patent Portfolio Key Numbers				
Rank by # of Patents in S.2	Assignee Name	# Assignee Patents in Search 2A	Year of 1st Patent Application in Search 2	Total Patents in Client Industry*
1	ASSIGNEE 1	124	1981	2,568
2	ASSIGNEE 2	50	1978	3,897
3	ASSIGNEE 3	46	1975	3,64
4	ASSIGNEE 4	36	1979	3,413
5	ASSIGNEE 5	14	1977	2,659

Inventor Network Analysis

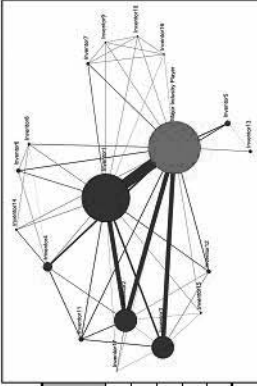


Figure 8.4.2 Some of the standard outputs from a CambridgeIP IP Landscape™ used to inform patent and technology marketing activities

Informing your business development tactics

The Inventor Network Map shown in Figure 8.4.3 is based on analysis of the information contained in patents in a CambridgeIP IP Landscape™. The Map illustrates who owns patents in the space (dark grey bubbles) and who has co-invented with whom (light grey bubbles). The size of the bubbles provides an indication of the number of patents associated with the entities. Lines indicate co-patenting activity. Line thickness indicates the frequency of co-patenting activity.

The analysis above is based on several thousand patents and patent applications, illustrating how extracting this information manually from patent documents is often impractical or not cost-effective.

Maps help users identify at a glance who the key experts in a field are and what other inventors and organizations they have worked with in the past. Clients in the nanotechnology space have used the analysis to identify candidates for hiring purposes.

The analysis can also assist with revenue generation, identifying whom to approach in target organizations. The Inventor Network Map provides a convenient shortlist of well-networked players. Clients licensing a technology into the defence sector used this type of analysis to develop their market entry tactics, identifying key influencers and most networked individuals.

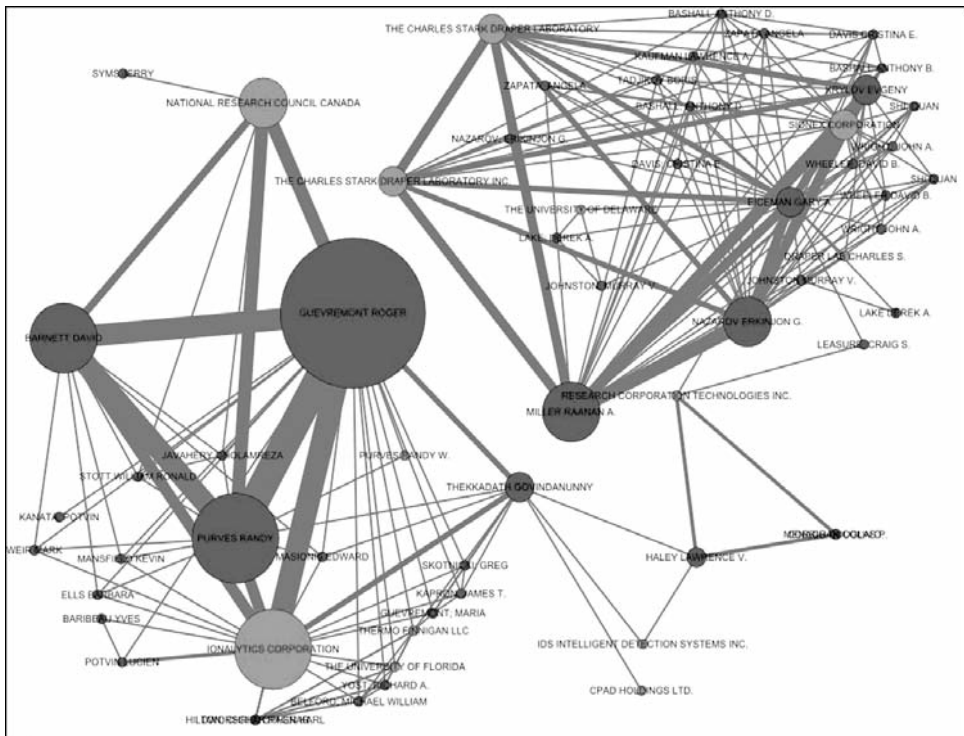


Figure 8.4.3 Inventor Network Map

Notes

- 1 Jolly, A (consultant ed) *The Innovation Handbook: How to develop, manage and protect your most profitable ideas*, p 26, ISBN 978-0-7494-5318-3.
- 2 Our research on the patent activity of AIM-listed companies is available online here: www.CambridgeIP.com/Reports/AIM.
- 3 AIM is the London Stock Exchange's international market for smaller growing companies. See: www.londonstockexchange.com.
- 4 While the overall proportion for China-filed patents among all companies analysed is 3 per cent, some (such as Transense and Evolutec) have more than 10 per cent of their total portfolio registered in China.

Companies like CambridgeIP can efficiently and reliably extract meaningful information from the huge volume of available patent data to provide clients with readily digestible and actionable business intelligence – enabling Phase 2 uses of patent data. The case study examples in this chapter have covered Phase 2 uses including marketing, licensing, recruitment and other business development activities. These case studies, our contact details and more information on how understanding your IP landscape can help you achieve your business objectives are all available on www.CambridgeIP.com.

Keep patents creative

As companies grow, they tend to lose the energy and creativity which they originally brought to patents as start-ups. How can you recapture the pioneer spirit, ask Jens Jørgen Schmidt and Nelly Sander at Patentgruppen.

When start-up companies become a success and start to grow and expand, a professionalization of management and business structures, including the organization for handling protection of new innovations, is a necessary step. However, focus on the drafting of new patent applications during this process often shifts from aiming broadly and with a strategic and commercial aspiration to becoming more product specific with a narrower scope and, in the end, of less strategic value.

The growth in the European knowledge-based industry of small and medium-sized enterprises (SMEs) is expected to be the most important contribution to the development of the European economy in the next decade. For the growing company, the protection of innovations and know-how through an active patenting strategy is a natural focus owing to the importance for the companies of being able to attract investors and enter into strategic partnerships and cooperation with other companies as well as securing the company's own freedom to operate in the future.

In this chapter, we give you a guide to detecting the pitfalls of the professionalization of the IP-generating process and suggest an approach to ensure that your strategic IP position continues to develop as your company matures. The tool is to look back on what was successful when the company was still in its infancy.



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Professionalization of the IP-generating process

With the establishment of a patent department within the company to professionally handle the protection of new innovations from the research and development (R&D) department(s), the flow of the patenting process will normally resemble Figure 8.5.1.

The inventors are asked to define their new ideas by filling out invention descriptions and hand them over for evaluation by the patent committee, constituted by members of the patent department complemented with R&D specialists. The committee selects the most promising inventions for the further procedure, of which the first step is an IPR analysis including a thorough novelty search. The inventions that appear to have the required novelty and inventiveness will then be the subject of patent applications that are filed, prosecuted and finally granted.

The criteria for the selection of the ideas that will be the subject of patent applications are defined by a set of key performance indicators (KPI) typically including the number of:

- invention reports handled;
- novelty searches;
- filed patent applications;
- granted patents.

However, a well-known risk of defining measurable goals is that *you get what you measure*. The aim of fulfilling the above goals tends to promote the selection of ideas which ease the drafting and prosecution of the applications but also reduce the strategic usefulness of the patent rights, and you may miss the goals that you do *not* measure, in particular those that are hard or practically impossible to measure but nonetheless are of utmost importance for your company's strategic IP position. The goals that may be missed include:

- broadness of scope of protection;
- protection of pioneering technology;
- importance to competitor's ability to operate in the future;
- value for obtaining cross-licences;
- securing your company's future operational freedom.

Thus, in the process of professionalizing your IP-generating process, you run the risk of reducing the patenting process to a purely mechanical routine (also referred to as a 'sausage factory') without the necessary strategic supplement and creative thinking.



Figure 8.5.1 IP-generating process

Has your IP handling become a pure ‘sausage factory’?

A sausage factory forms a standardized product without paying much consideration to the quality and potential of the raw material that is fed into the factory. Symptoms of an IP sausage factory include:

- Company management and sales are absent from the selection and development of new ideas.
- Many patents are granted with no or only a few objections from the patent authorities.
- Few oppositions are filed against the patents.

‘Wild’ ideas that are hard to define in writing, ideas of questionable patentability or those that have only a slight chance of becoming reality within the next 5 to 10 years will often not pass the selection process. However, the best and most important inventions for securing your company’s future strategic IP position will probably be among these rejected ideas, and by encouraging the pure sausage-factory approach you thus run the risk of not protecting your best new ideas. This is, of course, an inconvenience that should be overcome, and awareness of the problem is a first necessary step. The next question is how to overcome the problem.

Back to basics – patenting in the start-up company

Most growing companies tend – more or less unconsciously – to desert the pioneer spirit that characterized their patenting process in the establishment phase, ie when the company was young and consisted of only a few people.

Generally, these few ‘entrepreneurs’ that make up the entire start-up company are each involved in all the different business areas, ie organization and management, sales and marketing, R&D, production processes etc. The company’s patenting processes become a joint project which is entered into with great interest and enthusiasm by those involved. They all have different, but relevant points of view, seen from their position in the company. This forms a natural patenting process in a small company and contributes to ensuring that all aspects of an invention are taken into consideration.

Introducing the Creative Forum

The main purpose of establishing a Creative Forum in a medium-sized or large European company is to re-establish the situation described above, or at least ‘reinvent’ the holistic approach as well as the energy and creativity that characterized the company in the start-up phase. This re-establishment can on one hand give the participants new motivation for their work (cf. below), and will on the other hand strengthen the company’s strategic IPR position by giving room for catching the

‘wild’ new ideas as well as ensuring a strategic patenting approach where many factors are taken into consideration, eg:

- market’s future demand;
- technical feasibility;
- identification of most important competitors;
- competitors’ direction of movement – technologically and IPR-wise.

In Figure 8.5.2, the original model shown in Figure 8.5.1 has been extended with a Creative Forum. The ideas rejected by the Patent Committee for the traditionally patenting process are forwarded to the Creative Forum where, together with the goals set up by management, they form a basis for developing and selecting subjects for a number of new patent applications.

Result: Patents that were already in preparation get better, and inventions that would never have passed the ordinary idea selection suddenly get the chance of becoming the subject of useful and important patents.

Definition of goals

Management sets up goals for the Creative Forum in order for the participants to have a framework to work within. Typically, one of the following overall topics could be selected for a session of the Creative Forum:

- a technical field which is thought by management to be relevant ;
- a specific competitor against whom the company needs to offer more competition;
- new inventions that are already on the drawing board;
- ideas from employees of the company.

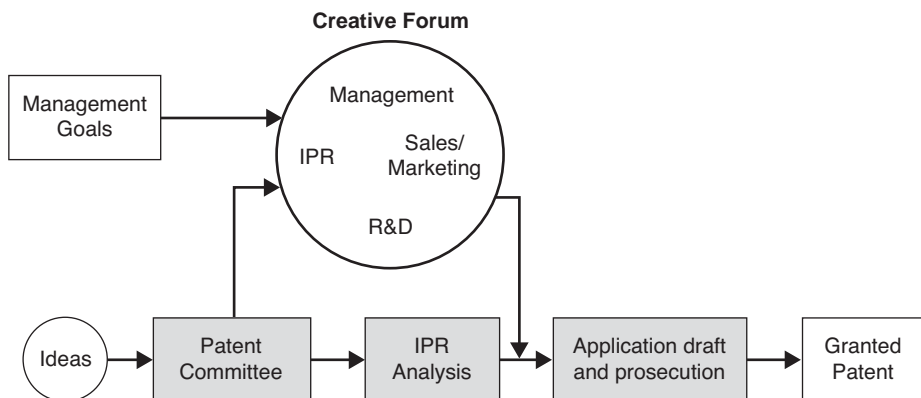


Figure 8.5.2 Improved IP-generating process

Practical implementation

The participants in a Creative Forum are one or two specialists from a number of different divisions in the company, depending on the individual company or even on the defined goals of the specific Creative Forum. The participants contribute their knowledge and creativity to develop and refine ideas suitable for obtaining strategically important patent applications.

For the facilitation of the sessions of the Creative Forum well-known methods may be applied. However, it should be stressed that for the individuals attending the Creative Forum, the key word must be *motivation*, ie find participants who see the point in being a part of a Creative Forum, and make sure you set up a positive environment where no participants are locked into their own sphere of expertise.

A very positive side effect for all participants is that it is rewarding, exciting and probably fun to participate in a Creative Forum. This is a place where participants' ideas are heard and respected, and it may very well be *their* ideas that lead to important patents for the company.

The 93:7 Model

There are many convincing arguments for setting up a Creative Forum. However, the amount of effort spent on each patent application originating from the Creative Forum is many times greater than for those passing through the traditional patenting process. We suggest setting a reasonable goal for the Creative Forum which takes time and expense into account, ie the 93:7 Model.

This is actually a very simple approach. With 93 per cent of patent applications, it is business as usual, while the last 7 per cent originate from a Creative Forum. Thus, the company supplements the above-mentioned key performance indicators with other success criteria, and an important step is taken towards steadily increasing and securing the value of your strategic IP.

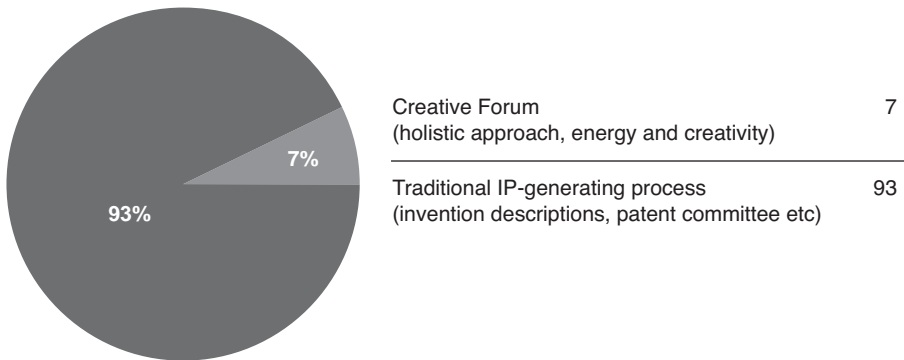


Figure 8.5.3 The 93:7 model

Patentgruppen, founded in 1998, is one of the fastest-growing patent agencies in Denmark and all employees at the three offices are highly experienced in the patent business. Patentgruppen provides services in all areas of intellectual property rights, including patents, utility models and designs, in Denmark, Europe and the rest of the world. A number of our patent attorneys are authorized European patent attorneys and European design attorneys and therefore specialized in European patent and design matters.

Jens Jørgen Schmidt (PhD) is European patent attorney and partner in Patentgruppen. He has more than 10 years' experience with patent matters for European and international companies. Jens Jørgen Schmidt is also a tutor at CEIPI – the European Centre for International Industrial Property Studies.

Nelly Sander (MA in languages and international relations) has more than 10 years' experience within the patent business. For the past six years she has been the Information Manager of Patentgruppen, with responsibility for external and internal communication, marketing and human resources.

This chapter was inspired by several lectures on the Creative Forum given by Jørgen Møller, Managing Director of Patentgruppen.

For further information contact: Patentgruppen A/S, tel: +45 86 19 20 00; website: www.patentgruppen.com; e-mail: patent@patentgruppen.com.

The screenshot displays the XPAT patent information system interface. The main window shows a list of patent entries with columns for 'Nummer', 'Patentinformation, Text', and 'Applikationsinformation'. The entries are numbered 355, 356, and 357. Entry 355 is titled 'Theoretische Schutzfrist 05.03.2022' and 'Fremdes Schutzrecht'. Entry 356 is titled 'Theoretische Schutzfrist 25.05.2020' and 'Fremdes Schutzrecht'. Entry 357 is titled 'Theoretische Schutzfrist 28.05.2009' and 'Fremdes Schutzrecht'. The interface also includes a search bar, a list of patent families, and a detailed view of a patent document with technical drawings and text.

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Implementation of a patent management system within an industrial environment

Owing to the ever-increasing amount of intellectual property and the importance of considering it as part of an integrated workflow, an electronic patent management system is needed more than ever before. Peter Atzmüller, Patent Information Specialist at voestalpine Stahl GmbH, explains how to set up and use a patent management system efficiently

In recent years the need for comprehensive and efficient patent management software tools has been increasing. One of the main reasons for this is the ever-rising number of published patent documents, especially in the Asian region. Additionally, collaboration between scientists, engineers and the patent department has been shown to be an important factor for innovation. Finally, the importance of intellectual property rights (IPR) has been recognized by all parties involved, in contrast to the past. So, the main problem arising from these facts is the overwhelming amount of information which can no longer be dealt with using paper-based selection and dissemination.

How can we deal with this challenge?

The patent department should be able to conduct quick and reliable search, retrieval and dissemination of the information needed, mainly patent docu-

ments. Furthermore, a check on the legal status of relevant documents and automatic dissemination of new hits arising from pre-defined, personalized search profiles are key elements. Finally, to make this workflow efficient, it is crucial that the user can add comments to any document and that those comments are visible to other users.

Fortunately, we at voestalpine now have such a comprehensive tool in use – thanks to XPAT® by G.E.I Kramer & Hofmann mbH (www.interhost.de).

‘History’ of XPAT® at voestalpine

But let’s start at the beginning. The history of XPAT® at voestalpine dates back to November 2004 when we evaluated 16 different patent management software systems in order to find an appropriate software tool to be implemented in the patent department. The main goals were: first, to store full-text patent documents in an ‘in-house’ database; second, to provide access via a web-based platform to all relevant users (without regional restrictions or additional installation requirements); and finally, to allow comments and all kinds of user feedback (similar to knowledge management/transfer tools).

The task was to evaluate the existing systems as objectively as possible (value benefit analysis) and, to cut a long story short, XPAT® was the best-ranked system. Details of evaluation methods and results can be found in my book *Evaluierung einer Patentmanagementsoftware* (translated into English as *Evaluation and Integration of a Patent Management System* – ISBN: 9783639036923).

In February 2005 we started to adapt XPAT® to voestalpine corporate design needs and in September of that year we made it available to internal engineers and scientists.

Since February 2006, all patent search, retrieval and dissemination has been handled in XPAT®.

Over the past few years, we, together with the developers, have continually improved the software and are currently working on completely new modules (see ‘Further developments’).

Be aware that upheavals take time and do not rush in with a new system. Embed the users in advance and acceptance will rise automatically.

Implementation of XPAT® at voestalpine

XPAT® offers convenient features such as different search masks, all kinds of document importation methods, hit indicators, statistical evaluation etc – for further details, please take a look at the previously mentioned website of Kramer & Hofmann.

New published documents are imported into the database via external Selective Dissemination of Information (SDI) profiles from different public sources (several hundred per week). The distribution of relevant documents is done once a week by numerous internal SDI profiles.

The user will be able to deal with the hitlist very quickly by looking through title/abstract/drawing. In a second step the 'irrelevant' data will be removed from their worklist. Finally, the user takes a closer look at the details (full specification, claims etc) of the relevant documents, writes comments and, optionally, interacts with the administrator (preparing for opposition, surveillance etc).

Example of a typical workflow

An engineer needs to collect information about a special steel-forming technology. He or she informs the patent department about the technology, which then sets up *external* profile(s) in order to be sure that the potentially relevant documents will be available in our internal database by means of automatic loading (eg every Friday). Next, a much more sophisticated *internal* search profile will be generated which delivers new published documents to the engineer on a regular basis (eg every Monday).

Possible actions by the engineer:

- If the new hit is technologically *irrelevant* → quick selection and cancellation from their worklist (but those documents still remain in the database!).
- If the new hit is technologically *relevant* → automatic surveillance of the document and information to the patent department, which checks legal status, broadness of claims etc.

So, the engineer is always up to date with technology and does not need to look through hundreds or thousands of documents but only through typically one to five documents per week. Additionally, colleagues can take a look at, or search for, the engineer's comments (eg high relevance) and hence find interesting documents much more quickly.

Further developments

One of the biggest advantages of XPAT® is the open-mindedness of the development team. Every customer can be sure that their ideas will be implemented if they are to the advantage of the software. That is a unique approach and one of the keys to Kramer & Hofmann's success.

Besides the ‘usual’ improvements of functionality and usability there are a few projects for complete new modules which will work with information from the patent database in XPAT®:

- Own IPR module. The complete process, from the invention disclosure by the inventor up to the filing of a patent and the management of fees, should be implemented in this module. A first prototype is already available and is in use by some companies.
- Search history module. The aim of this module is to manage the different search tasks within the patent department in such a way that comprehensive documentation of searches (user, agent, last status, search statements etc), not the patent documents themselves, is stored.
- Evaluation module. Monetary and qualitative evaluation of own or third-party patents will be handled in this module.

Both ‘Search history’ and ‘Evaluation’ are currently being developed and will be available in the near future.

Conclusion

The hard and sometimes painful work of setting up new tools or systems pays off very quickly owing to faster and ‘higher level’ communication between engineers and the patent department. Finding the famous ‘needle in the haystack’ is much easier when searching in tiny and personalized ‘haystacks’. Finally, automatic means enhance speed and the number of topics that can be dealt with, therefore they are crucial for surveillance and alerts respectively.

Peter Atzmüller is Patent Information Specialist at the R&D department of voestalpine Stahl GmbH, which is a steel producing and processing company, based in Linz, Austria. He was certified as ‘Patentrechercheur LGA’ from the German Landesgewerbeanstalt Nürnberg in March 2008 and has been involved in posting activities in several patent information forums (eg PIUG). Additionally, he was invited to act as chairman at several EPO conferences. His main projects were the ‘implementation of the patent management system’ from 2005 to 2006 and the ‘development of an integrated patent management workflow’ since 2006. Furthermore, he leads several projects, eg the ‘development of a semantic patent analysis tool’ (article in the World Patent Information doi:10.1016/j.wpi.2008.10.005).

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New frontiers in IP

The patentability of computer programs under the EPC

Colin Stratford, a patent examiner at the EPO in Munich, working in the field of computer technology, discusses the hurdles to be overcome in the field of computer technology before a patent is granted.

European patent law

The European Patent Convention (EPC), which has been agreed to by the 35 Member States of the European Patent Organisation, sets out the laws of patentability which are applied by the European Patent Office (EPO). The national laws of the Member States echo the EPC's substantive requirements of patentability – in other words, the law is harmonized in Europe. This is not the case throughout the world, and there are noticeable differences. For example, the patent law applicable in the United States does not have any explicit exclusions relating to business methods or computer programs, and so the fact that a patent has successfully been obtained in the United States is not at all indicative of the chances of success in Europe.

The four key patentability requirements are summarized in paragraph 1 of Article 52 EPC:

European patents shall be granted for any *inventions, in all fields of technology*, provided that they are *new*, involve an *inventive step* and are susceptible of *industrial application*.

In the field of computer technology, susceptibility of industrial application is invariably given, leaving us with three main ‘hurdles’ to be overcome before a patent can be granted.

- There must be an invention in a field of technology.
- The invention must be new (Art. 54 EPC).
- The invention must involve an inventive step (Art. 56 EPC).

This chapter will concentrate on the first and last of these patentability requirements.

The exclusions from patentability

In paragraph 2 of Art. 52 EPC, we are given a list of examples of items that are not to be regarded as inventions. These items are therefore said to be excluded from patentability:

The following in particular shall not be regarded as inventions within the meaning of paragraph 1:

- (a) discoveries, scientific theories and mathematical methods;
- (b) aesthetic creations;
- (c) schemes, rules and methods for performing mental acts, playing games or doing business, and *programs for computers*;
- (d) presentations of information.

Before reaching the conclusion that all programs for computers are excluded from patentability, we have to read on to paragraph 3 of Art. 52 EPC:

Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.

This clearly limits the scope of the exclusions. So, a claim relating to an aesthetic creation is only excluded if it relates to an aesthetic creation as such. A claim relating to a program for a computer is only excluded if it relates to a program for a computer as such.

Clearly the term ‘as such’ is open to interpretation; it defines the boundary between computer programs which are patentable and computer programs which are excluded from patentability (ie computer programs as such). This is where the EPO’s boards of appeal come into play. Through their decisions on the patentability of individual inventions, guidance is given to applicants and examining divisions, the latter being responsible for deciding whether a patent application meets the requirements of patentability. Established case law is incorporated into the Guidelines for Examination in the EPO, which examining divisions are expected to follow.

The consensus of the case law of the EPO is that an invention which relates to one or more of these excluded items is not excluded from patentability if it has technical character. Technical character is generally acknowledged when the invention can demonstrate a technical effect. A special case has to be made of the computer

program exclusion because computers themselves have technical character and the two are inextricably entwined. Computer programs are nothing without a computer, and a computer is nothing without a computer program.

When executed, a computer program will interact on a technical level with the hardware of the computer and cause it to operate differently. Transistors will switch, electrons will flow and areas on a hard disk will be magnetized. These effects are undoubtedly technical, but they are inherent to all computer programs. Consequently, such effects cannot be used to differentiate between patentable and excluded computer programs. In order to be considered to have technical character, a computer program would have to demonstrate technical effects which go beyond these inherent interactions between the computer program and the computer hardware.

So we need to look at what the computer program does. The purpose of any computer program is to process data; the question is what is the data and how is it processed.

In some cases, the content of the data has no relevance to the operation of the computer program. The computer simply receives data, processes it according to certain rules and then outputs it in a way which, one hopes, is helpful to the user. Whether this data consists of purchasing orders, stock market reports or healthcare information, the operation of the computer remains the same. Such processing of data would not lend any technical character to the computer program as it does not affect the basic functioning of the computer. It is important to note that the high speed at which the data can be processed, and the complexity of the rules which can be applied, are, by themselves, not indicative of any technical character. Such effects are simply the result of using a computer to do the processing.

On the other hand, there are aspects of computer programs which do affect the basic functioning of the computer. For example, designing a program in such a way as to maximize the benefits of a multi-threaded processor, or optimizing performance by making use of faster memory (eg RAM) for frequently accessed data and slower memory (eg hard disk) for less frequently accessed data, could be indicative of technical character. A computer program which causes a computer to control technical processes external to the computer is also an example of a computer program which has technical character.

Inventive step

While the law is harmonized in Europe, it is inevitable that the interpretation of the law by different patent offices and courts varies slightly from country to country and at the EPO. For example, while there is agreement that a known, general-purpose computer having a computer program for carrying out a new business method is not entitled to patent protection, there is some disagreement as to the legal basis for rejecting such applications. Is it as a whole excluded from patentability (falling under Art. 52(2) and (3) EPC), or is it not excluded yet not inventive (Art. 56 EPC)?

However, there is one aspect upon which there is general agreement: an inventive step can be acknowledged if, and only if, a technical problem is solved using technical means in a non-obvious manner.

But first, an introduction to the concept of inventive step, which often constitutes the final hurdle on the route to patentability. Art. 56 EPC states:

An invention shall be considered as involving an inventive step if, having regard to the state of the art, it is not obvious to a person skilled in the art.

First, what is the state of the art? This comprises everything that was published or otherwise made available to the public prior to the filing of the patent application. This covers information made available in any language and by any means, for example oral presentations, internet publications and items made available by sale or demonstration to the public.

Second, who is this ‘person skilled in the art’, also known as the skilled person, who is used as the standard measure for several patentability requirements? They are an expert in their field, having knowledge of all the relevant state of the art, yet they have no imagination. The skilled person’s actions are always purposeful, with expected consequences. However, their expertise is not without restrictions. The concept of patents being for innovations in a field of technology permeates through the EPC, and this also affects how we interpret the requirement that inventions involve an inventive step. The skilled person is an expert in a technical field. For example, they have no knowledge of how a business should be run, is not an artist nor a gaming expert.

Finally we come to the question of obviousness. This is analysed using a method called the ‘problem and solution approach’ which is best explained with a simple example.

Take the invention of a tyre made with a rubber composition to which compound X has been added. The difference (or contribution) over the state of the art (existing tyres) is the addition of compound X to the rubber. Incidentally, if there is no contribution to the state of the art, then the invention lacks novelty (Art. 54 EPC).

But back to inventive step – what effect does this additional compound cause? According to the description of the invention, using this improved rubber results in a tyre which has much better grip on road surfaces. From this effect we can now formulate the problem and the solution. The problem, derived directly from the identified effect, is to create a tyre with improved grip on road surfaces. The solution is to add compound X to the existing rubber composition.

We now give this problem to our fictional skilled person, and ask whether it would be obvious for them to add compound X to the rubber in order to increase grip. The answer to this seemingly simple question is the subject of much, if not most, discussion between examiners and applicants.

When dealing with subject-matter which includes or relates to any of the items which are excluded from patentability, we have to take extra care to ensure that any excluded subject-matter does not help the applicant to obtain a patent. An inventive step cannot be based on just any problem or solution. To ensure that patents are only granted for innovation in a technical field, the presence of an inventive step requires

that both the problem and the solution are technical. Without either, the presence of an inventive step must be denied before the skilled person even becomes involved.

Take for example a computer system which e-mails information to a group of users. A problem could be that the computer system is connected to the internet with a dial-up connection, and e-mailing the information to the users takes a long time. The lack of bandwidth is certainly a technical problem, but administrative solutions such as reducing the amount of information in the e-mails or cutting out any non-essential users do not solve, but rather avoid, the technical problem. Without a technical solution there is no inventive step, irrespective of the 'obviousness' of the non-technical solutions.

Technical solutions, the obviousness of which would be assessed by the skilled person, could include using an improved error-correction method with fewer data overheads, or upgrading the connection to broadband.

Conclusion

Under the European Patent Convention, not all computer programs are excluded from patentability. If your invention involves a computer program (or indeed any other item listed in Art. 52(2) EPC), this will neither hinder your chances of obtaining a patent but nor will it help.

One has to look beyond the fact that there is a computer program involved, and instead look at what it does. If a computer program causes a computer to solve a technical problem using technical means, then it could be subject to patent protection.

Helpful links

The European Patent Convention: www.epo.org/patents/law/legal-texts/epc.html

Guidelines for Examination in the European Patent Office: www.epo.org/patents/law/legal-texts/guidelines.html.

More information about the patentability of computer programs: www.epo.org/topics/issues/computer-implemented-inventions.html.

Colin Stratford studied physics at the University of Bath before becoming a patent examiner at the EPO in Munich, working in the field of computer technology. Typical patent applications in his field involve computer-implemented business methods and casino gaming machines. He also works part-time for Directorate Patent Law, where he is able to provide an examiner's point of view on the patent-related legal issues which arise at the EPO. The views expressed in this article are his own and are not necessarily shared by the European Patent Office.

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Managing the IP in source codes

Quarrels between creators and users of software are widespread. Stephan Peters at Deposix looks at how a common technique for avoiding them in the United States is spreading to Europe.

Nowadays, software is a highly sophisticated and specialized form of IP and almost ubiquitous as it already impacts and improves countless aspects of our professional and personal lives. Software developers typically devote significant time and resources in its pre-commercial development, and that investment often enough continues for long after the application's market launch. It is thus a no-brainer that the owners of the software strive to protect the IP inherent in that software. Just as for any other form of intellectual property, the rule *'Put IP protection first!'* applies.

The challenge: managing the IP in software source codes

But how exactly can you effectively manage the intellectual property (IP) contained in software, more concretely in its source code? To recall: the source code provides access to all the know-how and intelligence incorporated into a given software application.

Definition of source code

When programmers design software, they break down a planned new functionality (eg ‘adding a new customer record to the bank’s central data base’) by writing a series of specific instructions for the computer. For this, they may use any of the manifold existing programming languages. The result is the so-called source code, and anyone being capable of ‘reading’ it, ie understanding the instructions in that programming language, could extract the specialized know-how and expertise which the programmers put into it (thus the effort to keep it secret). Next, the programmers ‘translate’ the source code into machine-readable code called object code. This process is also called ‘compilation’ and as a result creates the executable programs (so-called ‘*.exe’ files) that run on our computers. For any subsequent change to the software (either bug fixing or add-on of new functionality), the original source code needs to be modified and the process of compilation repeated. Without the source code, the software running at the licensee’s facilities could only be used on an as-is basis.

The most intuitive step would be to rely on copyright protection and in addition to file a patent for the software. Yet it is not that easy. While copyright protection and patents for software are generally available across the most industrialized jurisdictions, typically only certain parts of today’s comprehensive applications out there stand a chance of reaching the intended shelter. Copyright protection protects specific lines of code from being copied. This means that one can take no action against another code written independently which achieves the same effects. Patents for computer-implemented inventions offer a broader protection for a product or process regardless of the software language they are written in. Patents can be obtained generally for novel software-based inventions, which eg guide a satellite in orbit, or manage more telephone calls through a narrower bandwidth, or make a computer run faster through more efficient memory usage. But any competitor who finds a different way to achieve the same object, perhaps even a better way, will not have to explain themselves to the patent holder. Furthermore – and this is true for other forms of tangible IP such as text, music or videos as well – software is an electronic and thus very volatile good. Nowadays, there are very few *physical* restrictions on dissemination.

Consequently, even when considering copyright and patent protection for one’s software, most licensors will never allow their source code to be disclosed, either to the general public or to specific customers. The particular know-how – often considered to be the most valuable asset of a software company – could possibly be extracted and re-used in a number of creative and legal methods. The result would mean dire consequences for the vast majority of all existing developers. (Note: the particular case of open source (OS) will not be discussed here – while the author recognizes the value and acceptance of the OS model, he predicts that most software in the foreseeable future will stick or return to the opposite model of commercial software.)

The issue: inherent conflict of interest between developer and licensee

So while the licensor has all the reason to keep his source code secret, what is the position of his customers, the licensees?

From the licensee's perspective, IP protection is just as crucial. The licensee is a mere user and fully depends on the licensor in order to exploit both the software's immediate benefit and its long-term potential. The issues at hand here are bug fixing, maintenance, and development of new features. Often enough, licensees have to invest up to eight-digit dollar sums in a new software and its inevitable implementation process into an existing (IT) landscape. Typical costs comprise the regular licence and maintenance fees and further charges for individual adaptations, interface programming, additional or new hardware plus surrounding IT infrastructure, time and effort to analyse and adapt obsolete or incompatible internal business processes, and training for the employees. Therefore, licensees have a strong interest in mitigating the risks involved and in protecting their investments in IT for the case that their licensors defaults on maintenance or other critical deliverables

Checklist: Practical guideline from licensee's perspective

Software escrow should be considered when any of the following questions are answered with a 'yes':

- a. Does the software administer or operate critical processes and/or data?
- b. Would a short-term replacement of the software lead to significant costs?
- c. Can maintenance of the software *not* be guaranteed 100 per cent?
- d. Is compliance with one's own contractual obligations vis-à-vis customers or partners dependent on the software at hand?
- e. Does the investment in the project exceed €50,000?

Considering the different perspectives of licensor and licensee, a typical conflict of interest becomes apparent: while the licensor prefers to keep their source code secret and not to disclose it to anyone, the licensee seeks to get hold of the source code as backup for a potential situation in which the licensor defaults on their obligations. Both sides have legitimate interests... though if both sides insist, they would never sign a licence agreement. The detriment would be loss of potential revenue and reputation for the licensor and abandonment of potential benefits offered by acquiring the functionality of the software for the licensee.

Depending on when within the buying process the parties start addressing this conflict of interest, a very costly situation could arise for both parties. The quarrel over the source code has been recorded as an insurmountable stumbling block in more than one case in the past.

Software escrow

In order to solve this conflict, it is wise to introduce a trustee, ideally a neutral third party with technical expertise that ensures compliance with both parties' interest. Though not as widely known as in the United States (yet), professional escrow agents provide easy and solid solutions in Europe and the rest of the world as well.

Software escrow creates a three-party constellation in which the escrow agent serves as trustee and holds the IP in custody (see Figure 9.2.1). In contrast to a notary or other legal services firm which typically serves as trustee in such situations, the escrow agent has the competency to understand and evaluate the software from a technical point of view. Further, his organization holds the internal processes ready for example to accommodate regular updates or the particular safety requirements.

As a vehicle to software escrow, a three-party escrow agreement is put in place, complementing the bilateral licence (or development or maintenance) contract between licensor and licensee. Based on expertise and experience, the escrow agent typically adapts his standard agreement to the needs of licensor and licensee. Once the specific release conditions – which could trigger the disclosure of the source code to the licensee as beneficiary – are agreed upon and the escrow agreement is finalized, the software developer hands over the source code to the

Escrow – professional services centred around safely depositing your source code

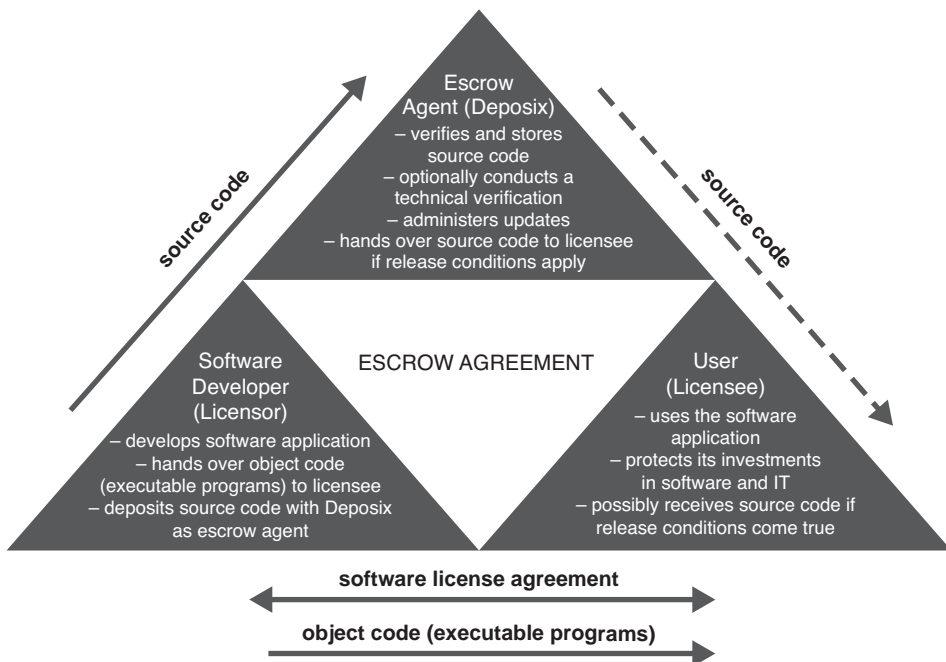


Figure 9.2.1 Software escrow – overview

independent escrow agent. The agent verifies the content from a technical point of view and then safely transfers it into specialized storage. From that point onwards, the agent ensures the quality and safety of the source code through regular maintenance and adherence to a strict contract management process and provides the licensee access to the source code should one of the predefined release conditions come true.

Typical release conditions

For example:

- a. bankruptcy of the licensor;
- b. opening a case for insolvency protection;
- c. default on maintenance;
- d. decision to end life cycle of the software;
- e. loss of critical know-how (key programmers leaving the developer), change-of-control clauses (eg competitors of licensees taking over).

Advantages of software escrow

A correctly administered software escrow agreement is beneficial to both parties, the most obvious advantages being:

1. The critical IP of the software developer is properly protected – they do not have to disclose their source code, provided they abide by the licence agreement and perform their obligation.
2. The licensor is securing a revenue stream by licensing their software to that particular customer, which otherwise might not have happened.
3. At the same time, the licensee's investment (into this software and into his IT infrastructure in general) is protected by an appropriate risk management tool.
4. Licensee's need for continuity (of IT operations) is being addressed.

Apart from these obvious benefits, software escrow offers additional advantages that may not be so evident for the casual observer. These are, among others:

1. Facilitating deal closures: for the licensor, using a professional escrow service builds trust in the marketplace and thus serves as an effective sales tool. The licensors are sending out a positive market signal about their own solidity and are openly addressing the risk management needs of their customers.
2. Fostering IP creation: Escrow generally fosters the creation of IP, more specifically by supporting the development of software, through offering more attractive market conditions – due to the additional security, licensees are more likely to buy the licence from the developer.

3. Offering additional financing options: When looking for financing – a critical process for every software developer – software escrow offers the benefit of reducing risks to prospective investors/shareholders. A potential investor performing a due diligence will carefully analyse the company's IP assets and assess their individual risk. If the licensor can prove that their software is held in custody with a professional escrow service, this will add significant value to their business. And furthermore, software developers can offer to add the potential investor to its escrow as beneficiary, thereby granting them access to what typically is the major 'asset' in any (new) technology start-up.
4. Improving Basel II and Solvency II ratings: Escrow may help licensees to obtain a better rating under the Basel II or Solvency II schemes by reducing their overall operational IT risk, eg failure of their critical IT systems due to a potential default of their licensor. As a result, the licensee may obtain access to cheaper credit offerings.
5. Building an audit trail: From the moment of signing an escrow agreement, all events such as patches or updates concerning the source code are seamlessly documented and a professionally managed audit trail accumulates. The licensee will benefit from an audit trail as it allows them to roll back to older versions at any time. But also the licensor will benefit from older versions of their source code staying in the depot of an independent trustee. In case of an IP violation, the escrow agent could always prove the exact date when the licensor developed their IP – a possibly crucial aspect when it comes to patents or cases of industry espionage or disgruntled employees which involve the IP incorporated in the source code.

Stephan Peters is co-founder and CEO of Deposix, a leading software escrow firm in Europe and the United States. During his 18 years of professional experience in the IT industry he handled a wide range of software licensing and intellectual property projects for his clients at Accenture and Booz & Company. Additionally, he was involved in several technology start-ups, among others as a co-founder of WebToGo, a wireless ISP based in Munich. Stephan Peters holds an MBA from Columbia Business School, New York, and is a frequent speaker and contributor to technology and business publications. He can be reached at: stephan.peters@deposix.com.

The biopharma industry

Birgitte Stephensen at Genmab discusses the legal uncertainties of operating in a new technological field.

As for all other businesses, it is important for a biopharma company to establish and implement an intellectual property (IP) strategy that protects and maximizes the value of its inventions and clears the way for the new products to reach the market. This chapter addresses some of the IP challenges we are facing and that we need to take into account when dealing with patents in the biopharma industry.

The patent practice is lagging behind the technology

One of the challenges we are facing in the biopharma industry is that the technology is often at the cutting edge of the patent practice and case law. In other words, the patent practice is lagging behind the technology, and at the time of filing the first patent applications within a new field of technology the patent practice is not well established or developed, and no case law exists. This creates uncertainty as to what scope of protection can be obtained for your inventions and what kind of data are needed to support the patent claims.

In view of this you have to be creative and cautious, trying to define your invention in as many ways as possible to provide the best possible patent protection. This may, however, give rise to objections from the patent authorities who do not allow many independent patent claims within the same category.

The uncertainty does not only apply with respect to your own inventions, but also with respect to competitors' inventions, and it may be difficult to predict the possible outcome of potentially interfering third-party applications.



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In conclusion, you have to deal with legal uncertainty when operating within a new technological field. On the other hand, it also gives you the opportunity to influence the patent practice being developed.

It takes time to fully develop and get proof-of-concept for a new technology

Another challenge is that it may take time to fully develop and get proof-of-concept for a new technology, in particular for new pharmaceutical products which require approval from the health authorities before entering the market. Accordingly, when you are ready to launch a product based on the new technology, the patents protecting the technology might be close to expiry, thereby leaving little time to get credit for the invention and recoup the large investments made.

Furthermore, the need to file patent applications at an early stage (before competitors get in) may also have the consequence that the patent authorities do not find there is sufficient data to support the broad claims. The desire to file patent applications at an early stage therefore has to be balanced against the requirement to provide sufficient support for the claims.

When seeking to in-license new technology from small companies this may also be an issue. For example, a company may have discovered a relationship between a new target and a disease, but may have filed the patent application at too early a stage to allow for solid patent protection. As a result, it may not be attractive to in-license such targets, and there may be good targets which for this reason are never exploited.

New therapeutic uses

Another dilemma which may occur in connection with patenting new therapeutic uses of a product (new indications, combination therapies, dosage regimens etc) is that the data to support the invention in some instances may only be generated in connection with conducting the clinical trials. However, by conducting the clinical trials you may generate prior art against your own patent application.

Experimental use exemption

Yet another challenge is the experimental use exemption. The case law within this area is not well established and also not harmonized from country to country. Thus, there is a lot of uncertainty as to which activities fall under the exemption, making it very difficult to handle this in practice.

Freedom to operate issues relating to manufacturing processes

In addition to ensuring freedom to operate for the new biopharma product *per se*, it is critical to ensure freedom to operate for the commercial manufacturing process as it would very be time-consuming, expensive and complex to change the manufacturing process in view of the regulatory requirements. To this end it is very important to have a good in-house procedure implemented to make sure that the freedom-to-operate analysis of the manufacturing process is made in due time.

Conclusion

The biopharma field is a very exciting and challenging area – also from an IP perspective. The time required to develop and bring a new biopharma product to the market means that you have to look many years ahead when you file the first patent application and decide on the patent strategy. Dealing with this in the most optimal way requires a good interaction and integration of the patent department with the rest of the company and that the IP work within the company is also given priority.

Genmab A/S was founded in 1999 based on an alliance with the US-based company, Medarex, Inc, providing access to Medarex's patented UltiMAB® platform technology relating to transgenic mouse technology, and as such Genmab has been aware of the impact and value of patents from the very first day. The transgenic mouse technology makes it possible to generate fully human antibodies.

Genmab is dedicated to generating and developing fully human antibody therapeutics to help people suffering from life-threatening and debilitating diseases, especially within the field of cancer. Genmab has a broad pipeline of pre-clinical and clinical products, and currently two antibody products are undergoing Phase III clinical development. Applications for marketing authorization have recently been filed for the first antibody product. Genmab has approximately 560 employees located in Denmark, The Netherlands, the UK and the United States.

Birgitte Stephensen is Vice President, IPR & Legal, at Genmab. She joined the company in 2002, after working with patents in the pharmaceutical and biotech field for many years, in both private practice and industry.

Birgitte Stephensen passed the European Qualifying Examination in 1994. She has been tutor on the CEIPI courses in Denmark and also been involved in establishing the Danish Institute for IPR Training (DIFI) and given tuitions at the DIFI courses. In addition to dealing with patents Birgitte Stephensen is actively involved in biopharma licensing work. E-mail: b.stephensen@genmab.com.

Low-carbon innovation

Dr Chris Harrison at the Low Carbon Innovation Centre discusses how ideas for saving energy and cutting carbon are finding a place on the market.

The UK government has set a target of an 80 per cent reduction in CO₂ emissions by 2050 (compared with 1990 levels). This reduction will only be achieved by changes in practice across large and small industries, and individuals' behaviour, including their actions at home, at work and on the move. The Committee on Climate Change has set indicative budgets for the next 15 years which, if implemented, will deliver a 31–44 per cent reduction by 2020.

For businesses developing new products and services, the drive towards a low-carbon economy presents both opportunities and challenges. The challenge is that the reduction of energy and carbon dioxide emissions will need to permeate the design, production and operation of all products for them to remain viable but the opportunity is that those products and services that can meet the challenge will potentially attract a new place in the market and be able to distinguish themselves from the competition.

Support for innovation

In addition to the new market differentiation that can result from low-carbon innovation, an unprecedented package of government support for low-carbon innovation and significant interest from the investment sector mean that despite current economic conditions, there are financial stimuli for low-carbon innovation. An

example of incentives from the UK government, the European Commission and other agencies are listed here:

- Regional Development Agencies
 - Research and development grants
 - Proof-of-concept grants
- European Regional Development Funds
- National Endowment for Science, Technology and the Arts (NESTA) 'Big Green Challenge'
- European Research Framework Programme (FP7)

Behavioural change and technology

A UK government report of 2007 ('Moving to a global low carbon economy: implementing the Stern Review') highlighted the significance of the three key elements referred to in the earlier Stern Report, which recommend action in the areas of carbon trading, technology development and behavioural change. Two of the elements were as follows:

Encouraging innovation in low-carbon technologies – through policies that address separately the market failures associated with innovation and bring forward low-carbon technologies in a timely and cost-effective way.

Removing barriers to action, as there are many other opportunities to reduce emissions that are unlikely to be taken up without policies to encourage long-term behaviour change, and to overcome other barriers that may prevent or deter individuals and businesses from taking cost-effective action to reduce their emissions, particularly on energy efficiency.

These two elements exemplify the broad areas of low-carbon innovation that are currently emerging and that the Low Carbon Innovation Centre at the University of East Anglia has witnessed through its work with the public and private sector.

Low-carbon technology arises in many different forms but could be categorized as those technologies with a specific carbon emissions-reducing goal, such as technologies relating to renewable energy or energy saving and those technologies that have their emphasis on a particular technical improvement – such as novel display screen technology – but have a peripheral benefit of having lower manufacturing or running costs in terms of emissions.

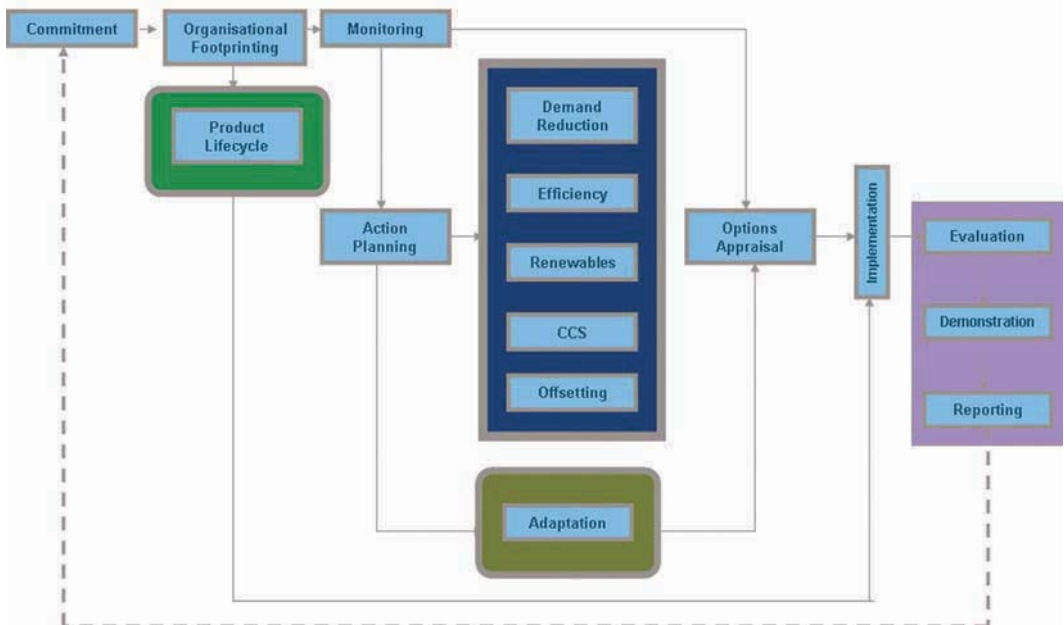
Life-cycle greenhouse gas assessment

An important aspect of low-carbon innovation is the assessment of new goods and services and comparison to existing technologies or methodologies. This process involves the assessment of greenhouse gas emissions throughout the whole life of a product and produces a 'carbon footprint'. Such assessments tend to be highly

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complex – particularly for those products or services with many components, with long supply chains or in areas like agri-food where other greenhouse gases such as methane and nitrous oxide can have significant impacts. The British Standards Institution has produced a guide to the assessment of goods (PAS 2050:2008 – Specification for the assessment of the life cycle greenhouse gas emissions of goods and services; available from: <http://www.bsigroup.com/en/Standards-and-Publications/Industry-Sectors/Energy/PAS-2050>). This guide describes the typical processes of product life-cycle assessment. Many specialist organizations can assist with the process or produce more detailed analyses.

Intellectual property

In all cases, as with all technology, intellectual property (IP) is of significant importance and the protection of a new low-carbon industrial process or product may be critical to commercial success. However, in order to obtain patents, the product or process must fulfil the usual criteria of being:¹

- 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;
- capable of industrial application, that is, can be made or used in any kind of industry.

Attempting to obtain patents on the basis of a reduction of energy consumption (and hence CO₂ emissions) may be possible but the test of non-obviousness must be properly met – ie it must not be obvious that the developments to the product or process would result in lower energy consumption.

Intelligent systems

An observation from the Low Carbon Innovation Centre has been that there has been significant development in the application of ICT to carbon reduction. Typically this relates to control systems in industrial, transport or domestic settings and commonly aims to remove the impact of human behaviour from a process. Effectively at the interface between human behaviour and technology, innovations such as smart metering and control systems for buildings prevent wastage by human behaviour (eg by smart switching of electrical appliances) and provide feedback to the human user through displays.

Starting the journey

Improved efficiency through the application presents an opportunity for many sectors and, in combination with basic practices of behavioural change, can offer quick wins for

many businesses. The process of carbon-emissions reduction is a journey for individuals and organizations and can take a number of paths – from implementing recognized practices and available technologies through to the application of research and development and potentially significant investment to a process of innovation. The following summarizes an approach to innovation in this area:

- Review your products and services and consider their place in a low-carbon economy.
 - Understand the carbon footprint of your products and services and your organization as a whole.
- Consider the market.
 - Are your competitors already using emissions as a marketing angle?
- Look for government support for innovating your products and services.
- If your business can make a direct contribution to renewable energy technologies or carbon reduction in transport or industrial processes, there may be significant growth potential.
 - Would external investment be an appropriate route to achieving faster commercialization?
- Assess the life cycle of new products or services under development.
 - This may be a prerequisite for some low-carbon investors.
 - Obviously important if this is going to form part of the marketing message.
 - Seek professional advice – especially if the sources of emissions are not obvious.
- Consider IP protection.
 - But consider if energy saving alone makes a product truly novel.
 - Seek professional advice.

Note

- 1 Definitions from UK Intellectual Property Office: www.ipo.gov.uk.

Prior to the Low Carbon Innovation Centre, Chris Harrison was Head of Technology Transfer at the University of East Anglia (UEA) and represented UEA on the Investment Executive and advisory company of the ICENI University Challenge Fund. He helped create Syrinix and Im-Sense Limited and holds non-executive director positions on the boards of these companies. He wrote the case that won Syrinix Times Higher Education Supplement Business Initiative of the year in 2006 and helped Im-Sense obtain a grant from EEDA's Proof of Concept fund. Chris Harrison has a PhD in Genetics, gained at the John Innes Centre, and an MBA from UEA. Further details at: website: www.carbon-connections.org; e-mail: chris.harrison@uea.ac.uk; tel: 01603 591 366.

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Patenting computer-implemented inventions in Europe

How to handle computer-implemented inventions in the framework of patent law is currently one of the most controversial questions in IP. Dr Peter Schindelmann and Dr Andreas Dilg at DHS draw the border between patentable 'technical' inventions and non-patentable 'non-technical' innovations.

Traditionally, patents are granted for technical inventions which employ natural forces to achieve specific measurable real-world effects. However, with the help of computer programs being executed on appropriate hardware, it has become possible to fully automate a sequence of operations which is executed without conventional technical means and which therefore was traditionally not considered by the legislator regarding patentability.

Although a computer program controlling such a sequence may be protected by copyright, the scope of protection of copyright covers not much more than a specific embodiment. In contrast to this narrow scope, which covers substantially the source code and can hence be easily worked around by competitors, a patent allows for monopolizing an abstract technical idea, thus providing a much broader scope of protection.

With the invention of microprocessors the desire to obtain patent protection for computer-implemented inventions arose. This trend resulted in a harsh dispute between the software industry and the open-source community. While the latter claims that all software should be freely usable by anybody, the former demands for patent protection for its information technology innovations in order to refund previous investments in software development.

The fathers of the European Patent Convention (EPC) were aware that the differentiation between patentable software inventions and non-patentable software innovations is difficult and that the criteria for patentability are impacted by technical progress. Therefore, the EPC intentionally includes quite vague legal provisions regarding non-patentable subject-matter, assuming that the jurisprudence would develop more specific and flexible criteria for distinguishing patentable inventions from non-patentable innovations.

The legal provisions dealing with computer-implemented inventions are given by Art. 52 EPC. European patents shall be granted for any 'inventions', in all fields of technology, provided that they are 'new', involve an 'inventive step' and are susceptible of 'industrial application'. Art. 52(2) gives a non-exhaustive list of non-patentable subject-matter. In particular, 'programs for computers' and 'methods for doing business' shall not be regarded as inventions. However, Art. 52(3) restrains the patentability restrictions of Art. 52(2) by specifying that the patentability is excluded only to that extent to which a claim relates to such subject-matter 'as such'.

Concluding, software has to overcome two hurdles in order to be patentable. A first hurdle requests the existence of a 'technical' invention. The second hurdle requests a certain technological quality level over the prior art, ie a non-obvious technical contribution to the art.

Present practice of the European Patent Office regarding computer-implemented inventions

For assessing whether a computer-implemented invention passes the first hurdle, the term '*as such*' has to be construed. The Boards of Appeal of the European Patent Office (EPO) basically equalize '*as such*' and '*not technical*' (T 935/97). Since an invention is phrased in a patent application by a verbal claim, ie a combination of features, the difference between technical and non-technical features has to be defined. The prevailing case law interprets non-technical features, eg sequential steps of a software algorithm, to relate to non-inventions within the meaning of Art. 52(2) (T 641/00).

According to established case law, a claimed invention overcomes the first hurdle if it comprises a technical feature (T 1177/97). This holds both for device claims (T 931/95) and for method claims (T 258/03).

The Boards of Appeal have developed further criteria which, when fulfilled, are alternatively considered sufficient for approving the technical character of a claimed invention. It is, for instance, sufficient that a claimed invention produces a further technical effect which goes beyond the normal physical interactions between software and hardware (T 1173/97). Accordingly, a computer program, which controls any process being related

to the real physical world outside of a computer, is considered to be technical. Other adequate criteria are that a technical effect is achieved or that technical considerations are required (T 931/95).

Concluding, it is easy for a computer-implemented invention to pass the first hurdle before the EPO since one technical feature in the claim is sufficient – regardless whether this feature is known in the prior art or not.

Regarding the second hurdle, the inventive step criteria require that the claimed invention is not obvious for a ‘skilled person’ in view of the prior art. When assessing the inventive step of a computer-implemented invention, it is of course relevant who is to be considered as the skilled person. According to the EPO practice, the inventive step of business-related software has to be assessed in view of the skills of a software developer or an application programmer (T 931/95), and not of a businessman, actuary or accountant (T 641/00). This practice raises the second hurdle.

In order to assess whether a claimed invention passes the second hurdle, it is EPO practice to disregard claim features which do not contribute to the technical character of the invention. Correspondingly, the inventive step has to be assessed by taking into account only those features which contribute to the technical character (T 641/00, T 1177/97).

However, before disregarding alleged non-technical features, the question of whether interactions between technical and non-technical features yield a technical contribution must be analysed. If this is the case, the corresponding non-technical features must not be disregarded because they contribute to the technical character of the computer-implemented invention as a whole.

Although not directly related to software – but to another exclusion from patentability according to Art. 52(2) – another decision of a Board of Appeal has stated that non-technical features are to be disregarded even for assessing novelty (T 553/02).

Other opinions

When deleting certain claim features for assessing the inventive step of a claimed invention according to the practice presented above, different subject-matter is examined when analysing whether a claimed invention fulfils different patentability requirements, particularly the first and second hurdles. In a similar context, the Enlarged Board of Appeal has decided that such an *approach would be unfamiliar to the EPC. What is to be examined is the invention as claimed (G1/03)*. Another decision states that there is no legal basis for distinguishing between the subject-matter of a claim to be examined for the various substantive requirements of the EPC (T1001/99).

Examples

In the following, some intuitive examples of the case law of the boards of appeal of the EPO regarding computer-implemented innovations are presented.

Examples of refusals

T 931/95 deals with a method for controlling a pension benefit program by administering a subscriber employer account. The board stated that since all method steps have purely administrative, actuarial and/or financial character, the claimed subject-matter relates to a method of doing business as such and is hence excluded from patentability.

T 641/00 relates to a method carried out in a mobile phone in which a SIM card is allocated to two identities which can be selectively activated by a user in order to distribute costs between private and service calls. The claimed method was considered to lack an inventive step since the distinguishing features were considered to have only financial-administrative functions rather than technical effects.

In T 258/03, a method for identifying a successful bidder for a product offered for sale at a 'Dutch' auction accomplished within a computer network was claimed. The applicant argued that the technical effect resides in overcoming the problem of delays in data communication between bidders and server by adapting an auction method such that it could be performed offline. However, the board concluded that method steps consisting in modifications aimed at circumventing a technical problem rather than solving it by technical means cannot be taken into account for assessing inventive step.

Examples of grants

In T 26/86, it was examined whether an X-ray apparatus incorporating a data processing unit operating in accordance with a software-routine is patentable. The board decided that the software-routine produces a technical effect, ie controls an X-ray tube so that an optimum exposure is combined with adequate protection against overloading the X-ray tube. The invention is therefore patentable irrespective of whether or not the X-ray apparatus without this computer program forms part of the state of the art.

In T 110/90, the invention was for a method of transforming a first editable document form into a second editable document form. The board stated that control items (eg for printers) included in a text and represented in the form of digital data are characteristic of the word-processing system in which they occurred. The control items were characteristic of the technical internal working of that system and therefore represented technical features.

In T 1351/04 an index file containing management information to be used for searching a file was considered a patentable technical means since it determines the way the computer searches information, which is a technical task.

Practical advice for claim drafting

The formal wording of a claim often has a strong influence on its chances of grant. To take the first hurdle, each independent claim should include a clearly technical feature such as a computer, a processor, a data storage device etc.

Moreover, it is recommended that interactions and cooperation between technical features and potentially non-technical features should be emphasized. Thereby, when assessing inventive step, the disregarding of non-technical features can be avoided.

As a rule of thumb, one should verify that, for a drafted claim, a technical problem can be phrased in such a way that it is in fact solved by the claimed invention.

Beyond this, throughout the whole patent application it is advisable to emphasize technical effects and advantages (such as reduced computational burden, increased bandwidth, less required data storage capacity, less power consumption etc) and to avoid mentioning purely economic values of the claimed invention.

Furthermore, it may be advisable to use claim features which do not sound like purely economic features. For instance, ‘user’ may be preferable over ‘customer’, ‘object’ may be preferable over ‘merchandise’ etc.

Practice in Germany, the United Kingdom and the United States

According to German patent practice, the first hurdle is passed if a computer-implemented invention solves a ‘specific technical problem with technical means’ (BGH – Elektronischer Zahlungsverkehr). A problem or means is considered technical when based on employing controllable natural forces in order to achieve a causally predictable result. The requirements for passing the second hurdle in Germany are not very different from those before the EPO. A claim feature will only be considered for assessing inventive step if it contributes directly or indirectly to the technical character of the claimed subject-matter.

In the United Kingdom, a four-stage test is used for determining whether a computer-implemented invention is patentable. After interpreting the

claim, the contribution of the claimed invention to the prior art is identified. It is then checked whether this contribution is related to subject-matter excluded from patentability. Finally, the question of whether this contribution is of a technical nature is answered. A harmonization of UK patent practice with respect to EPO practice is supported by recent decisions (Patent Court in the High Court of Justice, in *Re Astron Clinica* and in *Re Symbian*).

According to traditional US patent practice, everything which is ‘useful, concrete and tangible’ was patentable. This included software which was patentable basically without limitation. However, recent case law applies a stricter test according to which a patentable computer-implemented invention has to be tied to a particular machine or apparatus or has to transform a particular article into a different state or thing (US Court of Appeals for the Federal Circuit, in *Re Bilski*).

Current developments

Although the treatment of computer-implemented inventions seems to be converging within the EPO, there are still fundamental legal questions open. Therefore, the President of the EPO has referred a point of law to the Enlarged Board of Appeal to establish how the EPO should handle computer-implemented inventions (G3/08). In this case, it is expected that the Enlarged Board of Appeal will decide whether the above practice of the EPO is compatible with the EPC.

Conclusions

Many people think that computer-implemented inventions are not patentable within the framework given by the EPC and the practice of the EPO. However, particularly if there is a technical impact on the real world outside the computer and if the invention is not obvious over the prior art, filing a patent application is a promising way to protect software innovations effectively.

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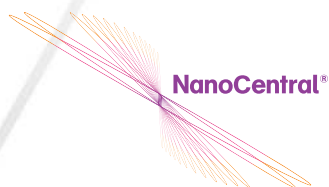
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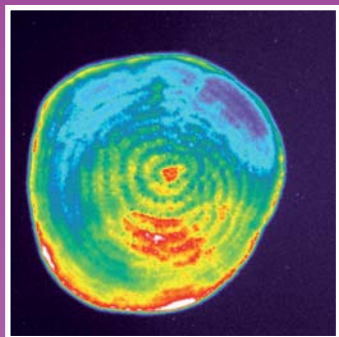
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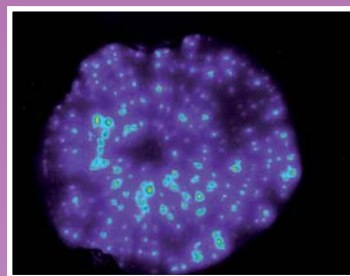


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We represent our clients before the German Patent and Trademark Office, the German Federal Patent Court, the European Patent Office, the Office for Harmonization in the Internal Market, and before the International Bureau of the World Intellectual Property Organization (WIPO).

As regards patent and utility model rights we have specific experience in many areas of biotechnology, and are particularly specialized in the fields of microbiology, molecular genetics, plant and agro-biotechnology. However, we also provide professional consultancy on other technical areas, and assist our clients in the preparation of licence contracts.

Besides the application of trademarks and designs and the prosecution of the respective proceedings we also provide search and watching services for these IP rights.



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Protecting Plants and Related Inventions

Manfred Pohl & Ralf Stüven

Since the development of a new plant or plant variety, either by genetic engineering or traditional breeding, always requires considerable time and effort, the breeder must be able to rely on strong exclusive intellectual property rights to ensure the necessary return on investment. Consequently, new technologies and valuable plants can only be obtained on the basis of effective and enforceable patent protection in combination with breeder's rights.

A short look back at history

Before the entry into force of the European Patent Convention (EPC) in 1973, the situation regarding biotechnology inventions in Europe was very diverse. Finland and France, for example, already provided patent protection for such inventions for quite a long time, whereas in Germany, it was a landmark decision ("Rote Taube", engl. "Red Pigeon") of the German Federal Supreme Court (Bundesgerichtshof) in the late 1960's that paved the way for the patenting of biological material or processes, including plants. Based on the EPC, however, the European Patent Office (EPO) in Munich always granted such patents.

In addition to the European patent a Community plant variety right exists since 1995 providing protection for plant varieties for the 27 member states of the European Union. The Community Plant Variety Office (CPVO) in Angers, France, is responsible for processing applications for Community plant variety protection.

Besides these two European systems, of course, national patent and plant variety rights continue to coexist.

Protectable and non-protectable subject-matter

Plants may be protected via a European patent, a Community or national plant variety right. What is the relationship between the patent and the plant variety right system(s)? Can a patent be obtained for a plant variety? Art. 53(b) EPC excludes plant varieties from patentability. Therefore, claims directed to individual varieties are not allowable. In its decision G 1/98 "Transgenic plant/NOVARTIS II", however, the Enlarged Board of Appeals of the EPO made clear that a patent may be granted for subject-matter not being an individual variety, but embracing plant varieties. A claim may therefore be directed to e.g. a transgenic plant although plant varieties fall within the scope of that claim. Consequently, the general rule is that individual plant varieties can only be protected via plant variety rights, irrespective of the way in which they were produced, be it via traditional breeding or via genetic engineering. In contrast, any subject-matter may be patentable, provided it goes beyond an individual variety, or, in the language of Rule 27(b) EPC, "if the technical feasibility of the invention is not confined to a particular plant variety".

A Community Plant Variety Right (“CPVR”) provides protection for plant varieties throughout the European Union. Once the right is granted, it is valid for a maximum duration of 25 years, or 30 years for vine, trees and potatoes. In comparison, the maximum term of patent protection is 20 years.

There is, however, another exclusion from patentability which is relevant for plant inventions, i.e. the exclusion of “essentially biological processes for the production of plants” (Art. 53(b) EPC). This provision, however, does not apply to microbiological processes or the products thereof. The EPC defines that a process is essentially biological if it “consists entirely of natural phenomena such as crossing or selection” (Rule 26(5)).

Two current cases are dealing with the question of how such non-microbiological plant production processes can be distinguished from non-excluded ones. One of these cases is the so-called “Broccoli” case (EP 1 069 819). Claims of that patent are directed to a method for the production of *Brassica oleracea* with elevated levels of specific glucosinolates. The method comprises different steps. In two of the steps, molecular markers are used to select hybrids. The second case (EP 1 211 926) relates to a method for breeding tomatoes with reduced water content, comprising only steps of crossing and selecting. The method, however, involves an interspecies crossing step.

In the opposition proceedings of both cases, the Boards of Appeal referred questions of law to the Enlarged Board of Appeal (pending under G 2/07 and G 1/08) to decide whether the claimed methods are to be considered essentially biological processes for the production of plants, or not. In this context, it should be noted, that the patentability of product claims relating to a *Brassica* plant or a tomato fruit was not subject of the referrals. It remains to be seen what answer the Enlarged Board of Appeal will find.

How about the protection of plant material, e.g. genes and other components? The EPC provides for the protection of inventions concerning “biological material which is isolated from its natural environment or produced by means of a technical process even if it previously occurred in nature” (R27(a)). Therefore, claims may, for example, be directed to plant genes.

In this context, it should be borne in mind that a European patent confers the same rights as would be conferred by a national patent granted in that State, and that the question of infringement of a European patent is a matter of the respective national law.

Claim categories for plant patents

In summary, the following types of claims are possible in view of plants and related biotechnological matter:

- 1) Product claims for new
 - plants and parts thereof including fruits and seeds, provided the claims do not individually claim plant varieties

- nucleic acid sequences with an indication of a function, e.g. genes, partial sequences of genes, or regulatory elements,
 - amino acid sequences,
 - substances or compositions produced by plants including proteins or plant metabolic compounds;
- 2) Process claims for new
- methods for the production of transgenic plants and plant cells,
 - methods for the production of plant metabolic compounds,
 - methods for the production of plants and plant cells, and breeding methods including but not limited to marker assisted breeding, provided the methods are not essentially biological processes for the production of plants;
- 3) Use claims for new
- uses of known compounds, in particular for
 - i) the production of medicaments or
 - ii) the production of plants.

Final remarks

Both, patents and plant breeder's rights are the essential intellectual property rights for plant biotech and seed companies. The coexistence of these rights is well established in Europe. It is significant for further improvements in plant biotechnology and plant breeding.

One important regulation of the plant breeder's right is the breeder's exception which is reflected in Article 15 (1) (iii) of the UPOV Convention: "The breeder's right shall not extend to acts done for the purpose of breeding other varieties." The objective of the breeder's exception is therefore to give access to plant germplasm. And this objective must be applicable to e.g. German and French patent law, where a comparable regulation has been adopted. On the other hand, the breeder's exception should be restricted to the use of the plant germplasm, and should not be extended to the specific use of patented elements, such as genes or traits.

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Both authors have considerable experience and expertise in IP matters, especially regarding biotechnology.

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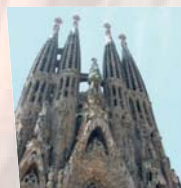
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Brand protection in Europe

Have your commercial 'identity card' ready before entering any markets. Stefano Arena and Gabriele Gislón at Marietti, Gislón e Trupiano explain how to set up your trade marks and your designs.

Consumers and professional buyers will identify your business and select your products by the brand name and the design you have chosen to use. That is why it is important to protect your investments on your distinctive signs, names and graphic devices.

Trade mark rights

Although in most European countries the use of an unregistered mark is protected by intellectual property (IP) laws, it is highly advisable to obtain a registration for the trade name or mark you are using. In case of infringement, it is quite difficult, costly and time consuming to prove your rights on a used (but unregistered) trade mark before a court or an administrative office, especially when the date of beginning of the protection, ie the date of first use of the trade name, is disputed.

Before investing in commercial plans, advertisements and trade mark applications, it is critical to carry out a trade mark search, at least in the countries where you plan to sell, in order to verify the presence of identical and/or similar trade mark, or trade names, directed to products identical or similar to the ones that are the object of your business. In fact, earlier trade mark rights acquired by third parties may prevent you from using yours and cause loss and damages to your business.

Thus, first check that the road is open, then register your marks. There are three ways to obtain a trade mark registration in Europe:

1. filing national trade mark applications;
2. filing a Community trade mark application;
3. filing an international trade mark application.

In all cases, the protection lasts 10 years from the date of filing. After 10 years the registration can be renewed for another 10 years, with the possibility of further renewals every 10 years: there is no limit to the possible length for life of a trade mark.

National marks

The applications for registering national trade marks are filed before the national patent and trade mark offices of the countries of interest. Once filed, the applications are examined and, if no objections arise, they are accepted and registered.

Although the national European trade mark legislations have been harmonized and are very similar, each national IP office follows its own procedure. Local offices first examine the trade mark application in view of absolute grounds of refusal, and there also is the possibility of office refusals based on third parties' prior rights; in some countries, oppositions filed by third parties could also result in the loss of your trade mark. It is thus possible that the same trade mark has different outcomes in different countries.

If you are interested in only one or a few countries, the national procedure may be the easiest and quickest solution, although it may not be the cheapest, especially in the case of multiple countries, owing to the cost of the single procedures. In most cases, a local trade mark attorney is appointed to deal with the local procedure and hence professional fees are involved and add to the overall cost.

Community trade marks (CTM)

The Community trade mark is a single IP right which is valid in all the countries of the European Union. This supranational right is obtained through a single procedure to be held in front of the Office for the Harmonization of the Internal Market (OHIM) in Alicante, Spain.

The application is examined by the Office and, if accepted, is published for possible oppositions by third parties. At the end of the procedure, the trade mark is registered and it becomes valid and enforceable in the 27 countries of the European Union.

Compared to the number of countries involved, the cost for obtaining a Community trade mark is very moderate; even if initially there is a commercial interest only for three or four EU countries, it is generally worth filing a CTM application.

On the other hand, the CTM being a single trade mark, it has the drawback that an obstacle to the registration rising from a single national prior mark could jeopardize the protection for the entire mark and for the whole European Union territory. Moreover, a CTM is not valid for the whole of Europe: Switzerland, Norway and most of the Balkan region are excluded from CTM applications protection because these countries are not in the EU.

International registrations

If you plan to use your trade mark both in Europe and outside Europe, the best solution is to file an international trade mark application with the World Intellectual Property Organization (WIPO) in Geneva, Switzerland. With an international application you can designate tens of single countries, and also the European Union, through a single procedure. Depending on the number of designated countries, the cost can be much lower than the cost of the corresponding national applications.

Once the trade mark is accepted and registered by the international office, the relative documentation is forwarded to the national IP offices of the designated countries. The result is a single international registration which contains several different national trade marks, each of them subject to the local laws and procedures. This means that, differently from the CTM, if your trade mark is refused or opposed in one country, this negative result does not affect the whole registration or the trade mark in the other countries.

To file with the WIPO the applicant has to be domiciled or have a commercial establishment in one of the countries belonging to the international registration system (the so-called Madrid System); moreover, the application has to be based on a national trade mark, previously filed or registered in that country.

An interesting aspect of the international registration is that it is possible to designate, for the same trade mark, one or more countries even several years after the initial application and registration date. This is a substantial advantage: the owner of an international registration can protect their trade mark in new countries by a single extension procedure of the international registration for all the territories of interest instead of filing a corresponding number of national applications.

Model/design rights

The above discussion applies to model and design rights, where the three routes – national/European Community/international registration – are open for the protection of shapes, external aspects (ie three-dimensional model) and graphic devices (ie bi-dimensional design) of goods.

If your business is linked to investments on design aspects or graphic studies, it is worthwhile, and also strongly advisable, to proceed with a registration of the design or models in order to obtain legal protection on the aesthetic aspects of your goods from a sure date. Again, just as for trade marks, a registration will be of great help in case of infringements and for defending your business in front of national courts or administrative offices.

However, unlike trade marks, you have a time limit for filing your model/design application: this has to be filed within one year from the date when the product you want to protect was made available to the public, ie was sold, advertised, exhibited or shown to the public for the first time.

Conclusion

In order to choose a trade mark/model registration strategy in Europe, it is important to evaluate the actual and potential commercial interests in specific countries. Once you have identified the countries of interest, it is possible to conduct a comparison of costs and decide the best approach to protect your commercial 'identity card'.

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10.2

Trade mark challenges

Could you be told to cease and desist using your brand? Could any of your trade mark registrations be opposed? Are other brand owners being over-zealous towards you? Moa Askengren and Peter Hedberg at Brann look at how to manage challenges to the growth of your brand.

New developing markets such as China and India with their high productivity and great licensing potential, and more integrated marketplaces such as the internet, a trade mark holder has never before had more lucrative opportunities to build a world-famous trade mark. The internet has created a new global marketplace, giving everyone the possibility to survey the developments of others and the rapid changes in both the individual markets and the broader industry. However, these unlimited opportunities also place a greater demand on the owner of a trade mark to safeguard their rights if they want to stay in the market or to capitalize from the licensing of a valuable mark. Nowadays, not only your usual competitors are watching what you do, but also domain name squatters, the producers of counterfeit goods and any company serious about safeguarding its own rights against potential infringers. Has your company received a 'cease and desist' letter or has your trade mark registration been opposed by, in your point of view, an over-zealous trade mark owner? If so, then we hope that this short chapter will be of practical use.

Building a strong trade mark

A strong trade mark can be an old distinctive mark that has survived years of competition owing to its unique compilation. A strong trade mark could also be a

less distinctive mark that is familiar to a large number of consumers and thus has become well known and gained a strong position in the market. However, a strong trade mark can also be a new trade mark, aggressively marketed and attracting attention in the market. Furthermore, it is important to remember that a truly strong trade mark is not only a good mark from a marketing perspective but it also has to be a well-protected trade mark. This means there is an obvious risk that anyone interested in obtaining or keeping a strong trade mark will be forced to act against third parties' unauthorized use of identical or confusingly similar trade marks. The efforts of large companies to safeguard every aspect of their investment may also result in actions against both characteristics and attributes of a trade mark that, at first glance, do not qualify as being identical or confusingly similar to the subject trade mark.

In such situations, it is worth adopting a clear trade mark registration and enforcement strategy instead of conducting any ad hoc actions. Both money and time can be saved by using the different kinds of co-registration options that are available today. Apart from a *national registration* covering one specific country, it is also possible to apply for a *community trade mark registration* (a so-called CTM) covering the whole of the European Union in one application. It is also possible to apply for trade mark registrations via two international agreements (the Madrid Agreement and the Madrid Protocol) administrated by the World Intellectual Property Organization (WIPO) in Geneva. These allow several countries to be designated in one application, greatly simplifying the administrative process. This type of registration covering different countries in one application is called *international trade mark registration*. A simple example will further illustrate the benefits of the different registration systems available. A small national Spanish company that is active within Spain might not gain from protecting the trade mark in the whole of the European Union; on the other hand, a German company working within more than three countries of the European Union will save money by using the community trade mark instead of applying for national trade marks in three separate countries. As a final example, a Danish company that is active in Spain, Canada and China will most likely gain the most value from an international application designating these three countries.

The decision to register a trade mark is often preceded by budget decisions, extensive work with creating and clearing the trade mark, and with developing and adopting a business plan. When registering a trade mark, a company must be ready to defend that right, both against third parties infringing that right and against infringement claims or oppositions against the use or registration of the trade mark in question. In this respect, the ultimate plan should also cover expenses for safeguarding the trade mark after registration and enforcing those rights. As these costs are almost impossible to predict, there should at least be an understanding from management that there will not only be costs for obtaining the trade marks, but also a cost for maintaining and defending them.



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How to respond if your trade mark is challenged

Your trade mark may be challenged both in connection with the registration process and in connection with the use of the mark. Prior right owners of confusingly similar marks may oppose your registration within a time period of usually two or three months from the publication of the application. An opposition process is a written process focusing on the formal, administrative, part of your trade mark, such as the wording of the list of goods and services. As a result of this, the *de facto* use of your trade mark is not considered when conducting a confusion test. An opposition is handled by the national patent office or the OHIM (the Office for Harmonization in the Internal Market, Trade Marks and Designs) if the application is an application for a community trade mark.

Your trade mark may also be challenged in an infringement case, where you are deemed to infringe a prior right through the use of your mark. An infringement case in a court of law will, as opposed to the opposition proceeding, focus on the *de facto* use of your trade mark. In this respect, it is important to know that your trade mark may infringe a third party's right independently of whether it is registered or not – it is the actual use, the sale and the marketing of your trade mark that may cause infringement. The arrival of a cease and desist letter, stating that the use of your trade mark is infringing a prior right, is normally the beginning of this type of case. The cease and desist letter normally includes a threat to sue you in a court of law if your use of the mark does not cease immediately. A cease and desist letter should be taken seriously and should normally be replied to within a short period of time – both to avoid being sued in a court of law and to increase the possibility of reaching an amicable solution out of court.

Both the opposition and the alleged infringement situation must be given the most serious attention if you are interested in keeping your trade mark and going ahead with planned further marketing positions. A review with your lawyer of the actual risks and possible ways to respond is recommended. Bear in mind that every situation is unique and must be treated as such, although the following may be suitable starting points for any discussion with your lawyer:

- Does the cease and desist letter/opposition represent a real threat, or do you have a stronger right to the trade mark? Within Europe, the rule of 'first to file' applies, while in other parts of the world – eg the United States – the rule of 'first in use' is applicable. If you own further trade marks or company names consisting of the dominant part of your contested trade mark, then you might have a better right to the name even if your subject registration is younger than the third party's rights. Be sure to conduct a thorough review of previous rights to exhaust all possibilities.
- Is your contested trade mark at all confusingly similar to the opponent's trade mark? The scope of protection is essential in this respect. When conducting a confusion test between two trade marks, one needs to examine both the marks as such (phonetically and visually) and the goods and/or services covered by them, as well as the geographical coverage of the trade marks and whether the

allegedly infringed trade mark is genuinely being used. The sole right to a trade mark is only given in connection to the goods and/or services specified in the application. Goods and services not identical or confusingly similar to each other may therefore coexist on the same market under the same name (eg, 'Lotus' for cars, software and shoes among other things). The geographic scope of protection is very specific, eg the whole of the European Union for a community trade mark registration, but only in Sweden for a national Swedish registration. If you are active in different geographical markets, then the right conferred by a trade mark gives no right to prevent the use and registration of an identical trade mark covering the same goods and/or services in other countries outside those to which the trade mark is limited. Furthermore, a trade mark registration has to be in genuine use in order to confer rights against third parties. The determination of whether a trade mark is in genuine use becomes a question of evidence; in the case of a counter claim in an infringement proceeding that the mark be revoked due to non-use, this genuine use has to be shown by the holder of the subject mark.

- If the third party has a *de facto* better right to the mark, one cannot rule out the possibility of resolving the situation out of court or without engaging the opposition division. The majority of cases are solved through negotiations with the opponent shortly after the initial cease and desist letter is received, or directly after the filing of an opposition claim. If coexisting is an option, this should be stated in a coexistence agreement. In this respect, it might be in the parties' best interests to divide the market. However, as regards the European Union, this must be considered thoroughly with reference to both competition laws and the existence of the community trade mark registration. In splitting the European market, neither party will be able to apply for a community trade mark registration covering the whole of the European Union.
- Can an adjustment of the mark or the goods and/or services covered solve the situation? This option is naturally not the first choice, although an adjustment may solve the situation out of court and save further time and money. It may be that the registration covers goods that have never been of real interest from a commercial point of view and therefore can be painlessly deleted. When deleting goods and/or services, this should be reflected in the market plan, to ensure that the goods in question will be removed from the market. If deleting goods and/or services in a registration, it is important to remember that it is not possible, at a later stage, to reintroduce the deleted goods to the registration if, for example, the opponent has stopped using its mark. The same rule applies to adjustments to a registered mark. However, at that later time it would be possible to file a new application for the trade mark containing the previously deleted goods and services or the original shape of the mark. If any adjustment is to be made to the registration, this can be stated in a coexistence agreement to avoid future disputes.
- Do you have any of your own intellectual property rights that come into play, and can you use these intellectual property rights to gain some leverage in a negotiation?

- Assess the situation at the right level within your company. Intellectual property issues have to be assessed in light of your business plan and thus senior management has to be involved and take responsibility for company decisions.

Look before you leap

Naturally, the best option is never to receive a cease and desist letter or an opposition against your trade mark. One cost-efficient way of minimizing the risk of receiving unpleasant and unnecessary letters or oppositions against your mark is to review the market thoroughly before the introduction of any new trade mark. A search, which will screen previous rights, could be a bargain when compared to the cost of an opposition or an infringement proceeding. One easy move, that could and should be used more often, is initially to screen the internet yourself – both via search engines such as Google and by using specific trade mark databases such as the OHIM's online tool, 'CTM online', where it is possible to search for CTM registrations and applications, and on WIPO's equivalent database, called 'Romarin', where trade mark applications and registered international trade marks can be found. If no hits are found in this initial screening process, then your mark qualifies for a full-scale availability search conducted by a patent bureau or a boutique law firm specialized in intellectual property matters. When searching for previous rights, your representative should include company names and surnames in those countries where such rights may hinder a later trade mark application. By conducting a search, you will also become familiar with your potential opponents. If this initial action is taken, then you will have significantly reduced the risk of unpleasant litigation in the future.

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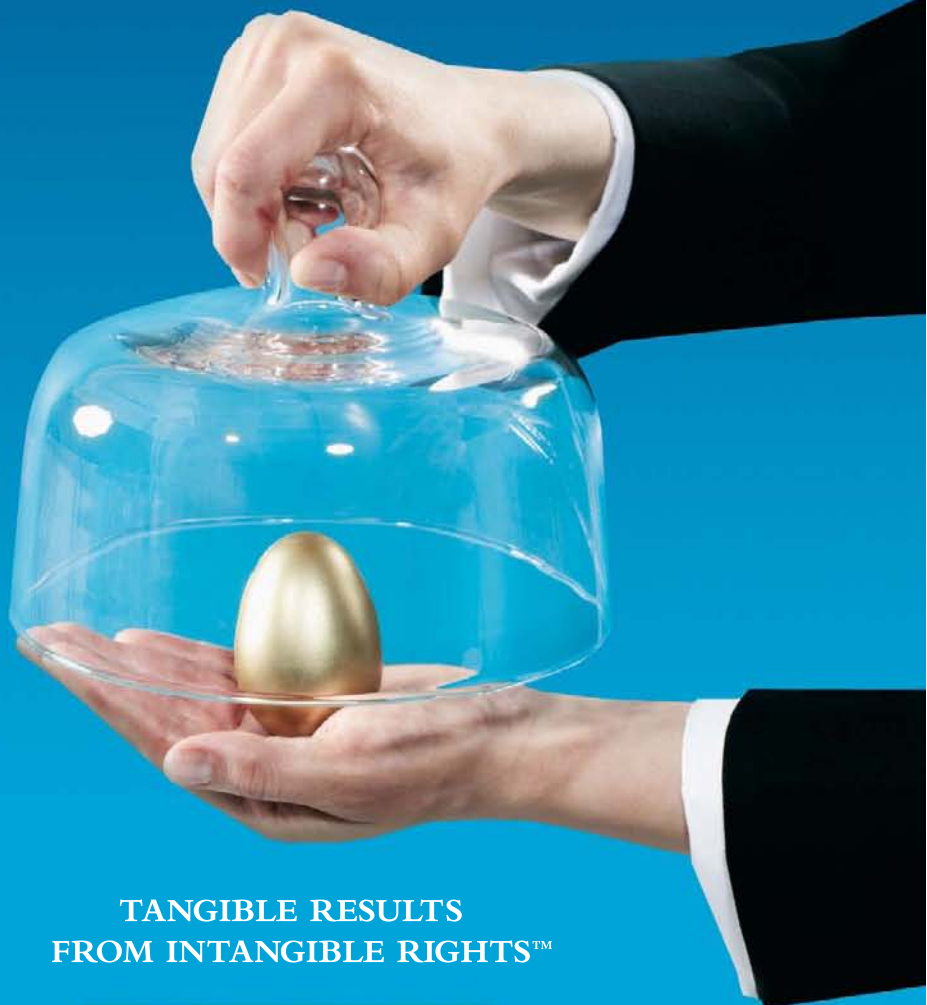
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Action against copying

Your new product is just entering the market and the advertising has begun in full force. Success awaits. So get ready to fight the copycats, says Ari-Pekka Launne, LL.M., attorney-at-law, Kolster Oy Ab.

Human beings learn new things by copying others. Perhaps this feature never really disappears and that is good. We pass on skills and knowledge for those to come. But in respect of intellectual property (IP) rights copying is not only an existing practice, it is a threat for rights holders and a challenge for the legal system. Almost everything can and will be copied, and even more so if we are discussing bestselling products.

Copying is an existing fact, and is the result of another feature common to human beings: laziness. It is, of course, much easier to copy somebody's work than to create something new. Luxury items may be copied because of great expectations of profit, but more often you'll find copies of common items used in everyday life.

Where is the threat for rights holders? In short, it lies in ruining the reputation and goodwill of brands, as copycats do not bother to consider the quality or safety of their products. The materials used may be whatever is available, and there is no liability towards consumers. It is usual that the brand owner gets the blame – after all, it's their mark and they can be identified, whereas the copycats disappear the moment they have sold you their product. In the illegal business of counterfeits there are no such concepts as guarantee or product liability.

How about the challenge for the legal system, then? In most cases the significance of the crime is quite small if we consider only the economic value of one item copied. The plaintiff is usually not willing to sue the copycat for fraud if the interest is just a few euros. It may also be hard to collect damages or compensation for legal fees, even if the copycat is caught. This results in copying being a low-risk business, as long

as the factory is not found. How can we provide the rights holders with the protection they deserve and seek?

Luckily the overall picture is not too bad after all. While the importance of IP has been growing, so also the means to enforce these rights have developed greatly during recent years. Naturally, it is up to the rights holder to take action, and this calls for better understanding of what can be done and when it needs to be done. And remember that best practices can be copied as well.

In any field of life, actions can be divided into three phases: planning, doing and supervising. This applies for protecting your IP assets and producing tangible results from your rights. The following can be put to use in any field of endeavour, and applies universally.

Plan carefully

It is often that case that the first and perhaps the most important phase of IP protection is completely neglected, mainly because it seems expensive and the payback arrives later, if at all. However, the value of work well done in this phase actually gives the best results in respect of money spent and time consumed enforcing the rights.

A perfect strategy for protecting IP assets takes into account the actual needs of the rights holder, the economic realities and the resources available. It brings together the known facts of the field of business one is acting on and available means to accomplish what one plans to do. While it is undeniable that one needs to make choices, these choices must be based on correct information.

The following steps are necessary in planning your IP strategy. First, become familiar with the field you are playing on. Where do you manufacture your goods, advertise them and sell them? How about your competitors? The answers to these questions define the geographical scope of protection you may need.

Then investigate the means available for protecting your rights. Do you plan to be an active or passive player? How much money can you budget for these matters? Be sure to understand that a well-grounded fortress of IP rights is less expensive to build if the work can be done step by step in good time, and that protecting this fortress is less expensive than costs that may occur when no attention has been paid to protection at all.

Finally, decide what will trigger action against a copycat, when you find one. You can and should make a general plan of action that you will put into effect in these cases. Some tactical issues may also be considered at this time, although the chosen tactic for acting against an actual opponent always depends on the case at hand.

Having answered these seemingly simple questions you are already well on your way to formulating your company's IP policy. Putting it in writing is the final step. Of course, as the world around you changes, you need to adjust your strategy every now and then, preferably regularly. But once you have made the effort to create the strategy, any adjustment is easier to do.

The money-saving tip in this respect is clear. When the strategy and tactics have been established, making decisions on protecting and enforcing IP rights is more cost efficient in the future.

Secure your rights

The plans you made in the previous phase have given you the framework for securing your rights and you are ready to take this next step. The overall plan defines where and by what means you will make sure the copycat faces problems if they try to make money by copying your products.

My advice here is simple and straightforward: when possible, register your rights. If registration is not possible, document your use of a trade mark, design or domain name. Save material showing the use, and both the geographical scope and the time span of use. In this way you lay the groundwork for enforcing your rights. With well-organized material this is easier and thus cheaper than if collecting material begins only when you need it.

Enforce your rights

Now that you have planned your strategy and secured your rights you may feel that the mission is accomplished. Unfortunately, it is up to you to supervise the market and enforce your rights. Failing to do this may ultimately lead to loss of both the rights and the money spent on them. To avoid this you need to be alert all the time.

Watch the registers and react when someone is trying to register something that may limit the scope of your protection. While copycats are unlikely to try to register marks similar to yours, you may find yourself in a position where the actions of third parties have limited your possibilities of taking action. Here, the main issue is maintaining the strongest protection available.

Monitor also the actions of your competitors, business partners and customers. Running public awareness campaigns may lead to good results, as well as cooperation with authorities such as the customs authorities or the police.

React immediately when copies are found. When you first enforce your rights you may find it hard work without much effect, but be consistent. Many rights holders have confirmed that reacting even to small amounts of counterfeit goods has affected the overall attitude of the copycats. Remember that those people are lazy by nature. Since it makes no difference to them whose products they copy, they soon move on to those marks or products that are not so well protected as yours.

Finally, try to take action against the source of the copies, not just the retailers.

By reacting to infringements you let the copycats know that it's not worth while copying your products. In time your reputation in this respect works on your behalf.

Conclusion

Although almost everything can and will be copied, rights holders may fight this problem effectively by planning their IP strategy carefully, securing their rights by registration and enforcing those rights against copycats. This calls for consistent work but it pays off in helping to maintain the high value of the brand.

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Use of trade marks by third parties

Lucas M David, attorney-at-law at Walder Wyss in Zurich, discusses how exceptions to the exclusivity of trade marks can occur.

Trade marks are supposed to be used by their holders or their authorized agents. The laws usually allow some exceptions to the trade mark monopoly. Since trade marks are meant to identify goods or services in commerce, any use outside of a trading context is generally not apt to infringe. Therefore it is widely accepted to use trade marks in dictionaries and other reference works. Somewhat less common is the right to continue the use of an unregistered sign after somebody else has registered the same sign in good faith as a trade mark. In Switzerland, such rights to continue to use an unregistered sign is restricted to goods and services offered at the moment of registration of the younger trade mark; the right to continue the use cannot be licensed and can be transferred only together with the business to which it belongs.

Trade mark use by resellers of branded goods

It is well established that the buyer of a branded good is allowed to resell it. However, are they also allowed to use this brand in publicity materials, and if so, under what conditions? Usually, you cannot sell or resell a branded product without publishing your intent to sell. To specify your offer in publicity materials, you have to use the trade marks of the products to be sold. But the trade mark holder may have good reasons to stop the dealer from promoting their products: maybe they have bought

them in an unofficial market, or are not using the trade marks in accordance with the corporate identity of the trade mark holder. Therefore, some authors are of the opinion that resellers should only be allowed to use the word marks of the producer, but not their logos and scripts. This would enable consumers to identify the dealer as being an agreed distributor or not.

Swiss courts did not follow this discussion and stated that third-party trade marks may be used for the promotion of branded goods as long as it is made clear that the dealer is not the manufacturer of the goods and has no contractual relations with them. The European courts follow the same line. Consequently, it was held that a non-authorized dealer could not be stopped from using the original BMW logo. This would mean that BMW has to make its corporate identity manual available to every non-authorized dealer so that they can reproduce the BMW logo as well as possible.

Use by consumers

Even consumers might endanger trade marks, eg by importing counterfeits of branded goods from abroad. Such imports have increased in recent years as holidays in the Far East have become more and more popular. Swiss legislation was therefore compelled to introduce a new clause in the Trade Mark Act forbidding the import, export and transit of counterfeited branded goods by individuals for personal use unless approved by the trade mark holder.

Use of proper name and address

One might be inclined to assume that it must be allowed to use one's proper name and address in commerce even as a trade mark or as a trade name. This assumption is wrong. The proper name can be used as a trade mark only if there is no older trade mark confusingly similar to the proper name. If its bearer wants to use their personal name in commerce, they must do as much as possible to avoid any possible confusion. This was the experience of Paolo Gucci who, in 1978, left the famous Florentine company Guccio Gucci S.P.A. and tried to design his own objects. This resulted in an avalanche of litigation all over the world which meant that he was not allowed to use his family name Gucci either as a trade mark or as a trade name. The same thing happened to Michel Bugatti, a sibling of Ettore Bugatti. He was forced to alter the trade name of his company Michel Bugatti S.A. and to cancel his Ettore Bugatti trade marks.

The name of the domicile also has to yield to older rights if there is any danger of confusion. In Switzerland, there is a small vineyard village called Champagne which had to learn that its name could not stand up against the French 'Champagne'. Winegrowers are now forbidden to use the name of their village on their wine labels because their wine could be mistaken for real champagne.

A good overview requires distance



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Generic terms

Some people think that if they create a trade mark which is very close to a generic expression, for instance by misspelling it or slightly modifying it, they can stop others using the generic term or at least force them to use it in a way that is not prominent in their business.

Both the Paris Convention and the TRIPS Agreement declare that generic terms cannot be monopolized. Nevertheless, in Switzerland the holder of the trade mark CLIX tried to get an injunction against a competitor using the word CLIP in a prominent way. The action was dismissed with the argument that if somebody creates a so-called weak trade mark, ie a trade mark very close to a generic term, they may do so, but they have to accept a very narrow scope of protection, practically reduced to an identical copy. Today, other courts would most probably decide the same way.

Indications of destination

Manufacturers of replacement parts are bound to indicate for which product the part is designed. The mere use of a technical description does not usually help.

The right to make clear the destination of a product does not mean that manufacturers of replacement parts can freely use the trade marks of the products for which the parts are designed. The use of a third-party trade mark is allowed only if it establishes better market transparency. Usually, manufacturers of replacement items are obliged to inform buyers as follows: ‘Suitable for or compatible with brand X, made by Z’.

Sometimes, manufacturers like to mention that their product is better than the brands of their well-known competitors. Even if comparative advertising is in general licit in Switzerland, such announcements are usually considered to be illegal because they are seeking to profit from someone else’s reputation. This applies particularly to a newcomer comparing the quality or price of their new product with the one of a well-established competitor. Nobody is allowed to make reference to a third-party brand to boost the turnover of their own products. The situation is different if such a comparison is made not by a competitor, but by a consumer organization, testing institute or similar institution.

Repacking

In contrast to the European Union, Switzerland is poor at court decisions dealing with repacking and re-branding. In the European Union, there are many cases of imported drugs which had to be portioned according to the customs and practices of the country of importation. In general, repacking and re-branding are allowed under the following three conditions:

- (i) The importer has to inform the manufacturer about their intent to repack the drugs and has to give the manufacturer, on demand, specimens of the new packages.
- (ii) The importer has to state clearly who is the manufacturer of the drug is and who has repacked it.
- (iii) Neither the reputation of the trade mark nor the quality of the drugs may be affected adversely.

It is not certain that Swiss courts would apply similar standards.

Vending machines are sometimes filled with perfumes to be sprayed on the hands of the user after they have inserted a coin. Of course, the user wants to know what perfume they will get. However, in Switzerland the proprietor of vending machines was stopped from indicating the various perfume brands with the argument that the perfumes would be stored in tin containers for months, so they were likely to deteriorate considerably.

Processing

If goods are processed by a third party, the dealer usually wants to indicate the origin of the processed goods. This is acceptable as long as buyers understand that producer and processor are not the same person. Therefore, the manufacturer of sleeping bags may indicate the brand of the padding, since it very much affects the quality of the bag.

However, the person processing the goods of another person is not allowed to use only the latter's trade marks. So, a tailor making ties out of the silk from another manufacturer was prohibited from selling his ties under the trade mark of the raw silk. Also, the buyer of a drug in powder form was not allowed to press it into tablets and sell them under the same brand as the powder.

Index-based financial instruments

All big stock exchanges publish market indices which are usually protected by trade marks. Now, if a trader wants to sell financial instruments whose price or yield is calculated in relation to the index, are they allowed to use the trade mark of the index? The question has not yet been answered by Swiss courts. Since traders of such financial instruments usually pay a licence fee to the stock exchange, it seems that they accept that they need its consent. In Germany, a court ruled that the use of the brand DAX was necessary to show the working of the instrument and could therefore be used without consent or licence of the stock exchange.

Use as a meta-tag, keyword or ad word

The use of third-party trade marks as meta-tags on a homepage is not intended for its readers but for search engine crawlers. But even then, they can violate these marks.

Stuffing one's homepage with the words of alien trade marks is meant to mislead search tools and constitutes a typical act of infringement.

The use of keywords or ad words has to be assessed differently. They are not misleading, but only prompt the pop-up of a context-sensitive advertisement. As long as the publicity is clearly marked as such, it does not abuse the third-party trade mark or endanger its reputation.

Ornamental use

A trade mark is created to distinguish goods or services from others of the same kind. Consumers usually recognize a trade mark by the way it is affixed to the packaging or by the way it accompanies the services supplied. Trade marks can achieve their function only if used in a distinctive way. This does not mean that trade marks should not be seen on garments or jewellery, since it is not unusual that a trade mark has the qualities of a superb design or even a piece of art. Such an ornamental use is not in conflict with the primary distinctive character of a mark. But sometimes it becomes obvious that a trade mark affixed to a good is not considered as proof of origin, but only as a means to beautify an object. This is the case if not only one but several trade marks of different owners are affixed, which shows that the various trade marks do not guarantee a certain origin, but only a fashionable look or illustration. This opinion is shared by a Swiss court which thought that the use of the logo of the Swiss national railway was not violated by the use of the picture of a railway engine bearing this logo on the dial of a wristwatch.

Use on toys

Car manufacturers used to complain that toy cars showed their trade marks. This cannot be prohibited as long as it is clear that the toy does not originate from the car manufacturer. The situation might be different if the trade mark of the original manufacturer is protected by copyright, since nobody is allowed to use third parties' artworks.

Conclusions

It is not the case that any unauthorized use of a trade mark is a trade mark violation. There are many circumstances which might justify the use of a third-party trade mark. In such cases, the trade mark owner should take into consideration whether it is worth going to court. A lost court case will open the door to imitators and make things worse. Often it is better to talk to the user and settle the case. Sometimes, the user is willing to pay a licence fee in order to be allowed to continue their use. In other cases they might get a free licence in return for a

promise to obey certain conditions of use, such as colour, script, size of the trade mark to be affixed, place and time of use etc.

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Organization of intellectual asset management

How well do you capture and use the knowledge that is critical to your business, asks Marian Driessen at DSM Food Specialties in the Netherlands.

Discovery is seeing what everyone else has seen and thinking what no one else has thought. (*Albert Szent-Gyorgi*)

The discovery of a new dish does more for human happiness than the discovery of a star. *Physiologie du Goût* (1825)

People have made inventions throughout history, and have always tried to make money with their inventions, thereby turning inventions into innovation. Via patents the inventions are disclosed to the public in return for protection of the inventions for the inventors.

Innovation can be defined in various ways, from narrow definitions such as ‘something newly introduced’ to broader definitions such as ‘the technical design, manufacturing, management and commercial activities involved in the marketing of a new (or improved) product, or the first commercial use of a new (or improved) process or equipment’ (Chris Freeman (1982) *The Economics of Industrial Innovation* (2nd edn), Frances Pinter, London).

Companies use innovation to create competitive advantage and the very short definition preferred by the UK government is the most simple, and useful:

Innovation is the successful exploitation of new ideas.

Nowadays, innovation is becoming more and more important for many companies; innovation is even key for companies which develop, produce and sell speciality products, like DSM. Consequently inventions, being the basis of innovation, are essential, and are often referred to as intellectual assets.

Intellectual assets (IA) can be divided into two categories. First you will have the IP rights protecting your innovations and your brands, patents, trade marks, design rights, copyrights and domains. Then you will have other sources, which may not be registered, but can be clearly identified. Examples include technical information, contracts, trade search and know-how.

Several methods of safeguarding intellectual assets are available. Which method is chosen depends on the strategy and expected benefits:

- Should there be restricted access to certain assets?
- Would there be a greater benefit in keeping a process secret rather than patenting and therefore publishing it?
- Do you have contracts of employment in place to restrict employees from divulging confidential information or working for competitors?

When successfully safeguarded, commercial exploitation of intellectual assets can take many forms. The most usual form is, of course, via commercialization of the products linked to the intellectual assets. The assets themselves can also be traded to yield revenues, eg via assignment; licensing; or packaged as part of the core service a customer receives.

It is important to document and manage an organization's intellectual assets.

Many companies face the so-called patenting paradox: patenting has steadily increased in line with the increase in innovation and the need to protect inventions. At the same, the ability of companies to create value from their intellectual assets remains rather limited (Arnaud Gasnier (2008) *The Patenting Paradox*, Eburon Academic Publishers, Delft).

At DSM, intellectual asset management is embedded in the company's business processes on a case-by-case basis, depending on the development of the intellectual assets portfolio of a business unit. In this way, an intellectual assets strategy can be created and implemented effectively.

Julie Davis and Suzanne Harrison defined the five levels of intellectual property (IP) integration in business (Figure 11.1.1) in their book *Edison in the Board Room* (Wiley, New York (2001)). In addition to their model, Michael Gollin added a level 0, defined as 'having no IP strategy at all' (Michael Gollin (2008), *Driving Innovation*, Cambridge University Press, New York): at level 0, companies file IP on an ad hoc basis, without any strategic thinking. These companies will miss opportunities to build their intellectual assets portfolio, and, even more critically, will miss opportunities to create value from the intellectual assets they do have, as they do not detect or act upon infringement.



Figure 11.1.1 The value hierarchy of intellectual asset management to extract value and to increase revenues covers six levels

A defensive strategy, level 1, aims to protect the company's core business, and is the minimum level for innovative companies. Inventions are patent protected and patent rights are enforced.

At level 2, companies strive to control the costs involved in the protection of their intellectual assets. They act defensively via patenting their inventions and enforcing their rights, while at the same time realizing that protecting intellectual assets is expensive. These companies strive to balance the costs and benefits of protection of their inventions.

IP as a profit centre is defined as level 3. Companies at level 3 typically try to extract value from their IP as quickly and as inexpensively as possible. Furthermore, they focus on non-core IP as well, as a means to create value.

Level 4 companies typically are able to extract value from their IP. IP awareness is integrated throughout all business functions, and they have found sophisticated ways to manage IP as an integral part of doing business

Visionary IP management at level 5 means that a company develops a strategic view of the future, which is influenced by or based upon developments in IP. These companies typically encourage disruptive technologies, which change the way business is done. Furthermore, they have intellectual asset management embedded in the company's culture. IP may even be regarded as their end product or profit generator.

An organization at the lowest level is lacking any intellectual asset management competency at all, while at level 5, an organization is using trends in intellectual assets to shape the company's business strategy, thereby potentially creating new rules of the game.

Level 5 may either not fit a company's business model or simply be too ambitious a level to achieve. Well-run companies will be able to achieve and maintain level 4 of IP management and integrate IP management across the entire organization. Still, the majority of companies will be at level 1, 2 or 3 at most.

For DSM with its many business units, the level differs per unit. Most units are at levels 2–4, and all are striving to increase their level of IP management.

How to manage intellectual assets strategically

It is clear that the intellectual assets of any organization need to be managed. Via an intellectual asset strategy, set up to support the key business success factors, value creation can be optimized. When the level of integration of the intellectual assets increases, it is possible that the business strategy is influenced and even steered by the intellectual asset position of a business.

Effective IA management involves capturing critical knowledge and retaining this for the future, whether for internal use or for trading to other organizations.

How can intellectual asset management be integrated in the business process and managed as such? For successful intellectual asset management, four aspects are crucial:

- business strategy leading the way;
- well-managed (open) innovation process;
- innovative culture;
- intellectual asset management integrated in the business process.

This chapter deals only with the fourth aspect, integration of intellectual asset management in the business process.

Intellectual asset management integrated in the business process

Practice has taught that in order to benefit fully from intellectual assets, the combined knowledge of a number of disciplines is needed. These disciplines are depicted in the figure below. Intellectual assets play an important role in acquisitions, collaborations, creation of a business IP strategy and the implementation thereof, licensing in and out etc. Obviously, overseeing the interfaces between business, R&D, legal, IP and licensing experts is key to fully exploiting the benefits from intellectual assets, ie getting a good commercial position. Experts who are able to talk and understand the language of marketing and sales people, attorneys and scientists are becoming more and more valuable and key to multinational companies. These experts are being referred to as IAMs.

As depicted in Figure 11.2, an intellectual asset manager needs to manage the interfaces with the relevant disciplines. As a consequence, an intellectual asset manager will

never work alone, but rather like a spider in the web, interfacing with a variety of disciplines, involving and committing each to reach the optimal result for the business.

Of course, each of these disciplines in itself will need to collaborate with all the other parts in the organization, thereby creating multiple networks within networks (Figure 11.1.3).

However, experience shows that this will often not happen spontaneously and the intellectual assets manager will be the one who needs to get all the relevant people around the table. He speaks the language and understands the issues of each individual discipline, their interrelationships and interdependencies. Being able to oversee the relevant aspects of the disciplines involved, an intellectual assets manager can strategically and practically steer the intellectual assets portfolio.

This means that the intellectual assets manager will often be involved in managing the patent portfolio, in enforcement of intellectual assets, as a partner in both in- and out-licensing, as well as being responsible for setting up joint developments, joint ventures, private–public partnerships and due diligence in the event of acquisitions.

In order to fulfil all the aspects mentioned above, at DSM, the overall responsibilities of an intellectual assets manager are defined as:

- creates vision on IA aspects of business strategy which serves current and future business needs;
- contributes to the IA strategy based on expert input and in consultation with business management;
- implements and controls actions resulting from IA strategy.

An intellectual assets manager needs to be able to ‘speak the language’ of IP, legal, business and technology, and has to be able to think both strategically and in a practical way about all business aspects that involve IP.

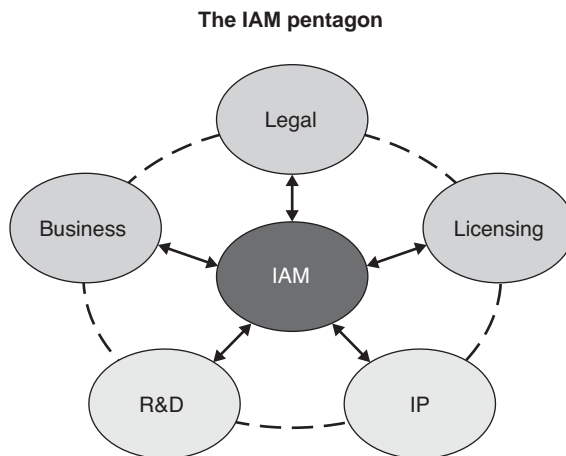


Figure 11.1.2 The IAM pentagon

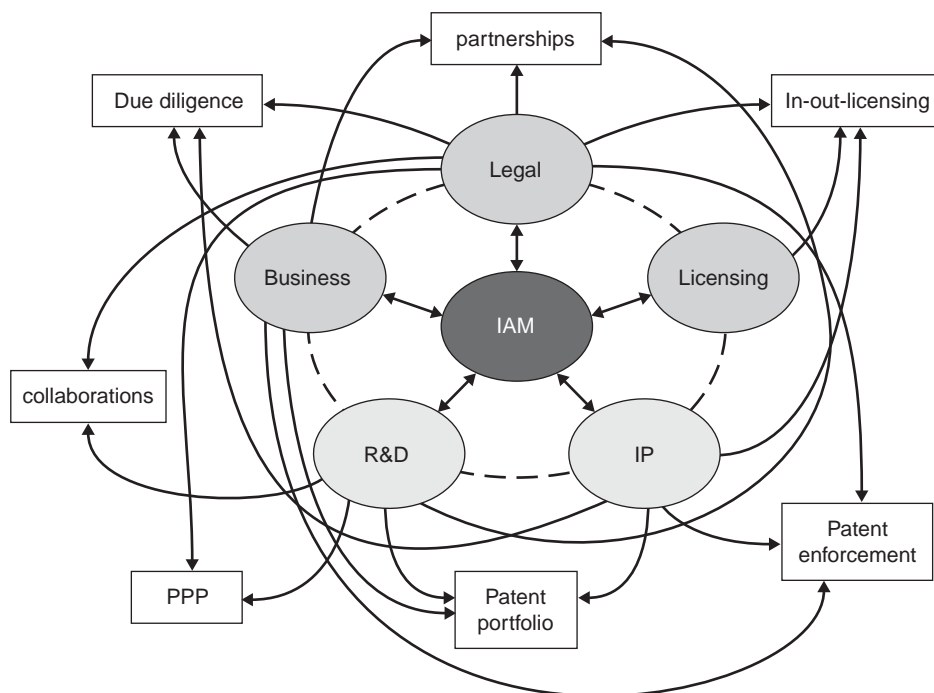


Figure 11.1.3 Multiple networks within networks

Acknowledgements

I owe many thanks to my colleague Wim de Boer for valuable discussions regarding the topic of this chapter.

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Organizing an innovative company

Thibaud Lelong and Christophe Geiger at the Centre of International Intellectual Property Studies discuss how to build a structure around the process of creation.

Abraham Lincoln, who was a patent litigator and who held a patent himself, observed that legal protection through intellectual property (IP) ‘added the fuel of interest to the fire of genius, in the discovery of new and useful things’ (in: Second Lecture on Discoveries and Inventions, Jacksonville, Illinois, 11 February 1859).

In today’s businesses, brands, patents, utility models, domain names and copyrights are among the most valuable assets, or even the most valuable for some. There is no longer any doubt: intellectual production is certainly the field of economic activity marked by the most significant evolution in the past few years. Indeed, it is undeniable that this new sector of activity will progressively take the place of traditional economic sectors based on agriculture and the Industrial Revolution as a factor of development.

Most companies understand the interest in managing these IP rights. However, businesses that wish to maximize brand value through the management of their intellectual property must devise long-term strategies to achieve that target. The organization of the company, in a way that gives advantage to research and development (R&D) and the protection of its assets, is a fundamental key in managing intellectual property. This is probably one of the only ways to ensure a constant development and a permanent competitive advantage to an innovative company.

Optimizing the organization of the company: no systematic answer

In fact, the organization of innovative companies cannot be systematized. First, it can be considered that companies can be classified, regarding their strategic business objectives, into three groups:

- innovation leaders;
- innovation followers; and
- licensees.

This classification nevertheless depends on which IP rights have priority in terms of relevance to the business.

Therefore, in order to be more efficient, an innovative company needs to organize and to structure itself in a way which will encourage and enhance the creation process. This organization, contrary to common beliefs, does not need to concern only the legal, IP and the R&D departments. This is true that these two departments are key departments for innovative companies. However, in order to be efficient and to help an enterprise to gain market share, other departments should also be involved in the creation process. Thus, the human resource department, the commercial strategy/development/distribution department, the technology transfer department, the finance department, the marketing department and even the board of directors must be directly involved in the process in order to elaborate a common strategy, likely to be implemented in unison. Such a cooperation between these different departments can only be achieved through concerted strategic business plans and a deeper communication between them.

Nevertheless, the organization of an innovative enterprise relies on various factors, regardless of the group in which the company can be classified.

The size of the company is one of the most important factors. In fact, innovative enterprises can take many different forms, from the start-up or spin-off to a national or even a transnational company. In the case of a start-up, its youth and size will give more flexibility, owing to the fact that the company is generally not really structured at this stage. However, for a nationwide or transnational company, organization is a great issue, especially because such enterprises are already structured in a way that does not correspond to the size of the company or which has not been rationalized through the historical evolution of the company. In this case, the R&D department and every other department involved in the innovation process are more specifically concerned.

The goods manufactured or the services provided by the company are generally considered as being another factor. Cars cannot be managed in the same way as medicines or software. Therefore, the organization of the company will have to take into account the particularities of the goods or services in order to structure its R&D department, its distribution network or its marketing. Moreover, the life cycle of the product is of great importance in the management of IP because of the turnover of the goods manufactured, imposed on the company by its competitors in order to keep its

market share. Therefore, the different departments working on the goods produced have to be more efficient than in other companies; they need to keep up the pace and then the information from these different departments has to be gathered efficiently enough for the innovation to be launched on the market as soon as possible.

Finally, another factor has to be taken into account, ie the independence of the company regarding its innovation process. This last factor is directly correlated to the previous ones. In fact, some enterprises, depending on the type of activities they run, might need more IP rights (patents, most of the time) than others. Therefore, these companies need either to outsource their R&D or to have a very strong R&D department, the key department of the company, necessarily considered as such by every level of the company and especially by the board. Moreover, they need to be linked to every other department involved in the creation process. In fact, everybody working for the company must understand and take into account the influence that innovation must have in the company.

These last comments are, of course, directly addressed to companies whose activities are mainly based on IP rights. However, if these comments are obvious for this type of company, they should be seriously considered by innovation companies looking for proper organization. Nevertheless, after taking on board the previous factors, two types of organization can be envisaged, an organization integrating internal innovation and an organization integrating external innovation.

Integration of internal innovation into the organization of the company

For nationwide or transnational companies, one of the issues regarding the reorganization of the company is to restructure the way the different R&D departments were designed or evolved, through mergers, transfers or deployment. In fact, most of the time a nationwide or transnational company results from mergers of small or medium companies in the same country, in the same international region or on different continents. One of the reasons for reorganizing a company is to allow the R&D to work in a more efficient way with the board of the company, to be centralized in one way or another (centralization of the R&D itself or centralization of the information issued by the R&D department(s) at the headquarters of the company and then to help the IP of the enterprise to be spread to the different departments of the company involved in the creation and commercialization processes.

Two different possibilities are thus offered to an enterprise: centralization and decentralization of R&D. These possibilities both depend on the factors previously mentioned. Nevertheless, it has to be said that centralization allows better communication between the board and the department responsible for strategic implementation, whereas decentralization creates isolation and organizational issues and sometimes hierarchic conflicts.

On the other hand, we can add that it does not really matter whether innovation and R&D are centralized or not if the final innovation and R&D activities are placed

under the control of one person or an advisory board capable of taking decisions that involve having a broad and concrete strategy. This is why it is usually recommended to link the IP department with the different departments involved in the creation and commercialization process and to designate the head of the IP department as the leader of the innovative strategy defined by the advisory board of the company.

Integration of external innovation into the organization of the company

In a few cases, it might be more interesting for a company, especially a young company, to outsource its R&D. Different cases can be envisaged.

First, the company can cooperate with private or public research centres on particular research topics leading to potential innovations. Sometimes goods or services usually internally manufactured by innovative companies are purchased from external suppliers such as competitors in the same market. In order to avoid such situations, companies which outsource their R&D try to get licences or IP rights from non-competitive companies working in the same fields or sometimes in different markets. In this latter case, the company usually gets innovations at a lower price than if it had an in-house R&D strategy. However, disadvantages can appear in this kind of business scheme. One of the greatest disadvantages is increasing dependencies vis-à-vis external companies and every consequence following therefrom, such as a potential loss of know-how, loss of control over prices and so on.

Nevertheless, today it seems difficult for a company to rely only on its own R&D department and therefore most companies integrate internal and external knowledge.

Conclusion

Finally, it has to be pointed out that an innovative company, regardless of its size, its market shares or its activities, must design a clear and precise IP strategy for every managerial taskforce before structuring itself in a more efficient way. This strategy must be led by the head of the IP department in close collaboration with the advisory board. Thus, the organization of the company must be entirely at the service of the IP and innovation strategy. If this is done in the right way, the innovation process will surely be improved. For this purpose, it is crucial that legal experts and managers within the same company understand each other and work closely together, in order to ensure optimal collaboration. It is therefore very important that lawyers have a basic knowledge of management and for the managers to understand fundamental legal issues related to IP in order if they are to develop an adequate IP strategy. Such a cross-discipline perspective highlights the need for combined education, paving the way for a new profession at the core of the innovation process: the IP manager.

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ARTIST BJØRN BJØRNHOLT

Your idea is not your own
until it's protected ...

IP into strategy

It is the best strategy, not the best product, that wins. But who exactly is going to make it happen, ask Mikael Tranekær Christensen, Plougmann & Vingtoft, and Jon Wulff Petersen, TTO A/S.

In the mid-1970s, an electronics company had developed a videotape format which was introduced on the market by the name of Betamax. Betamax was in many ways technically superior to the VHS tape and the company protected its golden goose by forbidding others to license the patented technology.

However, as you know, VHS still became the dominant format worldwide. Despite the fact that the rival electronics company that had developed VHS had an inferior product, it had a more efficient patent strategy. The company decided to make its VHS technology available to all competitors through licensing agreements, and Betamax was thus doomed to lose when the time came to decide on the standard videotape format.

The story of Betamax perfectly illustrates the critical importance of having a good patent strategy, and this has become even more important in the globalized 21st century than it was when the two electronic companies fought the battle over videotapes. However, a large number of companies today do not recognize the importance of a good patent strategy, which is clearly reflected in the way they downgrade the importance of patents and rights, commonly known as IPR or intellectual property rights.

IPR is much more than law

IPR management is often reserved for the technical or legal department which focuses solely on ensuring that the company does not infringe the patents of its

competitors and prosecuting those who infringe the company's own patents. It is our firm belief that although this particular focus on IPR may be relevant, it is still rather inefficient because there is too much focus on the legal aspects of IPR and not enough on making IPR part of the company's business strategy.

A person who is competent to make decisions and consult on IPR matters must have access to and be involved in the company's long-term strategy and goals. To illustrate this, we use an example of a high-tech company that foresees that the market is moving in a direction where one of its main competitors already holds several important patents. An employee working at the operational level – eg in the legal department – will immediately raise concern and advise against moving in that particular direction. Contrarily, an employee working at the strategic level – eg an IPR executive – will consider how the company can enter into relevant agreements with competitors regarding patents, so it can save costs on development by using competitors' rights in exchange for some of the company's own knowledge and rights.

If employees working at the operational level are required to solve strategic tasks, they will be bound to fail. However, we often see that the management do exactly that: they turn to the employee in the patent corner to develop a patent strategy, unaware of the fact that the employee is probably unable to solve the task efficiently owing to insufficient knowledge of business and strategy.

Today, an IPR employee usually becomes involved in the decision process when problems arise because the company has infringed the rights of others or if others have infringed the company's own rights. However, a properly managed IPR strategy can be applied by the management as an effective tool to uncover what needs to be developed and marketed.

By lifting IPR management to the strategic level and making it part of the managerial responsibility, it can become an important resource that adds significant value to the company.

Difficulties finding the right one

Why does the strategic aspect of IPR then continue to be other departments' responsibility? One prevailing reason is probably that the management consider IPR to be a difficult and time-consuming task and therefore choose to entrust it to someone else in the company. This is perhaps also the reason why there is a tendency to underrate the importance of IPR management.

But the main reason is probably the fact that it is extremely difficult to find an employee capable of assuming the complex role of an IPR executive – and even if someone should succeed, they become a significant drain on the wage budget.

The employee must be competent in legal, technical and business aspects. Most IPR managers today have technical education combined with a degree in patent law, but they lack training and practical experience in business. A good example of how difficult it is to find an employee who has all the necessary skills is one of the largest Danish companies which had the position of IPR executive vacant for 18 months.

There are several solutions available. The management can either engage potential talents who are already employed in the company, invite them to strategy seminars, challenge them on the issue of IPR and its significance in various fields, and send them on courses, or pay external consultants to spar with the management.

Look at competitors' patents

A good patent strategy is not only aimed at balancing your own patents and rights, it also means dealing with competitors' patents. These represent an important but highly underestimated information channel, which provides valuable insight into which products the competitors can be expected to develop during the next five years. We know of major Danish companies that have absolutely no insight into what their competitors are working on, even though they have free access to see all patent applications 18 months after they are filed.

An ineffective approach to solving the task is to completely refrain from patenting and worrying about competitors' patents. The promising approach, on the other hand, is to make efforts to translate competitors' patent applications into something that is of relevance to one's own business. The competitors' applications may in fact influence your decision about the next product you introduce to the market. Again, it is crucial for a company's competitive edge to have an IPR executive who not only has insight into technical and legal areas, but is also a skilled businessman.

This is also highly relevant in cases where mergers and acquisitions are on the agenda. Here, a traditional legal approach would consist of focusing solely on assessing whether the company that is being acquired has any potential or ongoing legal proceedings due to patent infringements. However, the IPR executive should play a much more central role in these cases, and already at an early stage evaluate whether the intellectual property rights of the other company have commercial relevance for their own business. Patents and other intellectual property rights can be worthless if competitors have something better, and assessment of this sort requires more than just legal expertise. It requires that the person responsible for IPR is part of the management team.

The growing importance of IPR

Working with IPR poses significant challenges for a company, first in finding the right person for the job and second in effectively managing its IPR. We often see companies facing these challenges by burying their heads in the sand. However, this can turn out to be a costly affair because globalization means that the focus on patents and other intellectual property rights is continuously increasing in importance.

Globalization means that it is highly unlikely that you will identify a local need that does not exist elsewhere in the world. Presumably, somewhere in the world, someone

else will be in the process of developing something in order to meet that same need. Therefore, it is important to have a patent strategy ready as soon as you have a new product or production process. Should we form an alliance with a competitor, or should we use our own patents to beat competitors? Or should we simply forget all about spending time and money on patent applications?

The winner will most likely be the company with the right strategy and not the one with the best product.

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IP management systems

The way in which IP is managed is changing at a tremendous pace, says Tony Nijm at Ipendo.

The intellectual property (IP) business is more than 100 years old and governed, in many cases, by rules and laws almost as old. In the meanwhile, the strategic views towards the use of intellectual property have evolved in the boardroom over the past decades. A shift could clearly be identified from the traditional view of IP mainly being a shield to protect and compose a barrier to market entry, to the current market view of IP also being a profit centre along with the defensive nature and finally to what is expected to be the future view in which IP is the main and core driver of business strategy within the company.

As a result of the above, IP is increasingly regarded as one of the most valuable assets of companies, which is why the way of managing IP is changing at a tremendous pace. In order to realize expected future goals and earnings on IP, there is a growing demand for easy-to-use IP management tools on the client side that will enable extraction of business-relevant data to be used in decision making. Owing to the complex nature of IP workflow and the need for global networks, IP managers on the client side lack the time and resources to focus on strategic aspects of IP. As a result, companies are not benefiting from their IP to the extent they could. In fact, many companies have neither the knowledge nor the understanding of the advantages and risks of their IP. Thus, having streamlined communication and management tools at their disposal would allow the IP manager to devote more time to the strategic aspects and gain more from their IP portfolio.

The gap in the IP market

With the above in mind, it is very easy to come to the conclusion that a change and a new mindset are needed to bridge the gap between the current market offerings and the requirements from the clients' side. Companies and IP departments are looking to:

1. Increase the internal IP awareness and involve more people in value creation.
2. Understand and streamline the various administrative services acquired from IP firms and other IP service providers including searches and freedom-to-operate (FTO) analyses.
3. Capture more innovations and involve the right people in the evaluation process.
4. Have access and availability to relevant IP information in order to make informed decisions. Portfolio information should be 'owned' by the company and not by its IP firms.
5. Be in charge of the portfolio spending and return on investment (ROI). It should be pretty easy to budget and forecast in order to follow up and re-evaluate decisions at any given point in time.
6. Communication with service providers should be fully digitalized in order to save money and time on scanning and docketing and instead spend the same resources on portfolio critical tasks and optimizations.

The high-level requirements above are pretty basic in many fields that are information technology (IT) mature and client-oriented in their mindset when delivering services. The IP business, however, is not known to be the most proactive business and definitely not with regard to IT maturity. IP management software (IPMSs) on the market is often extremely heavy and non-user-friendly and do not support the needs from the industry. These IPM systems are mainly focused on docketing and due date management instead of IP management.

To this end, there are two major issues to target that would vastly improve the everyday life of an IP department at any company:

1. Enhanced IP management platforms that incorporate the whole IP workflow from essential IP case data and documents to support for innovation, contract and licensing and portfolio analysis.
2. IP/Law firms need to offer value added services different from the traditional services (prosecution and litigation) and even more important, provide transparency and alternative ways of delivering information to their clients.

A modern approach to IP management

When managing IP, many businesses focus most of their efforts on docketing and reminder, which is a very important aspect but also the one thing IP departments are paying loads of money to IP firms to monitor. In order for an IP department to fulfil its duties towards the rest of the organization there are two main issues to target:



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1. Administrative portfolio management: it is important that all IP case data and information are logged and easily found and searched. The different administrative aspects of the portfolio (annuities/renewals, EP validations, PCT national entry, prior art searches etc) should be investigated and centralized in order to cut down on unnecessary fees and administration time.
2. Strategic portfolio management: portfolio data and information need to be structured and tagged in such a way to allow the organization to easily identify gaps in the business-portfolio mapping (eg too narrow or too wide filing strategy) for existing IP. It is also extremely important to be able to identify gaps in the portfolio for non-existent IP. For example, by mapping the IP portfolio on the products/technologies the company is selling it should be fairly easy to identify gaps towards the business strategy and vision. This kind of feedback is crucial for business developers and group management at any company.

IP management systems

The deployment of an IP management system is a key factor when managing an IP portfolio. It should not be a hindrance for the organization in performing everyday tasks. Instead, a modern IPMS should provide support for the following:

- intuitive user-interface;
- all IP types (patents, trade marks, designs, domains, copyrights, trade secrets);
- basic and client-specific IP data, document storage and due date management;
- management of inventions and related evaluation workflow;
- built-in budgeting and forecasting functionality;
- management of contracts and licensing;
- digital communication between internal and external parties, especially with attorneys;
- reporting functionality;
- integrated functionality for management of annuities/renewals and payments thereof.

Digital collaboration areas

Many companies have measured the time spent on receiving faxes and mail, scanning and archiving papers and docketing information in the internal IPM software. Normally about 25–35 per cent of the time for the paralegal staff is spent on such tasks. To this end, it is highly desirable to have all incoming IP-related documents and information directly stored under the related matter/case in the database and having the database sending notifications and activity reports to relevant people in the organization.

By allowing IP attorneys (no matter in what country) access to matters/cases they are managing, the whole IP workflow will dramatically change in a very positive and

effective way. The IPM systems will be automatically populated with all relevant information. Orders (for instance, filing orders) could easily be placed directly in the software and the power of sharing information internally and externally will provide endless possibilities. Sharing information is the best way to increase the level of IP awareness in the company and thus encourage innovation.

Ten steps towards value-adding IP management

As an IP manager looking to improve the management of the IP portfolio there are some key factors to consider:

1. Analyse the way you want to work with IP before bringing in tools to support the business.
2. Deploy an IP management platform that integrates all relevant parts according to your strategy. Do not only look for functionality and modules, but for workflow management.
3. The IPM system will play a central role in the whole IP workflow. Make sure you keep things simple. Complicated workflows and invention disclosure forms will only delay any changes and result in poor results.
4. Make sure that information sharing and collaboration areas are integrated in the IPMS. Digital communication with attorneys opens up endless opportunities and reduces costs.
5. Centralize administrative services and use volumes to reduce service fees. Annuities and EP validations are obvious areas where time and money can be saved.
6. Decisions on what to outsource/insource have to be made from the underlying business strategy and not because of traditional ways of managing IP.
7. Your IP attorneys are service providers and you are paying them to provide advice. They need to acclimatize to your needs and requirements. It is not your problem if their internal processes and tools are old and outdated.
8. When the IP department is up and running with the new processes, start incorporating users from the R&D, legal and marketing departments.
9. Compare and evaluate service providers and attorneys all the time to maximize value.
10. Make sure you re-evaluate your processes and workflows once a year.

IPENDO is the number one provider of on-demand IP management solutions to companies of all sizes. The Ipendo Platform™ is built on the latest technology to bring out hidden values in your company's IP by allowing automation of administrative tasks and sharing of crucial information with relevant parties. A typical IPENDO client is able to cut down administrative portfolio costs by around 20–30 per cent on an annual basis.

Toni Nijm is the co-founder and CEO of Ipendo AB and the driving force behind the market success of the company in Europe and the United States. Before founding Ipendo, Toni worked as a patent attorney and key account manager at a large European firm. Toni Nijm, who holds a MSc in Applied Physics & Electrical Engineering from the University of Linköping, Sweden, also has a background as a consultant within the IT/telecom industry (Ericsson Telecom among others) and the microelectronics field. Toni has a profound understanding for client IP needs and always strives to deliver services best tailored to clients' business situation.

Manage the flow of IP

Improve the productivity of your IP by 30 per cent? Then sort out your procedures for managing it, says Christian Kramer at GSI Office Management.

In the area of intellectual property (IP), IP management is becoming increasingly important. IP management encompasses the whole organizational system, from the moment the invention is created until the expiry of a right, and includes database search, application, opposition, payment and licensing procedures, among others.

Nonetheless, it is often the case that organizations don't define their processes accurately and don't have good software to provide standards for their internal procedures. If they had, they would have the potential to greatly increase productivity. The question is how to go about achieving this goal.

What is a procedure?

As the term already says, IP management involves managing or, in other words, organizing and standardizing your internal procedures – no matter what these look like. The fact is, you have them.

But first, we have to understand what a procedure is. A procedure or process – a synonym – is the basis of all tasks involved in business process management. It is a fixed, step-by-step sequence of activities or course of action (with definite start and end points) that must be followed in the same order to correctly perform a task. In other words, we are talking about 'how' someone fulfils a task.

Let's look at one typical example:

The **real** benefit of software

■ 436

comes

when **your** internal procedures are **perfectly** supported

It is commonly known that organisations that use standard software and have not optimized their processes have the potential to increase productivity by 30%, and more. Optimizing your processes leads either to the reduction of costs or to an increase in revenue. Imagine how much money that would mean in your company!

But wait, there is more! Even after having initiated process optimization you can achieve another 5-10% productivity increase per year - for years and years. What a potential!

O.K., now that we know that process optimization should be a must, there is a further point to consider nowadays: those who are in the vanguard and have already optimized their processes mostly lack the appropriate software; software that can really make the best of all the potential available.

Process Design and Workflow Management - *The Key to Success*

Docketing software itself is not a big deal but, even in this respect, you can find big differences between good and bad software. Things start getting interesting when your internal processes - designed to perfectly meet your individual requirements - are optimally supported and automated by the software to use.

Only high-performance software you can rely on, designed to be extremely flexible and easy to configure - based upon a full - featured workflow management - is capable of fulfilling these requirements satisfactorily.

Combining solid process optimization and high-class workflow-based IP-software holds unimagined possibilities. That has been our focus from the very beginning - and we are improving our software every single day so as to live up to our motto:

IP-Software that works like you do

GSI Office Management GmbH

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WINPAT®

Professional Software for
Patent and Trademarks
Administration and Information



A client writes a letter to their attorney asking for a request for examination of one of their patents to be placed.

The internal procedures would be as follows:

- a. The letter needs to be opened.
- b. Someone has to identify the attorney assigned to the case.
- c. Someone has to look for the relevant paper case file.
- d. The letter and paper case file is taken to the attorney.
- e. The attorney gives their secretary instructions.
- f. The secretary proceeds as follows:
 - i. Writes a letter of request to the patent office.
 - ii. Writes a confirmation to the client.
 - iii. Writes a bill to the client.
- g. The letters are printed and filed in the attorney's mail folder.
- h. The mail folder is taken to the attorney.
- i. The attorney signs the letters and puts them back in the mail folder.
- j. The secretary takes the mail folder, sorts out the letters and puts them in the post room file.
- k. The letters are taken to the post room, put in an envelope and posted.
- l. The person responsible for monitoring due dates receives the information and holds the due dates – either immediately or after receiving the confirmation from the patent office.
- m. Copies of the letters are stored in the paper case file.
- n. The paper case file is put back in the shelf.

That is just one of hundreds of procedures that take place in law firms and IP departments in the industry.

Business process management offers many methods to identify, document and optimize processes in all areas of life and work. At the end of the day, it's all about single processes – each process representing a specific internal procedure.

Procedures and their potential

Procedures are processes that develop on their own over time. First, there are only a few but later the size and number grow. That is good; but the downside is that the procedures tend to become less effective. Even procedures that don't change get outdated as the environment changes. So there is always potential for improvement, even if you continually optimize your procedures.

In the 1970s and 1980s, the Japanese invented Kaizen – a concept for the continual improvement of processes. In the area of production, this method is well established all over the world. Unfortunately (with only a few praiseworthy exceptions) the concept has been rarely introduced into the area of organization – where IP

management takes place. Therefore, there is an enormous potential for optimizing your internal procedures within IP management – being able to achieve a 30 per cent or higher rate of productivity.

Now, let's look at our previous example, this time, however, with a more centralized post entry. We will assume that all required personnel are sitting in the 'post entry room' and trying to fulfil as many tasks as possible where they are and without having to take post to any other person:

A client writes a letter to their attorney asking for a request for examination of one of his patents to be placed.

The improved version of this internal procedure could be as follows:

- a. The letter is opened by an IP expert in the post entry room (person A).
- b. That person identifies the next steps and proceeds directly as follows:
 - i. Writes a letter of request to the patent office.
 - ii. Writes a letter of confirmation to the client.
 - iii. Writes a bill to the client.
- c. The letters are printed and signed by the attorney on 'post entry' duty in the post entry room.
- d. The letters are then put in an envelope and posted.
- e. The due date is settled by person A.
- f. The letters are filed immediately in the paper case file placed in an archive next to the post entry room.

The attorney in charge receives the information that his client has just requested an examination and that all has been dealt with accordingly.

Imagine the amount of work an organization can save just with this procedure. The whole procedure can be carried out immediately with just a few people. There is no longer the need to take the letter to different persons and no one has to deal with the case again. All is done in one go.

This improvement was given just by changing the internal procedure – changing towards a more optimal way.

Does IT help your procedures?

We have learned that improved procedures will save time and money. Nowadays, IT is an integral part of all our lives – including work-related internal procedures. The examples given could both be handled using standard IT: Microsoft Word for writing letters and invoices, and maybe Microsoft Excel for the due date list. However, the difference from typing forms with an old-fashioned typewriter and keeping a due date book is not really very big.

By using specialized software for IP docketing, however, you could profit from a lot of advantages. Addresses and case details can be stored in the software and can be accessed for writing letters. It may also provide a special accounting module that helps to produce invoices, and a list that reminds you to hold due dates.

But, is that all? No, the software needs to know what to do. The system has to be intelligent and know exactly what your internal procedures look like and, ideally, be able to execute them automatically. This is what we call workflow management.

What does workflow management mean?

Workflow is a synonym of ‘process’ or ‘procedure’. But the term ‘workflow’ is also used in software. Each one of your procedures gets a corresponding workflow on the software side. Your procedure is analysed, documented and stored in the workflow management software. The Workflow Coalition defines ‘workflow’ as follows: ‘the computerized facilitation or automation of a business process, in whole or in part.’

Normally, recurrent and clearly described procedures are used first in workflow management. The next largest area are batch routines that run regularly. Over time, you will identify more and more procedures and enter them into your workflow management system. Although time-consuming, it is important to continually carry out this task. The nice thing about it is that just by using a workflow management system your internal organization will be improved. So what does a workflow management system change to our example. Step B and Step E are handled automatically by a workflow. Person A just opens the case in the software and runs the workflow ‘Request for examination’. This workflow automatically creates the two letters and the one bill and settles the due date after confirmation.

The only thing Person A has to do is to identify the case and the necessary process – that is all. The system knows what are the necessary activities and does them right away. So quickly that this example will not need more than two minutes to be completely done. And sending the letters via email would save additional time – and paper.

The real benefit: workflow management and your *improved and optimized* procedures

Isn't it obvious these two themes should be combined?:

- optimizing your internal procedures;
- mapping/entering those procedures in a workflow management system.

Combining both these themes instead of dealing with each theme on its own will not only unleash unimaginable strengths and potential but also increase productivity. This rise in productivity can now be used to increase your throughput: more work done in the same time, with the same effort. More revenue with the same number of employees.

Challenges

As is usually the case, there are also some things that need to be considered:

- You have to choose strong software which offers you a solid, adaptable workflow system that fulfils your individual requirements.
- You have to identify your procedures and enter them into the WF system. This task is much simpler when using a ready-to-use workflow package that contains a starter set with typical workflows. From this point on, you will quickly be able to further develop your workflows until they are perfect.
- You have to establish an improvement process so you will always get the most out of your organization.
- You need to put someone in charge of the process.

As a result, *your* internal procedures will be supported by the software in the way you think that your procedures are optimal – lean without any overhead.

Now you can fully concentrate on your actual work.

Christian Kramer is CEO and chief software architect at GSI Office Management in Munich. GSI has specialized for 20 years in software for managing internal procedures – software with integrated workflow management. One main focus is intellectual property where many small and large firms and companies such as Ericsson, Volvo, VW and Roche rely on the product WINPAT. E-mail: ck@gsi-office.de; tel: ++49-89-89544-150; website: www.gsi-office.de.



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Global IP Due Diligence

Unless an organisation chooses to exploit their Intellectual Property Rights (IP) directly, IP commercialization involving another party will mostly involve a due diligence exercise in which a potential licensee, buyer or assignee may identify and gather information on the subject of the proposed transaction. The importance of IP due diligence cannot be understated before spending large sums of money during a company merger, acquisition, takeover or sale or when negotiating a licence or franchise agreement or when selling or buying a patent, utility model, trademark, design or copyright.

The first step in IP due diligence is to obtain a complete list of all IP assets. This list should contain for patents, utility models and designs all issued rights and pending applications with their titles, filing and expiration dates, serial numbers, publication numbers, applicant/owner, assignee, inventors, fees paid and current status. For trademarks the list should contain the mark, description of goods/services, registration number, owner, fees paid and current status. Copyright is similar. For in- or out-licensed rights the list should contain the licensor, licensee, exclusivity, royalties, restrictions (e.g. geographical, field of use), warranties.

There are some general considerations applicable to all forms of IP. One such general prerequisite is the verification of ownership and that the owner has the right to sell or transfer the right. Ownership verification requires thoroughly analyzing assignments and licensing agreements, as well as cross-referencing the Patent- & Trademark Office files. The law in USA is that a patent is owned by the inventors and each will need to assign to the corporation, otherwise there may be co-ownership. It should be watched for any evidence that inventors may have either omitted or falsified. Such errors can render an US patent unenforceable. In the case of an “omitted” inventor who did not assign he may even license to a competitor without consent of the remaining co-owners. In most non-US countries patents can be filed in the owner’s name instead of the inventors’s name. For deals involving China, however, it should be checked whether the state has any ownership in the IP. Also today there are close

connections between private companies and state-owned institutions in China. A further particularity in China is that the company manager often list themselves as inventors and owners which may result in difficult ownership disputes for the acquiring party. If IP assets from inventors under a German or Japanese working contract are involved in the deal, it should be checked whether the requirements of the employee invention law have been fulfilled. In case of the exploitation of the invention this particular law foresees a royalty payment to the employee inventors although if they have assigned their invention to the employer company.

An IP due diligence plan should include an infringement analysis of the company's key IP assets. Key patents should be analyzed first to determine if they sufficiently cover the product of interest. The analysis should then turn to the competitor's products. It is essential to identify any infringement or litigation lawsuits, i.e. to determine both whether competing products infringe the company's IP and if the company's products infringe third party's rights. In some countries, like China, there may be little sensitivity to infringement issues. Chinese companies often state that the product is developed by their own R&D, has a PRC government approval and/or that they are on the market for a longer time without receiving any infringement notices but this fact does not mean that the new foreign owner will not be sued within short. Many Chinese companies, in particular if there is a connection to a government entity, enjoy a certain level of "local protectionism" which will certainly not apply to the new owner.

It is also important to evaluate the quality of the IP asset. In case of patents and utility models the scope of protection should be evaluated based on a prior art search. Furthermore, it should be checked whether any opposition or nullity suit is pending. The acquiring party should also ask the owner about any pre-application offers for sale or any own pre-dating publications or lectures (in particular if university inventors are involved) which could in most countries invalidate the IP. It should be also asked whether a prior use right of a third party that has to be tolerated is known. All this would weaken the strength and, thus, the value of the IP.

For pharmaceutical and medical device patents it is important to correctly calculate the patent expiration because in this field each more day of protection could be very valuable. Many European jurisdictions provide a supplementary protection certificate to extend the patent term under certain circumstances (e.g. long time to get EMEA approval). In USA a patent term extension will be also given if the examination procedure has suffered a delay by the USPTO. To check the patent term extensions is often not an easy job. In USA the Orange Book may be checked for patent term extensions. In many other countries, however, it is not so simple to get reliable information on this and often a local counsel has to check this with the national institutions.

During a company merger, acquisition, takeover or sale it is advisable to check all relevant contracts that could have an influence on the deal: working contracts, contracts with co-owners, licence agreements, F & E contracts, Joint Venture Agreements, M & A Agreements and Copyright implication (who owns the literature, manuals, brochures etc.). In this regard it should be also requested how much unprotected know-how or trade secrets are involved. It should be also ascertained if there is any mortgage on the IP.

IP due diligence is necessary to avoid costly mistakes and properly determine the value of business transactions involving IP. This is true for both traditional companies and high tech companies. One famous case where a more thorough IP due diligence would have certainly changed the deal. Before buying Rolls Royce and Bentley in 1998 Volkswagen forgot to ascertain the ownership of the famous "Rolls Royce" trademark. Unfortunately, this trademark was not owned by the company selling the cars, designs and manufacturing facilities to Volkswagen but with another company who sold the "Rolls Royce" name to BMW.

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Patent Attorneys ter Smitten



Basically, the new office emerged from the former patent department of a well known German automotive supplier, which had been directed by Mr. ter Smitten and which Mr. Ruetten had been a member of, as well. As a consequence, terpatent is, amongst others, in particular skilled with typical company IP know-how such as contracts and license agreements, mergers, innovation databases, competitor survey etc.

Jasper Eberlein adds, after spending 14 years in a prominent patent office in Cologne, Germany, comprehensive and successful experience in national and international enforcement of all kinds of IP rights, and is an expert in trademarks, design protection and unfair competition.

Both Mr. ter Smitten and Mr. Eberlein speak fluently Dutch and have experiences in the Benelux IP-systems.



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New Services in IP Management

Hans ter Smitten, Partner. Patent Attorneys ter Smitten

The increasingly diverse requirements on IP management, such as implementing global registration strategies, benchmarking, monitoring competition, supervising global development departments, exploitation of intellectual property rights, licensing policy, etc. create an extremely complex field of business activity, which makes it difficult for the respective, responsible persons acting there to maintain a clear overview. It is consequently necessary to prepare information derived from internal and external patent portfolios and present it in a clear, usable form for the respective company. This type of preparation increases the information available in the company, enabling an increased generation of ideas and a more efficient design of development processes and thus achieving competitive advantages. This also creates a solid basis for further application possibilities, such as patent utilisation and evaluation.

Organising and networking the individual fields of activities as well as drawing up and preparing relevant data already represents a huge challenge for large-scale companies with their own IP department. Small and medium-sized enterprises, which do not have their own IP department and have to rely on external consultants, usually cannot use patent-related knowledge as much as would actually be required by the prevailing competition and by economic-technical marginal conditions.

Now a novel concept that primarily enables monitoring tailored to a company – using a linked, interactive, patent database – now offers a solution, in particular for small and medium-sized enterprises. With these types of interactive databases the evaluation and support can also be provided by external companies, whereby the necessary security measures naturally have to be taken into consideration. In the company itself the patent database can be arranged as a stand-alone system or integrated into the company's internal intranet.

First of all the purpose and benefit of the “monitoring” should be investigated. The general definition of “monitoring” means all types of recordings of conditions of a procedure or process using technical aids or other observation systems. A monitoring system enables interventions in processes, whose course deviates from the specifications or threatens to deviate from them.

This naturally raises the following obvious question: “And what has that got to do with IP management?”

In IP management, too, there are a number of procedures outside the own registration activity, whose recording can provide the important data for the company and which can also make intervention necessary. In this connection the most well-known and absolutely necessary instrument in business transactions is external monitoring through keeping track of third party intellectual property rights. The monitoring of third party

intellectual property rights is intended to ensure that a company's own products are not subject to third party intellectual property rights. Protective measures to be introduced in the event of any interfering intellectual property rights can be opposition proceedings, cancellation proceedings, objection proceedings or revocation proceedings. However, it is also conceivable to decide on taking out a licence. Monitoring, in particular patent literature can also help to make research work considerably more efficient, since careful research of the freely available state-of-the-art technology can serve as the starting point for further developments and prevent investments in technology that is already protected by third parties.

Patent information can also be evaluated with regard to market growth. This enables the targeted application of investments in research and development (R&D) in growing markets. Patent information can also serve as an early warning system for strategic changes in competition. For instance, an increase in patent registrations in a specific field of technology is a reliable indicator of a sweeping market change. However, external monitoring can also provide targeted information about technical fields of activity and focal points, which can lead the company to engage in external cooperation or seek the services of qualified consultants. In the case of strategic company acquisitions, evaluation of the development potential before the purchase can support the company in its decision making. In this way savings can be achieved in development and engineering performances.

Just this short overview of the possible application areas for IP monitoring alone has illustrated how diversified this instrument can be used and how complex the results, respectively knowledge gained from an appropriate evaluation can be. As already indicated above, the monitoring of third party intellectual property rights is an absolutely integral part of a functioning IP management and should be used with the aid of an appropriate tool, where a search profile tailored to the company (patent classes, names of competitors, keywords, etc.) is stored, which enables the databases accessible throughout the world to be checked for relevant publications at regular intervals, for instance weekly.

The patent attorney carries out advance monitoring of the publications and forwards these to the appropriate contact person of the company, depending on relevance and technical area. A response can then be provided via confirmation fields, indicating whether monitoring or an objection is required.

Internal monitoring is carried out via a database, where initially each member of staff can register as a user and can enter ideas and inventions. Furthermore, for the different topic areas there are also persons with expert status and one or several administrators. In addition the decision makers who bear responsibility for costs naturally also have a special status. These internal company databases should show the company's development process as clearly as possible.

For the employee who wants to register an invention, a window with the entry fields of a classic invention notification provides access to the system. There is also a simple process for attaching drawings and presentations. Before the employee stores the invention notification, he/she is first requested to print out the invention notification and sign it, in order to fulfil the requirements of the German Law relating to Inventions of Employees.

The external service provider receives an e-mail message notification that a new invention has been reported. The service provider is then requested to provide a short statement regarding the ability to register this invention. This statement should be supported by research that cites the latest state-of-the-art. Researched publications are attached to the statement in a PDF file. The appropriate decision maker in the company is once again notified online, so that he/she can decide whether a patent is registered. If the research reveals an IP right that would hinder or forbid commercial use of the invention, the external service provider can send a warning to draw the attention of the experts and decision makers to possible utilisation problems.

The inventor or inventors can follow the entire decision making process. After the patent registration or release the invention registration, the related evaluations and the submitted patent registration are revealed to all internal employees. In particular development departments that are spatially separated from each other can benefit from this system, since it guarantees a simple exchange of information and double developments can be avoided. In the downstream process other departments of the company, such as sales, marketing, etc., can also be integrated into the process, to evaluate the invention with regard to its exploitability, in order to be able to influence the development process as early as possible.

This also makes it possible for small or medium-sized companies without their own IP departments, to carry out external and internal monitoring, in order to be able to use the know-how from the different patent portfolios more efficiently and successfully.

Further details:

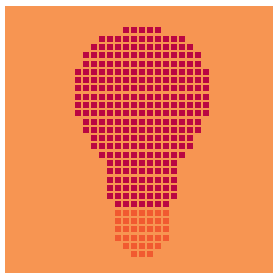
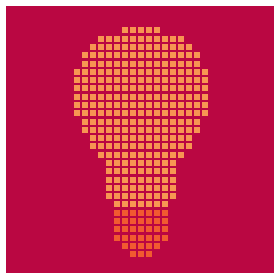
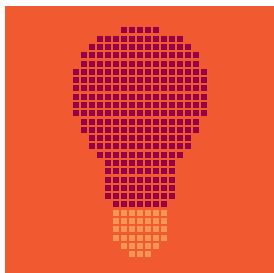
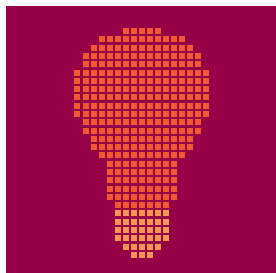
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IP as an asset

Intellectual Property



At Kiln we understand Intellectual Property, delivering insurance solutions for modern risks where traditional products fall short. If IP is critical to your business survival, talk to us. Together we'll find a strategy to manage your most important intangible assets.

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Risks to intangible assets

Once IP becomes a major stream of revenue, what happens when it disappears, asks Dan Trueman at Kiln, a syndicate that underwrites first-party IP on the Lloyd's of London insurance market.

Continued commercialization of intellectual property (IP) is now a foregone conclusion. While this has generated enormous revenue for the IP-savvy organization it has also created a whole new level of risk. Organizations that rely on that revenue are vulnerable should it disappear if the underlying IP were held to be invalid. Effective risk management processes, especially within an enterprise risk management scenario, can be put in place to identify and minimize such a risk of failure. Yet there will always be an element of residual risk. It is to deal with this residual risk that the insurance industry, particularly the Kiln syndicate in the Lloyd's of London market, has developed a suite of first-party intellectual property insurance products.

Organizations have long recognized that they gain competitive advantage and generate increased revenue through following a different value-creating strategy to other organizations in the same market space, and, importantly, maintain that competitive advantage when others cannot copy the way those benefits are achieved (Barney, 1991). In the current world many of those sources of competitive advantage are derived from intangible resources and such assets gain increased underlying security when they are proprietary technology protected via patents. However, in spite of an increased awareness of the risk to an organization's balance sheet and/or profit and loss account represented by any injunction or invalidity of these intangible assets represents, an understanding of how to manage that risk is not yet fully developed. While various strategies have, over time, been developed to manage and isolate risks to intangible asset impairment, residual threats still exist. Traditionally, where there is a tangible asset risk there is often an insurance solution providing at least a

measure of risk transfer for that threat. The insurance market is now coming round to the developed intangible asset and revenue protection paradigms of the modern business environment; however, the insurance solutions are not widely understood and are in need of further clarification.

If we accept that turning knowledge into value can now rightly be regarded as the reason for a firm's existence (Mackenzie and van Winkelen, 2004) then valuation itself becomes a crucial tenet of both measuring the risk of that value ceasing and understanding the value of managing or transferring that risk. There are three standard measures used for valuation of intellectual property: income, market value and cost. Market valuation is problematic as the underlying uniqueness of IP as well as a distinct lack of publicly available comparative information makes measuring IP value in this way difficult to reach mutual agreement on. Cost-based valuation has some merit; however, it is much more effective for determining valuation of non-income-generating assets, such as IP used for internal purposes, and where it can be shown that spending x on research and development will regenerate $x+y$, it is very possible to use this methodology to identify the fixed costs incurred in IP investment as the limit for an insurance product where internal development is key or where the IP or even the organization itself is nascent. The third, and usually preferred, method of IP valuation is the income approach. Here, value is measured by calculating the present value of future economic benefits or revenue to be derived from the intangible assets in question and this valuation forms the basis of the indemnification clause of a first-party intellectual property insurance product.

Having arrived at a method of valuing the underlying IP of an organization it is then essential to understand whether its risk appetites extend to protecting all or part of the IP portfolio. Where IP is a proprietary asset protected by a patent, as mentioned above, that patent itself can be managed, protected or have its risk of invalidity or failure transferred. However, a modern IP portfolio is broader than patents and can also include trade marks, copyrights, trade secrets and know-how, registered designs, topography and database rights as well as other more nebulous intangible property rights. All of this list can be responsible for generating significant revenue for organizations. All of these types of IP can also exhibit a degree of fragility as well. Consequently, when seeking to manage the risk to revenue generated by their IP portfolio, firms may wish to cover themselves against loss of any of this. Where the resultant management involves risk transfer through insurance then a product able to look at all forms of IP is thus essential. A first-party IP product underwritten should be able to cover the full breadth of these intangible assets.

The key to managing the underlying risk of the IP asset is to match the strength of the asset itself. Incorporating a general risk management checklist or profile into an organization's monetary practices ensures that at worst a series of steps can be followed should any problems occur and it is possible to work back along those steps in order to identify where problems occurred. The first key step within this process is to categorize and catalogue what IP exists. Moreover, all IP should be ordered and documented on a frequent basis. Furthermore, it should be noted that maximizing revenue from intellectual property is most efficiently done when that intellectual property is directly in line with the business strategy and the tactics that are aimed at

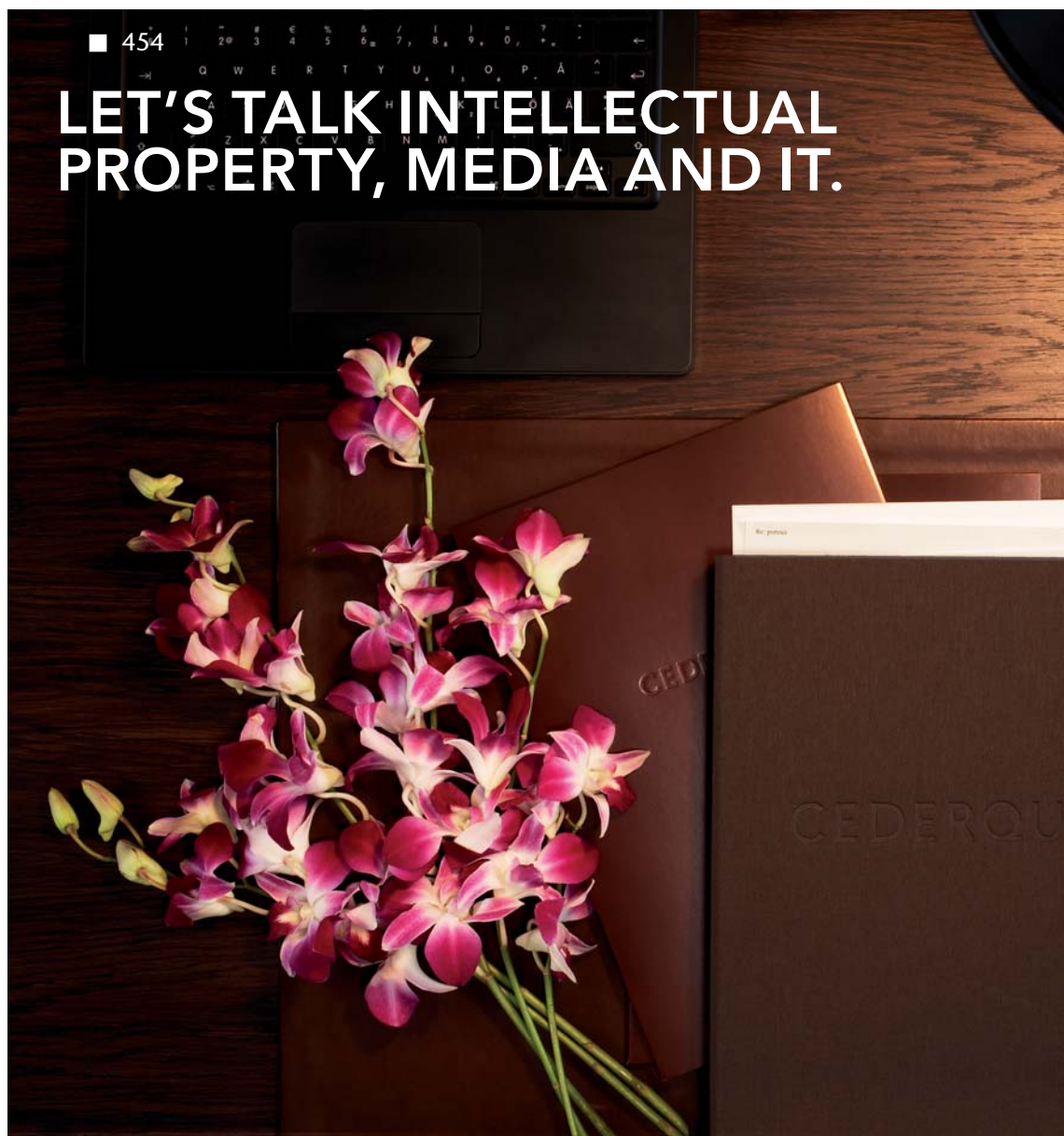
bringing that strategy about. When an organization's general strategy and IP strategy are in line then the centralization of responsibility for intellectual property capture and development should be inclusive rather than the work of just one individual. Consequently, it is not solely the responsibility of the research and development department or the organization secretariat but rather all departments should be involved in the IP process. Both operational and support functions should be involved once the above procedures have been implemented. Thus there must be a formalization of policies and procedures for all invention disclosure, clear incentive programmes, and management in the use of any outside consultants. Where the contractual issues to deal with this lie should form a key part of the IP strategy. In doing so, this enables a clear delineation of IP ownership rights with employees and external consultants and ensuring that risk is managed most effectively. Furthermore, there is little point in having such policies if they are not passed on or communicated. Education and training of all employees or certainly all employees who have any interaction whatsoever with intellectual property development should both be conceived and implemented and in this way the creation and enforcement of strong policies and procedures to protect against IP problems can be put in place. Once this has all been achieved the next essential step is obviously to stay in touch with changes in IP law and associated regime-specific laws and having done so to ensure that such changes get worked back into the policy in an iterative feedback loop.

Implementing the above policies in order to manage intellectual property strategy gives an excellent framework when looking to actually purchase any protection or risk transfer for intellectual property risk.

Dan Trueman underwrites a range of specialist first-party cover insurance at Kiln, including intellectual property, cyber disruption and reputational risk protection.

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What investors expect to see

What are the IP risks in making an acquisition? Per Victor and Charlotta Poehler at Cederquist report.

As intellectual property (IP) lawyers, we are often requested to perform a due diligence review of intellectual property rights in connection with a potential acquisition of a company (the ‘target’). The report or summary we are expected to produce based on such a review varies greatly depending on the nature of the assignment. This chapter provides a brief overview of the issues to consider while performing such a review for a buyer.

The scope and extent of a due diligence review will be limited by both practical and financial circumstances as well as the extent of the warranties provided in the Sale and Purchase Agreement. The financial limits are usually set by the client, who sometimes wants an overview from a high-level perspective and to be informed only of significant risks in the target’s business rather than a more thorough report. Even when the client wants a thorough review of the target’s IP rights, there are certain issues that simply cannot, from a practical perspective, be reviewed exhaustively. For example, it is not possible to determine with absolute certainty whether there exist any anteriorities or prior inventions that could invalidate a design registration or a registered patent or whether a trade mark can be registered worldwide. Only obvious anteriorities/prior inventions or obstacles to registration in other countries are generally expected to be included in a due diligence report. It is also often not possible to determine with certainty whether a work of art (eg utility art) is protected by copyright since that can only be determined by a court in a case where copyright protec-

tion is at issue. It is usually sufficient to provide an opinion concerning whether the work of art in question is deemed original enough to be protected by copyright. If the seller is willing to provide generous warranties with respect to certain IP rights, fewer resources can be allocated to the review of such IP rights since certain flaws may be remedied through the warranty. Ideally, however, all major flaws in the IP rights should be identified through the due diligence process so that the buyer should not be forced to rely solely on warranties for certain IP rights.

At the outset of the due diligence process, it is important to identify what type of company the target is, the intellectual property rights ('IP rights') owned and/or used by the target and which of those rights are vital to the target's business. Often a company does not have vital IP rights within all categories of IP rights (the main categories being copyright, design, know-how, patent and trade marks); companies in the industrial and life science sectors usually have their vital IP rights in the form of patents, know-how and trade marks, whereas companies in the apparel and design business have a focus on trade marks, design and copyright. In the publishing business, both for literature and music, copyrights represent the most significant and valuable aspect of the IP portfolio, something that is also true for software providers (especially in Europe where patent protection for computer-implemented inventions might not always be appropriate, timely or cost-effective). Although most companies will hold some IP rights within almost all categories of IP rights, it is important to focus the majority of the resources allocated in the IP due diligence process to the IP rights that have been identified as vital. For example, a life science company is likely to have certain copyrights in the form of software licences. Although such software licences should certainly be reviewed for any major flaws, the main focus should normally be on the company's patents, know-how and trade marks.

Identifying which IP rights are vital to a company is usually fairly easy. Often, so-called 'information memoranda' are provided which set forth the target's business and clearly state which IP rights are important. It is also very important to have a discussion with the client, ie the buyer of the target, concerning which IP rights they view as important and whether they are planning to change or expand the target's business either geographically or into new products or services. It is not certain that what the seller has identified as vital IP rights in the information memoranda correlates with the buyer's view and it is very important to be aware of any plans for expansion. Trade marks are potentially most affected by an expansion into new goods or services. It should be investigated whether such new use of an old trade mark could infringe any third party's right. A geographical expansion would affect most IP rights but in different ways. The geographical expansion of the use of an invention protected by a patent usually does not imply a risk of infringing third parties' rights (assuming that the patent is valid). However, unless you are within the time frame where the patent registration can be expanded into the new territory, there will be no exclusive right to use the invention in the new market. The same is true for registered designs. A copyright-protected work of art may be protected in new markets, but that is not always the case since the standards for copyright protection are different in different countries (utility art, for

example, is more likely to be protected in Europe than in the United States). The use of trade marks in new geographical markets may infringe third-party rights and it is therefore important to secure trade mark rights before such use is initiated. If the buyer's major motivation for purchasing the target is to expand into new geographical markets, it is, of course, of vital importance that any major obstacles to the use of the IP rights in such new markets are identified in the due diligence process, which will require stepping outside of the data room and reviewing the situation in such new markets.

Once the preparatory work has been done, and you are familiar with the target's vital IP rights and the buyer's plans for the target, the actual review of the IP rights should be initiated. The main focus of the review can be divided into three questions: (i) does the target have the right to use all of the IP rights that it is actually using or is there a risk that the target's use is infringing third-party rights, (ii) what is the life span of the IP rights, and (iii) does the target have exclusive rights to the IP rights that it holds or are there competitors on the market who are entitled to use these IP rights as well? The main focus of question (i) is to determine the target's risk of liability, whereas questions (ii) and (iii) focus on the value of an IP right; an exclusive right with a long life span is, of course, far more valuable than a non-exclusive right that expires in a few months.

In order to answer these questions, the review should determine whether the IP rights are owned or licensed (or neither). Even if the IP rights are owned, there may be limits to such ownership in the form of licences granted by the target, coexistence agreements etc which will set the scope for how the target can use the IP rights. If the target's right to use an IP right cannot be identified, the next step is to determine whether there are any third parties whose rights are being infringed by the target's use. Even where the third-party owner of such rights cannot be identified, the use of IP rights without authorization should always be identified as a risk.

The remaining life span of the IP rights is relevant for patents and designs, as well as rights that are used under licence. Know-how can also have a life span in the form of confidentiality undertakings or non-competition undertakings that will expire after a certain number of years.

Patent, design and trade mark applications and registrations should be reviewed carefully in order to determine the scope of protection of the relevant registration. It is not unusual that a target believes that a patent or trade mark registration confers broader protection than it actually does. With respect to trade marks and patents, it is also important to determine whether and to what extent the target has had a watch-service. The absence of a watch-service can significantly diminish the value of the trade mark or patent. The use of unregistered designs and trade marks should be reviewed carefully in order to determine why they have not been registered and whether there are any third-party rights on the market.

In summary, the due diligence process should be initiated by identifying the target's vital IP rights and the buyer's future plans for the target. If the buyer wishes to continue the target's business as it has been conducted previously, the review should focus mainly on answering questions (i), (ii) and (iii) above. If, however, the

buyer (as is often the case) has plans to change and expand the target's business, including its use of IP rights, the possible obstacles and risks involved in such an expansion must also be investigated.

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IP securitization

Intangible assets can finance businesses, as well as tangible assets. Alain Kaiser at Novagraaf in France reviews the recent evolution of techniques for funding based on patents and trade marks.

Yale University has recently set up a new funding resource: funding a biotechnology research and development institute with a value of US \$115 million based on its patents being exploited by Bristol Meyers Squib (BMS) for a medical drug. Yale University sold its future revenues coming from the licence agreement with BMS to a special vehicle allowing direct access to immediate cash. The anti-retroviral drug Zeret is protected by two US patents, which are exploited by BMS. As a consequence a research institute can generate cash and speed up the funding of its research. By utilizing this method of funding, businesses can improve their competitiveness and upgrade their positioning in the market with products originating from their research. Using funding based on industrial property dramatically enhances the development of valuable research and the commercialization of related products.

New funding sources

The securitization of intellectual property (IP) portfolios is a new phenomenon, which may become successful and important in many countries. This has already happened in the United States.

In fact, securitization of IP offers many advantages to investors and, of course, to IP owners. Chrysler carried out a pioneering securitization project in 1981. Chrysler had struggled to gain access to monetary funds in the financial markets owing to the

economic crisis of that time. Chrysler, however, was able to raise funding backed with a guarantee on its patents portfolio.

From then on, the so-called intellectual assets-backed securitization has continued to expand. Dow Chemical in 1992 raised funds on its patents portfolio, and in 1997 the famous 'Bowie Bond', managed by the Pullman Group, was based on 25 music titles. The singer David Bowie had assigned the exploitation rights and the revenues of his music titles to a third party.

At the present time, securitization is well established for films and music portfolios. On a global level, the generation of royalties increased from 7 to 10 billion US dollars in 2003, according to different sources. No further research has been conducted or published since 2003.

The securitization of IP portfolios is a recent phenomenon but with a solid foundation. Most activity concerns music and film portfolios and sport licences. Film portfolios are quite predictable in their revenue stream and they display a limited volatility and secure cash flows, in contrast to the film industry itself. A small number of IP assets generate most of the revenues.

Legally speaking, securitization consists of selling future revenues coming from any asset (the asset itself is not sold). Most of the techniques of asset-backed fundraising are often called securitization. To put it simply, securitization consists of any technique that transforms intangible assets into cash. This attractive funding technique is a low-cost alternative compared to obtaining loans or generating negotiable titles or other funding techniques, which have an impact on the balance sheet and its ratios.

A favourable new context

One of the reasons the securitization market is flourishing is the growing general awareness of the value of IP. There is also an awareness shared by managers in companies of the urgency to improve the management of IP.

Several statistical economic studies demonstrate that nowadays the value of a company's IP portfolio represents 60 to 70 per cent on average of the business value. Whether or not these businesses are linked to new technology, those with a large portfolio of IP assets seem to be more profitable than those without, as academic studies have shown (M Lévy and J P Jouyet, *Rapport sur l'économie de l'immatériel*; J Thibodeau, *Titrisation de la PI au Canada*; H P Knopf, *les suretés et la PI: un point de vue comparatif international*; F Leroux, *La titrisation*; J S Hillery, *Securitization of IP: recent trends from the United States*).

The value of IP is increasing globally compared to other assets. It is also noticeable that specific IP items are becoming more valuable (patents and trade marks).

If the security of IP is traditionally perceived as important, it has been held back by the lack of knowledge on IP techniques and IP strategies. The lack of evaluation tools and specific standards weighs heavily on the development of financial techniques relating to securitization of IP.

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However, innovation is seen as increasingly important in achieving a competitive advantage. Moreover, estimates show licensing revenues at world level being close to 500 billion US dollars according to various academic studies (*ibid*).

Using IP as an asset for financial projects is relatively simple if you know how to analyse IP portfolios and how to make an accurate evaluation.

A range of techniques

The most established and well-known technique of financing based on intangible assets is by way of collateral security. However, this is often badly exploited because the pledge is generally based on the intangible assets as a whole. In the past, this technique was adapted to small businesses in order to give guaranties to third parties. However, today, techniques exist to separate IP items according to their nature and give value to each of them: trade marks, patents, databases and data processing programs, which allow a reduction of risks and enables the raising of more funds to be raised when there is a pledge for each IP item, as opposed to being financed as a whole.

Securitization itself is also less expensive from an administrative point of view (since registrations cost a lot of money) than in the case of a transfer. Collateral security gives a guarantee without transferring IP ownership. Transfer of ownership only takes place in the case of bankruptcy of the IP owner.

Leasing patents could also be technically possible but not very interesting for tax reasons in various countries.

The most widespread technique which is very much in fashion at the moment is the use of an SPV (special-purpose vehicle) or an SPC (special-purpose company). The IP assets will end up in a dedicated legal entity. It is therefore possible to optimize taxes in accordance with the laws of the chosen country and the tax situation of the patent holder.

The advantages for the patent holder are:

- Limited exposure to external financing because it's the value of the underlying IP assets that is important.
- The risk for the business (patent holder) decreases compared to traditional financing since the financial structure and capital output ratios improve.
- IP is generally underexploited and this technique facilitates stronger exploitation in order to reach the highest and best use of the IP assets.
- This tool supports business objectives to achieve targets or to finance other specific research programmes.

Another technique consists of bond issues, the guarantee being the licensing revenues (IP asset-backed securities). This tool is more developed in the United States and allows better returns compared to traditional bank loans.

Legally speaking, securitization is the transfer of revenues from the exploitation of the patent or trade mark portfolio to a dedicated fund. The fund is often managed by different banks or businesses based upon a contract. In exchange, the entity owning

the IP portfolio receives cash, the return from the licensing revenues being directly received by the banks or businesses running the fund and no longer by the originator and owner of the IP.

Conclusion

There are no technical difficulties in raising funds based on IP assets, but there are a range of IP professional, legal and tax techniques and advice which must be customized and adapted to each individual case. Patent-backed securitizations need numerous technical skills from many professionals: insurers, patent attorneys (or IP management consultancy firms), specialized IP evaluators and investors or banks. These last two have been affected by the current financial crisis.

However, despite the crisis we should see more IP securitization operations since IP assets have become essential assets of any business. French banks have recently downsized IP securitization operations but, increasingly, big corporations are considering such operations in France, most of the time to achieve tax savings, combined with improved and centralized management of IP portfolios.

The IP assets market is in a phase of maturation because there are only a small number of IP assets with any real value, and the agglomeration of assets makes sense. In addition, the cost of such an operation implies a project of a certain minimum size. According to our experience, it would be difficult to settle an IP asset-backed securitization operation for less than €10 million.

Each case must be analysed individually because there is no standard solution. It is necessary to analyse the tax situation, options and risks carefully; there is a need for a certain size as the costs are of a certain size. In addition, it is necessary to analyse and evaluate the IP portfolio in order to achieve the most profitable target. A professional evaluation is also key to avoiding problems, such as the recent questioning by the French tax administration of the method of valuation and the value relating to the IP portfolio of business objects to be transferred to a company's Irish subsidiary.

Alain Kaiser worked for 18 years as financial controller within different international companies (Caterpillar, Packard Bell, NEC, GPV) and has dealt with financial valuation and more specifically with intellectual property valuations, including IP transactions, transfers, M&A and negotiations. He specialized in financial valuation and management of intangible assets, including legal and fiscal matters, and in consortium agreements of IP rights. Alain Kaiser specialized in IP Law at Grenoble University of Law and in Financial Valuations at Lyon University. He is a member of LES (Licensing Executive Society) and SFEV (French Society of Evaluators). He gives lectures in finance at the University of Paris Nord as Professeur Associé and has published many articles about financial valuations of intellectual property.

Since 2003 Alain Kaiser has been an IP consultant at Bredema Paris. In August 2008 Bredema became part of the International Novagraaf Group with offices in Amsterdam, Paris, Brussels, London and Geneva. Website: www.novagraaf.com www.novagraaf.fr.

Novagraaf Group is one of the leading IP companies in Europe with 350 dedicated professionals and staff members in France, The Netherlands, Belgium, Switzerland and the UK. The Novagraaf Group manages IP assets for clients in the broadest sense (trade marks, patents, design rights, domain names), including high-end consultancy with respect to IP auditing, valuation, licensing and securitization. Because of the number of professionals in various specializations, its offices in the major cities of Europe and its bundled expertise and experience, Novagraaf Group can serve clients with any IP portfolio, no matter how large or complex. The Novagraaf Group consists of many enthusiastic and professional people who are willing to go the extra mile for the client. On our website, you will find more information about the Group and the companies in the various countries. Novagraaf Group is located in Amsterdam, Hogehilweg 3; website: www.novagraaf.com.

Valuation of patents

It is difficult but worthwhile to put patents on the balance sheet, reports Nikolai Bisgaard, head of IP at GN ReSound, an innovative Danish manufacturer with global sales.

Valuation of patents is a difficult task that may be requested for several reasons. No universal formula exists and the context may have a considerable influence on the method and the outcome.

One reason for asking for patent valuation is that many industries are getting increasingly knowledge based and the balance sheets of their annual reports are showing a diminishing contribution from tangible assets. This has led to a search for how the assets of the company could be redefined to include elements such as ‘intellectual capital’ and the like. Often significant parts of the intellectual efforts of a company are documented in its patents and the question then arises: could we assign value to patents and book them on the balance sheet? Not being an expert in accounting I should not attempt to answer this question, but merely point out that patents can play a role in defining and documenting corporate value.

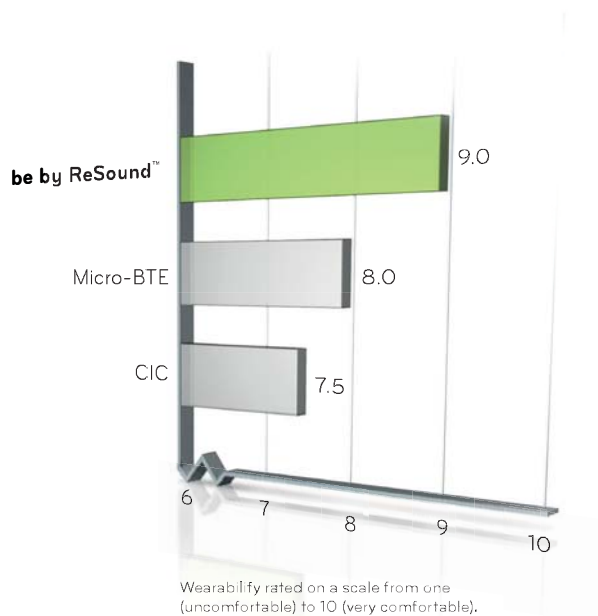
Another reason for trying to assign value to patents appears when a transaction takes place. The difference between the assets on the balance sheet and the ultimate value of the company as it appears in the transaction is often named ‘goodwill’, which is usually understood as the loyalty of customers and suppliers, as well as the brand reputation attached to any registered or unregistered trade marks. In the quest to separate out the elements of goodwill into more well-defined areas the patent portfolio is often spotted as a vehicle for carrying value.

Also, an intellectual property (IP) manager may simply be asked to justify their annual spending when approached by top management with a question such as: ‘We can see that we spend this much on patents every year and that we own many patents, but what are they really worth?’

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The answer to such a question is seldom simple and straightforward. The services of an IP department often cover other related activities with considerable benefit to the company. Freedom-to-operate investigations can be extremely important, although they do not themselves create value, but rather prevent any infringement of patents owned by other parties.

The value of this particular activity is often much better appreciated when viewed from the background of how an infringement lawsuit can impact a company financially and operationally. If the company is in the fortunate situation of never having been involved in such a suit, there are plenty of terrifying examples in the literature that can be used to illustrate what it can entail.

Getting back to the subject of valuating patents, several different methods have been suggested and applied. A very simplistic approach is to total the costs of patent-filing activities. This approach is not recommended because it doesn't even attempt to assess the value of the patents. Clearly, some patents are more valuable than others, regardless of the cost of obtaining them.

We have introduced a rating system for our annual assessment of each patent or patent application in our portfolio. The system primarily looks at what is termed 'internal value', where the importance of the patent with regard to technology and products is expressed. The system is shown in Table 12.4.1. The A- and B-rated patents, being the most valuable, cover core technology in current or planned products. The C-, D- and E-rated patents cover technology of lower or unproven value or even obsolete technology.

The third and fourth columns of the table rate the so-called 'external value'. Even if a patent does not cover any technology used in our products it could still be quite valuable if another company clearly infringes the patent or if the patent is licensed against payment to another company.

This rating system can be used to establish the relative value of the patents and is therefore important for the management of the portfolio. Patents rated in the lower

Table 12.4.1 Patent rating system

Rating	Value	Internal value		External value	
	Meaning	Scope of protection	Products	Infringement	Licensed
A	Critical	Protects core technology	In current products	Clear infringement	Royalty bearing
B	Important	Protects core technology	In planned products	Possible infringement	Cross-licensed
C	Interesting	Protects relevant technology	In potential products	Potential infringement	
D	Questionable	Protects potential or older technology	Not identified products	Hard to detect	
E	No value	Protects obsolete technology	Not used in products		

categories should be limited in geographical coverage or abandoned altogether to minimize annuity expenditure.

The absolute financial value of the patent cannot be found directly from the categorization system. The valuation that seems most appropriate from our perspective is related to licensing practices. If one attempts to assign a value to a patent that protects an important technology or product feature, the valuation could be based on what the cost of a licence to such a patent owned by a competitor might be. It could be either a fixed fee per product, a percentage of the revenue or a paid-up licence. By applying this fee to your own product in its projected product life cycle you can establish a value for each patent.

Establishing this fictitious licence fee could be difficult if licensing between competitors is not common in your particular industry, and in that case you could consult firms that specialize in licensing negotiations. The type of valuation described above should also be calibrated against the type of licence agreements you have granted to competitors on your own patents. It will be hard to argue that such agreements would not be relatively symmetrical.

If a patent is licensed to one or more competitors, one could argue that the value of such a patent is then tied to the revenue stream it generates since it is no longer protecting a proprietary technology or product feature. This could lead to a lower value assessment. Nonetheless, such licensed patents are by far the easiest to use for demonstrating the value of a patent portfolio since they generate real money and allow you to present your IP accounts as having both expenditure and income components.

Patents that are cross-licensed have also proven to be of value and could be valued along the same lines as described above, although they are sometimes used to clear minor infringement issues among competitors. Having a portfolio of patents available for such use is clearly desirable, although not necessarily of high financial value.

Many other ways of valuing patents probably exist, depending on the industry and general situation of the company. The techniques described above have proven useful to us and we have benefited from the fact that they are rooted in existing, or hypothetical but realistic, licensing practices.

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Patents for credit and venture capital

The Italian Patent and Trademark Office reports on patent valuation and the National Fund for Innovation¹

Over the past four years, the Italian Patent and Trademark Office (UIBM) has worked on the development of a new governance model for innovation policy in Italy. This has been achieved through the creation of two main projects: a patent valuation methodology and a National Fund for Innovation.

The patent valuation project started in 2005, and used a number of assumptions as a foundation. In an international scenario made up of increasing market integration and a growth in the number of transactions concerning intangibles, industrial property rights can be used to widen options for economic, commercial and financial exchanges, and to reinforce the tools to protect the economic value from counterfeiting. Other key factors in this context are the criteria on capital requirements, as covered in the Basel II Framework.

For enterprise valuation and ratings, banks can use systems of internal valuation which prioritize the ability of the enterprise to link financing to positioning aims in the marketplace. For small and medium-sized enterprises (SMEs), this valuation will become a strategic variable in regulating the cost and the efficiency of their own choices concerning their financial structure and investment finance, as well as a tool for evaluating any growth and diversification options.

While the economic context highlights the operational function of industrial property in the creation of economic value, there are theoretical and practical obstacles to be overcome, particularly concerning the principles and concepts which often prevent IP assets from being used as financial and commercial tools.

The UIBM has worked to bring together those who 'own innovation' and those who have financial capacities. In order to meet the stakeholders' needs and to fulfil market expectations, it is essential to create a common language, a jointly agreed method, which the market may decide to use.

As a result, the UIBM has set up a group of financial and economic experts from the Confederation of Italian Industry (Confindustria), from academia, from the Association of Italian Banks (ABI) and from the industrial property world, with the aim of developing a shared patent valuation methodology.

Patents represent an economic value based on the possibility of using innovation, where it can be protected by patents, in a business context. Making it clear to the business community that IPRs may be essential tools in gaining access to credit and private equity may bring about an increase in the economic use of patents, designs, trade marks and intellectual assets in general.

The main outcome of this project consists of having developed a common language for patent valuation between enterprises, universities, and the financial and banking systems, thanks to the understanding of what is changing in the economy and what such changes mean for each stakeholder, and how to carry out a group action in order to create what economists call 'social capital'.

The Protocol Agreement signed by the UIBM, together with all the partners (Confindustria, ABI, CRUI), contains a model for the ad hoc analysis of the value of intellectual property (IP) assets, by way of a valuation grid, and represents a major and innovative shift towards a common goal.

The agreement is not only an IP promotional tool but also an effective tool of economic and industrial policy able to identify goals and clarify the commitment of all the institutions involved, both public and private, to enhancing the innovation propensity and competitiveness of the economy, while at the same time providing a set of rules which are transparent, consistent and accessible to everyone. Innovation is a complex phenomenon which stems from the interrelations between public and private institutions and which is made up of an interactive process of knowledge creation, dissemination and application. This is the reason why, at international level, this ensemble of institutions and knowledge flows is called the *National System of Innovation*.²

Economic growth stems from a system able to allow enterprises to access new markets and transform inventions into innovations.

An agreement on the principles to be used will allow companies to realize a more efficient circular relationship between the market and government politics, which itself can be essential to the innovation process.

The methodology provides for a valuation platform and a grid of indicators that can be used to evaluate the relationships between technology and

the patent business-market. The indicators are not fixed but vary in accordance with the specific innovation project.

Knowledge can more easily travel in the market if the mechanism of value/price attribution is shared and standardized.

For further detailed information, please see the content of methodology on the UIBM website at the following link: www.uibm.gov.it/it/news/Allegato_Prot_Intesa_MSE-ABI_Inglese.pdf.

In Italy, a first application of this methodology is in the framework of public innovation incentives carried out by the Ministry of Economic Development (MSE). More precisely, the valuation platform and the grid of indicators are the base for building criteria for incentives with the aim of encouraging enterprises, especially SMEs, to produce innovative goods and services based on IPRs (patents for inventions, models and designs), which can then act as tools able to reduce the credit or private equity risks for the banks and/or financial intermediaries which finance innovative projects based on patents.

The main goal consists of supporting the creation of an innovation market where intangibles and rights concerning their trade are recognized as a gateway to accessing credit and private equity, owing to a set of rules shared in the market between all the stakeholders and where there is strong transparency concerning these rules and their use. This presents an opportunity to activate and develop an innovation market, and act as a precursor to the creation of an innovation stock exchange.

The Innovation National Fund is covered by the Italian financial law for 2007 (article 1, 851, law n. 296/06). It states that the revenues generated by IPR fees can be used to encourage SMEs to participate in the IP system. It is expected to become operative within the second quarter of 2009.

The FNI project was developed with the goal of building a framework to emphasize the innovative dynamics that energize the country's entrepreneurial network by supporting the development of industrial property rights and additionally using the evaluation grid tool.

Its architecture represents an approach where the state relies more on the market for its potential to raise 'a storm wind of innovation' (Shumpeter). This denotes, in contrast to the past, a shift in state intervention from activities characterized by direct management to those linked to addressing, monitoring and controlling.

The capital of the Fund amounts to around €60 million, and its intervention is put into operation by means of using public resources in financial operations designed, co-funded and managed by banks and brokers, explicitly directed to support innovative projects related to industrial property titles.

The selection of the technical implementation of state intervention and funding of specific patent-based projects generally will not take place *ex ante*, but will be entrusted to dealers in the financial market, which, by

responding to government requests, will be able to propose the tools they consider to be most appropriate.

MSE will select, assisted by a technical body meeting specific requirements, the proposals capable of meeting the enterprises' financial demands by means of processes designed to reduce the credit risk and/or maximize the performance of the backers' investment:

- correlation between the financial tools described in the proposal and the specificity of the patent-based projects;
- the highest 'multiplier' of the public resources, giving priority to those ensuring the largest involvement of private resources;
- allocation of the risk/performance ratio among the participants to the proposed financial operation;
- the best provisions for the enterprises in terms of interest rate and collateral restrictions;
- the soundness and reliability of the broker's internal control system for the management of the financial operation, with particular focus on the organizational set-up related to the application of the evaluation grid.

Priority will normally be given to proposals correlating the patent value, over time, to the required funding from the specific point of view of project financing.

A choice can be made – now permitted by new legislation (eg assets relating to a specific business) and accounting (eg IAS 36) tools – to limit the financial risk/performance to the innovative project and to the set of tools and resources needed to its accomplishment (*segment information*).

To increase the impact of the Fund's intervention, and to further the improvement of the effectiveness of the information flow between enterprises and financial brokers, a share of the fund's resources can be used for grants in order to meet the enterprise costs related to running the economic and financial reporting of the investment.

This experience, implemented in Italy, might be also shared at European level, in order to create an increasingly successful economic and social environment which can be considered 'IP value friendly'.

Notes

- 1 This paper presents the main outcomes of two working groups set up by the Italian Patent and Trademark Office from 2005 to 2008, one devoted to patent valuation and the other to funding innovation based on patents.
- 2 Oslo Manual, OECD.

FNI: general scheme of intervention

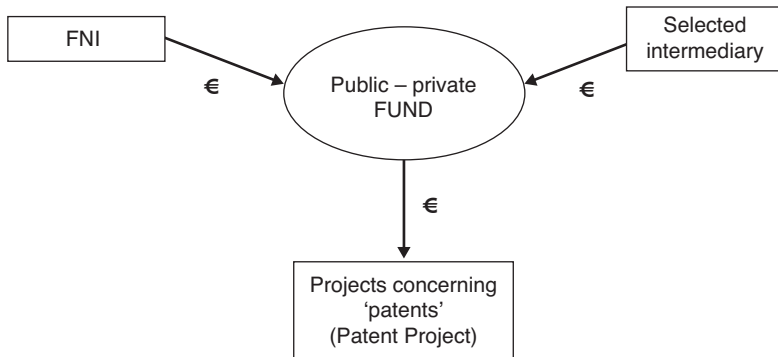


Figure 1 FNI: general scheme of intervention



Figure 2 FNI: implementing procedure

FNI: operative procedure

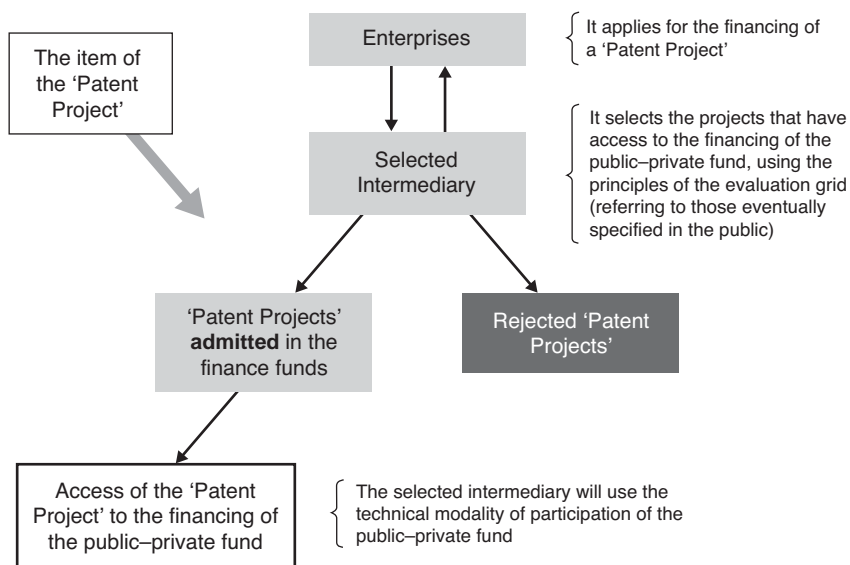


Figure 3 FNI: operative procedure

FNI: procedural instruments

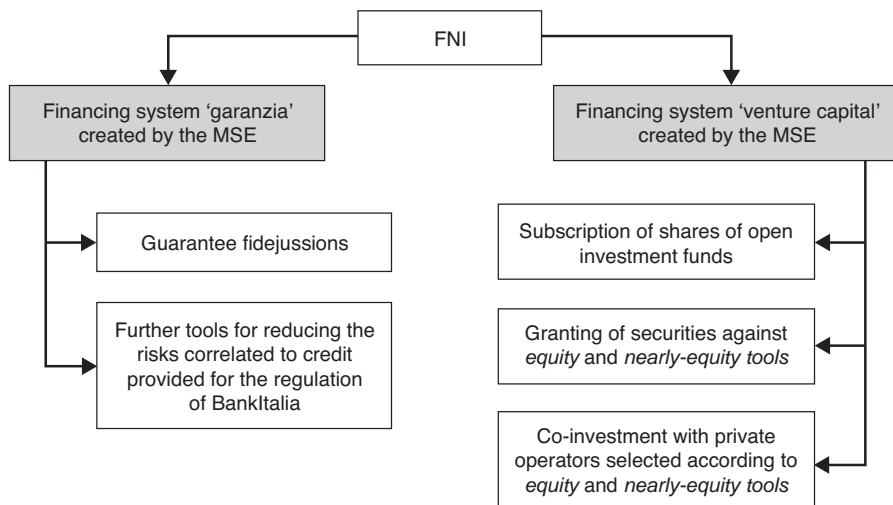


Figure 4 FNI: procedural instruments

13

Guard your rights

Efficient alternative dispute resolution (ADR) for intellectual property disputes

More and more rights holders are recognizing the benefits of using private neutral mechanisms that allow parties to settle their disputes. Ignacio de Castro, Deputy Director, WIPO Arbitration and Mediation Center, and Sarah Theurich, Legal Staff, WIPO Arbitration and Mediation Center, explain how it all works.

The challenges of enforcing intellectual property rights

In today's economy, intellectual property (IP) rights represent valuable business assets. The commercial exploitation of IP rights through international licensing, patent pooling, technology transfer and research and development agreements, branding, copyright and design strategies can trigger substantial benefits.

However, IP rights are only valuable as long as they can be efficiently enforced. Infringement of IP rights through copying or free-riding can cause loss of market shares and considerably tarnish the business reputation of the IP holder.

With the multiplication of international IP transactions, the number of IP-related disputes has likewise grown. Modern challenges such as digitization and globalization contribute to an increase in IP-related conflicts.

IP disputes can involve a variety of subject-matters, as well as large and small entities such as inventors, manufacturers, research institutes, pharmaceutical companies, software developers, fashion industries, joint venture partners, telecommunications companies, consultancy firms, employees and artists.

However, IP disputes have common features to the extent that they are often international, involving technical or specialized subject-matter and confidential issues. They also often arise out of long-term business relationships.

In times of economic recession it becomes even more important, and especially for SMEs, to consider cost- and time-efficient dispute resolution mechanisms and to develop an adequate IP dispute resolution strategy.

Why litigation may not always be the ideal means to solve an IP dispute

Although an IP dispute can be brought before a court, litigation may not always be well equipped to take account of the particular features of IP disputes. Indeed, to date, IP legislation has not yet been fully harmonized on a European or international level. As IP rights are territorial, potentially lengthy and costly proceedings in several jurisdictions under different laws are sometimes initiated with the risk of conflicting outcomes.

Table 13.1.1 indicates the particulars of national patent litigation in different jurisdictions. It shows the absence of specialized patent courts in many jurisdictions, as well as the considerable length and costs involved in patent court litigation.

What is alternative dispute resolution (ADR)?

In light of the potential risks involved in IP court litigation, IP holders are increasingly using alternative dispute resolution (ADR) procedures. These private neutral mechanisms allow parties to solve their disputes outside court in a private forum. ADR can only be used if all parties agree on submitting their dispute to ADR or if it is mandated by a competent court. Set out below is a description of some of the most common ADR methods which can also be combined with each other:

1. *Mediation* is a form of assisted negotiation. In this informal procedure, the parties ask a neutral intermediary, the mediator (or mediators), to assist them in reaching a settlement of the dispute. The mediator(s) will have the necessary skills and expertise to help the parties identifying the issues in dispute, their underlying interests and to determine a range of alternative options. Any settlement which they achieve is enforceable as a contract between the parties.
2. *Arbitration* is a procedure in which the dispute is submitted to one or more independent arbitrators who make a binding decision on the dispute. The decision of

Table 13.1.1 National patent litigation in different jurisdictions

<i>Country</i>	<i>Characteristics of legal system</i>	<i>Average length</i>	<i>Average cost</i>
France	Civil law Unified litigation No specialized courts	First instance: 18–24 months Appeal: 18–24 months	€80,000–150,000 (1st inst.)
Germany	Civil law Bifurcated litigation Specialized court for invalidity	First instance: 12 months Appeal: 15–18 months	€50,000 (1st inst.) €70,000 (App.)
Italy	Civil law Unified litigation Specialized courts	First instance: few months–24 months Appeal: 18–24 months	€50,000–150,000 (1st inst.) €30,000–70,000 (App.)
Spain	Civil law Unified litigation Commercial courts	First instance: 12 months Appeal: 12–18 months	€100,000 (1st inst.) €50,000 (2nd inst.)
UK	Common law Unified litigation Specialized courts Mediation promoted	First instance: 12 months Court of Appeal: 12 months House of Lords: 24 months	€750,000–1,500,000 (1st inst.) €150,000–1,500,000 (App.) €150,000–1,500,000 (House of Lords)
China	Civil law Bifurcated litigation Specialized courts	First instance: 6 months (in law) Appeal: 3 months, no limit when foreigners litigate	USD 150,000 (1st inst.) USD 50,000 (App.)
Japan	Civil law Bifurcated litigation Specialized courts	First instance: 14 months Appeal: 9 months	USD 300,000 (1st inst.) USD 100,000 (App.)
USA	Common law Unified litigation Specialized court of appeals (CAFC) Jury trial available Mediation promoted	First instance: up to 24 months Appeal: 12 + months	Up to USD 4,000,000 (1st inst.) USD 150,000–250,000 (App.)

This table has been developed by the WIPO Arbitration and Mediation Center, based on figures provided in 'Patent Litigation, Jurisdictional Comparisons, The European Lawyer Ltd, London 2006', as well as insight and experience from patent practitioners in the jurisdictions concerned.

the arbitrator(s), the arbitral award, is normally final and not subject to appeal. The award is internationally enforceable under the New York Convention for the Recognition and Enforcement of Foreign Arbitral Awards of 1958 (the New York Convention).¹

3. *Expert determination* is a procedure in which a specific matter is submitted to one or more experts who make a determination on the issue referred. It is particularly appropriate for issues of a scientific or technical nature, for instance the determination of a royalty rate.

What are the benefits of ADR for solving IP disputes?

A single procedure

ADR mechanisms allow the resolution of IP disputes in a single procedure, which avoids the complexity of multiple court actions in the jurisdictions concerned.

For example, in a patent case between a European and an Asian party, involving patents in France, Germany, Japan, the UK and the United States, the parties can solve their dispute in a single international arbitration or mediation procedure, instead of going through court proceedings in these countries.

Party autonomy

ADR procedures are flexible and allow the parties to have full control of the dispute resolution process. The parties can adapt ADR procedures to their specific needs by further reducing timelines, for instance. The parties also have the power to choose a mediator, arbitrator or expert that is qualified in the subject-matter in dispute. The parties can also agree the applicable law, language and location of proceedings.

Cost and time efficiency

Economically viable and speedy dispute resolution is essential in new technological sectors. ADR mechanisms allow parties to save considerable costs that the parties would otherwise undergo in multi-jurisdictional litigation. Further, ADR mechanisms often provide for short timelines which the parties can further reduce. Specific accelerated mechanisms exist to provide for even faster solutions, such as ‘expedited arbitration’.

In a recent *IT WIPO expedited arbitration* between an Asian bank and a US software developer, the parties had agreed on reduced timelines, stipulating for instance that a hearing be held within 60 days after the filing of the arbitration request and that the arbitrator render a decision within 10 days after the conclusion of such hearing. Prior to appointment, the WIPO Arbitration and Mediation Center made sure that the sole arbitrator would be able to make available sufficient time for this case so as to respect the parties’ desire for a time-efficient procedure. In this case, a hearing was successfully conducted within the set deadline and an award was issued three months after the commencement of the arbitration.

Neutrality

ADR can provide a truly international forum that ensures the neutrality as to the intermediary (mediator, arbitrator or expert), the law, language and administering institution. It prevents ‘forum shopping’ and potential perception of national bias and allows the parties to focus on the settlement of the dispute.

Expertise

The parties can select arbitrators, mediators or experts with specific expertise in the relevant legal, technical or business area.

For instance, in a recent *WIPO trade mark mediation*, a dispute arose between a US company, two Italian companies and a Spanish company in relation to their similar trade marks. The parties started WIPO mediation and a European mediator with the requisite language skills and trade mark expertise was appointed. The mediator held a two-day mediation session at which the parties, with the assistance of the mediator, were able to draft and sign a settlement agreement covering all of the pending issues in dispute and to regulate the future use of their marks.

Confidentiality

To a large extent, the parties can also keep the proceedings and results of ADR procedures confidential. This is particularly important where – as is often the case in IP disputes – confidential information or trade secrets are at stake. Confidentiality helps the parties to concentrate on the settlement of the dispute and to maintain their long-term relationships.

Enforcement of arbitral awards

Arbitration has the net advantage that the awards are final and are normally not subject to appeal. Their enforcement across borders is greatly facilitated by the New York Convention, which requires all 144 Member States to recognize international arbitral awards without a review on the merits. This means that where an arbitrator concludes that one party must pay compensation to another, and they fail to do so, they can later be taken to the national court by the other party to have the award swiftly enforced.

Preserving long-term relationships

ADR mechanisms, and especially mediation, help the parties to preserve their long-term relationships. Underlying business interests can be taken into consideration and viable long-term solutions can be adopted. The nature of ADR can indeed help to achieve settlement. The benefit of the less confrontational nature of ADR procedures is illustrated by the settlement figures in WIPO administered cases. A total of 73 per cent of WIPO mediation cases have been settled. Even in WIPO arbitration, 54 per cent of cases have been settled prior to an award.

How does the WIPO Arbitration and Mediation Center assist IP holders to solve their disputes?

The WIPO rules

The WIPO Center makes available WIPO mediation, arbitration, expedited arbitration and, since 2007, expert determination rules.

These rules contain specific provisions particularly adapted to intellectual property disputes, concerning for instance technical evidence (experiments, site visits, agreed primers and models), expert appointment, and confidentiality.

WIPO ADR clauses and submission agreements

In order to facilitate the conduct of cases, the WIPO Center makes available model mediation, arbitration and expert determination clauses in different languages which parties may use as a basis for submitting their dispute to WIPO as an administering authority.² ADR clauses determining the resolution of future disputes can be included in IP contracts, such as patent licences, trade mark coexistence agreements, copyright assignment agreements, technology transfer agreements, research and development agreements, and joint venture agreements. Most of the WIPO mediation and arbitration cases are the result of ADR clauses. However, at times, existing disputes have been submitted to WIPO mediation through a submission agreement.

The WIPO Center regularly assists and advises parties in the drafting of ADR contract clauses and submission agreements.

The following clause is commonly used in IP agreements:

Mediation Followed, in the Absence of a Settlement, by [Expedited] Arbitration

'Any dispute, controversy or claim arising under, out of or relating to this contract and any subsequent amendments of this contract, including, without limitation, its formation, validity, binding effect, interpretation, performance, breach or termination, as well as non-contractual claims, shall be submitted to mediation in accordance with the WIPO Mediation Rules. The place of mediation shall be [specify place]. The language to be used in the mediation shall be [specify language].

If, and to the extent that, any such dispute, controversy or claim has not been settled pursuant to the mediation within [60][90] days of the commencement of the mediation, it shall, upon the filing of a Request for Arbitration by either party, be referred to and finally determined by arbitration in accordance with the WIPO [Expedited] Arbitration Rules. Alternatively, if, before the expiration of the said period of [60][90] days, either party fails to participate or to continue to participate in the mediation, the dispute, controversy or claim shall, upon the filing of a Request for Arbitration by the other party, be referred to and finally determined by arbitration in accordance with the WIPO [Expedited] Arbitration Rules. [The arbitral tribunal shall consist of [a sole arbitrator][three arbitra-

tors].)* The place of arbitration shall be [specify place]. The language to be used in the arbitral proceedings shall be [specify language]. The dispute, controversy or claim referred to arbitration shall be decided in accordance with the law of [specify jurisdiction].'

(* *The WIPO Expedited Arbitration Rules provide that the arbitral tribunal shall consist of a sole arbitrator.*)

Administering authority

As an administering authority, the WIPO Center assists with the selection of qualified neutrals, liaises with parties and the neutrals to ensure optimal case communication and procedural efficiency, monitors the procedure so as to expedite the progress of the arbitration, deals with all financial aspects of the case, deals with any challenges to the neutrals, and provides meeting and support services.

WIPO neutrals

The WIPO Center holds a list of over 1,500 WIPO neutrals from over 70 nationalities that combine dispute resolution experience with intellectual property expertise.

Tailored WIPO dispute resolution services

The WIPO Center also works with IP owners and users and their representative organizations to facilitate or establish specially tailored ADR schemes that respond to the particular features of their dispute.

For example, the WIPO Center has recently developed the 'WIPO Expedited Arbitration Rules for AGICOA', a special ADR scheme for certain copyright related disputes (www.wipo.int/amc/en/arbitration/agicoa/).

Notes

- 1 www.wipo.int/amc/en/arbitration/ny-convention.
- 2 The recommended WIPO clauses are available at: www.wipo.int/amc/en/mediation/contract-clauses/index.html.

The WIPO Arbitration and Mediation Center (the WIPO Center) was established in 1994 as part of the World Intellectual Property Organization in Geneva, Switzerland. Its role consists in the promotion of the time- and cost-effective resolution of disputes involving intellectual property through various ADR mechanisms. Further information on the WIPO Center is available at: <http://www.wipo.int/amc/>.

Avoiding litigation

Fred Sonnenberg at 24IP Law Group considers commercial alternatives to litigation.

When licence agreements and other contracts relating to intellectual property (IP) are drafted, or when analysing the risk before filing a claim for patent infringement, one of the most important questions is the return on investment of the possible litigation. The US system may grant punitive damages but few European jurisdictions will grant more than a reasonable 'level' of compensation. When one considers that a large number of litigation matters are settled during the course of the proceedings – mostly after non-final findings or court decisions – it is rare that the financial return justifies the investment. Any settlement will usually require both the plaintiff (claimant) and the defendant to cover their own costs for their lawyers' and half of the court fees. Furthermore, the level of damages usually provided for in the settlement agreements are calculated using a licence analogy from which the lawyers' fees and court costs have to be deducted. It is rare that all of the costs and expenses will be awarded, even if the case is won. The level of lawyers' fees in Germany, for example, which are reimbursed, is governed by law, but most of the time the amount awarded is insufficient to cover the actual costs incurred. French law provides for some compensation to the winning party to cover their costs incurred.

In addition to the direct costs of the litigation, both sides will usually carry out opinion work as to the validity of the patents as well as reviewing the question of infringement. These sums are not negligible. There is also a residual risk in having the IP right revoked by the court, which may also lead to a loss in revenues from licences. Typically several hundred thousand euros are incurred in pre-trial costs. Lost opportunity and internal costs can far exceed what can be gained from the trial. Hence, patent litigation seems to be a poor investment for winners and even worse

for losers. The impact of a lost case can mean layoffs in the workforce, cut-backs in research and divestitures of business. Patent disputes are thus only likely to be reasonable for maintaining an established monopoly based on the IP right, ie provided that there is no alternative embodiment circumventing the existing protection available and the wish to be the only actor in the market.

So why does patent litigation even occur? Why do so many disputes progress through trial, only to be settled after the expenditure of large amounts of money? It is certainly not due to patent owners and alleged patent infringers being insane, or to parties addicted to litigation or even encouraged by litigation counsel. In many cases, the parties are simply not capable of resolving the dispute themselves.

The threat of litigation has multiple facets. Litigation raises pressure to bear on costs and engenders strong personal involvement. Discovery, where needed or possible, allows one of the parties to check suppositions and to replace these by actual knowledge. Emotions have time to wane during the long and tedious litigation process. Litigation is only one among several options, but an expensive one. The court case might be a tool to achieve settlement, and if necessary, resolve a dispute – however, the pressure of the court and usually the mediation performed by lawyers brings most cases to an end before a final judgement is handed down.

The trial may only be effective if both parties can afford to go the whole distance. It is not surprising that less fortunate patent owners are upset after spending tens if not hundreds of thousands of euros or dollars, sometimes even their life savings, before reaching the initial stages of litigation. They must then accept a settlement that they would not have even considered acceptable or even possible at the beginning of the trial.

A patent court in which the judges are familiar not only with the law but also with technology has often been suggested as one solution in various jurisdictions. A dispute involving an improvement to an elevator would then not require educating the judge about how an elevator works or even the differences between a hydraulic system and a motor-driven system. Some court systems use technically trained experts, but doing so will again involve additional costs.

Finally a national court decision usually has only very limited reach in one single country. Globalized markets mean that the parties usually look for a global resolution. Hence additional negotiations are often required even after a settlement during trial or a final decision.

One option is to consider alternative dispute resolution (ADR). The New York Convention on arbitration, signed by many industrialized countries, enables disputes resolved using ADR to have more global reach with immediate enforcement of the awards (provided certain conditions are met).

Costs and time of litigation

The costs of a trial vary considerably with the complexity of the case and with its impact. Attorney fees for both the patent attorney and the litigation attorney are more or less negotiable. German law provides, however, for a minimum level of fees

based on the concept of the value of the dispute. These fees indicate the bottom limit and litigation will hardly be possible in any of the major industrial countries with smaller investment. The costs of a trial and appeal in Germany with a value in dispute of €1 million would lead to court fees of approximately €80,000. The lawyer's costs on both sides would exceed €100,000. The total costs for such litigation are thus likely to exceed €300,000, if the case proceeds to a final judgement. It will be noted that the costs are reduced if a settlement is found earlier.

Comparing these costs with the amount value in dispute shows an interesting result. If we assume that the level of damages usually awarded by the court or negotiated by the parties is based on a licence analogy then we can calculate that a 5 per cent royalty would lead to a return of €50,000. This is only one-seventh of the overall costs of the proceedings. Punitive damages are unknown in Europe and so the costs of the litigation will not be fully recovered. Therefore it appears in many cases advisable to consider ADR as an alternative or a prerequisite to litigation. In the United States ADR is currently far more common than in Europe.

The German court system is generally considered to be the most time-effective one. A decision is generally obtained in the lower court within a period of less than a year, but may take at least two more years for the appeal. In France a decision by the district court is likely to be reached within two years with the appeal taking another three years.

In summary, an ADR procedure does not need to add unreasonable extra time and/or money

ADR is an alternative

About 95 per cent of all court actions in IP matters are resolved before trial. Only a few disputes apart from those already resolved without a complaint being filed cannot be settled. Many disputes are resolved through negotiation, but this can be difficult. Assisted mechanisms, if agreed upon at an early stage, have proven to be most effective in achieving a fair resolution. In many cases, parties have resolved disputes quickly, confidentially, inexpensively and satisfactorily by using assisted or unassisted ADR.

ADR success is far from universal. Like beauty, success is in the eye of the beholder. If the process does not meet the expectations of the parties involved, it is viewed as a failure. One of the major questions is whether ADR should be agreed upon as being compulsory, as a prerequisite before litigation, and most importantly whether the results of the ADR should be considered as binding. This can depend on the countries involved. France and the Netherlands consider patent issues to be non-arbitrable and the decisions are therefore not binding and not enforceable. Germany and the United Kingdom welcome the use of ADR.

Failures in resolving conflicts are usually not attributable to the ADR process itself, but rather its inappropriate use and unrealistic expectations. The parties may, for example, try mediation in order to each define the bottom line. If the

parties are in an all or nothing dispute, they are very unlikely to forego traditional litigation willingly.

If the objectives are to ‘save money’, ‘avoid the uncertainties of the judicial system’, ‘obtain a decision from individuals knowledgeable in the technology and law’, ‘rapidly reach resolution of a dispute’ or ‘maintain a good relationship’, ADR will likely be a ‘failure’ to one or both parties. The parties must have the ability and willingness to resolve a dispute, otherwise ADR can be an expensive mistake. Even if parties have a mutual desire to resolve the dispute in good faith, they will be dissatisfied if the procedure is not well thought out or inappropriate for the circumstances.

Timing is also important. Early negotiations may fail, whereas on the eve of trial negotiation can easily succeed as the parties have a better understanding of each other’s cases and have already spent considerable money and anticipate spending far more.

In summary, the major advantages of ADR are:

- an open choice of definition on all aspects of the case, including applicable jurisdiction and specific timing;
- privacy and confidentiality;
- neutral instance, eg unbiased by national or other interests;
- the ability of the parties to select arbitrators who are experts and familiar with the subject-matter of the dispute;
- cheaper, quicker and less time-consuming than litigation;
- greater probability of preserving long-term business relationships between opponents.

Alternative dispute resolution

What is ADR? At least in the context of patent litigation, it is any mechanism for parties to resolve their dispute other than through traditional court litigation. It can be used before or even during ongoing litigation. It is anything that the parties want it to be; it can be very simple or complex. ADR can involve full discovery, testimony before several arbitrators and a right to appeal. The results of the ADR can be included or excluded from any ongoing or future litigation as regards arguments, proposals, awards etc. It can even be a limited-scope litigation. ADR can occur anywhere between the time the parties realize that a dispute exists and the time that the winning party is satisfied or the losing party has exhausted any possible avenue of appeal.

The parties decide whatever process they mutually desire. There is no cookie cutter. What works in one situation may fail in another. Attorneys are of value to clients because they know the rules. ADR gives attorneys the additional advantage of being able to make rules that maximize opportunity for success in light of the inter-party relationships, the internal dynamics of each party and the nature of the dispute, including issues of fact or the specific market surroundings.

The broadly defined different types of ADR need specific tailoring to the individual circumstances. These range from non-assisted discussions through mediation, neutral fact finders, case exposure (such as mini-trials), arbitration (binding and non-binding) and limited-issue litigation.

- It is possible to tailor non-facilitated discussions. They may involve the exchange of information on a confidential or non-confidential basis. The parties can establish the individuals who will participate to assure that a decision maker is present (or to avoid the presence of a political roadblock).
- In mediation, neutrals may be passive or can 'beat up' the parties to force a solution.
- In fact finding, a neutral can 'look under the cloak' and obtain sensitive technical or commercial information without disclosure to the other party.
- With case exposure, generally each party can present its case to the decision maker for the other party. Such proceedings include mini-trials and give decision makers an opportunity to verify what they have heard from the lawyers or from the respective business or technical personnel.
- Arbitration is getting a neutral party or panel (members may not always be neutral) to reach a decision on facts, on law or on both. The decision can be binding or non-binding, administered (by an ADR organization) or not, and appealable or non-appealable. The arbitrator(s) can have the power to order discovery or not. A decision can be made without reasons being given or it can be fully reasoned. The scope of possible award can be unlimited (including penalties, attorney costs and enhanced damages) or, as in a trial, restricted to deciding between one of the party's offers/requests, and nothing else.
- Limited-issue litigation uses courts, but the parties agree to limit legal or factual issues to ones they cannot resolve through negotiation. For instance, a settlement may require certain payments (or refunds) of royalties depending on whether a patent claim is found to be invalid on specified grounds. This permits focused litigation with conventional procedures and appeals or, the other way round, exclusion of some findings to bring them to an out-of-court agreement.

It is a good idea to rely on existing arbitration rules such as the ones provided by the World Intellectual Property Organization (WIPO), American Arbitration Association (AAA) or the International Chamber of Commerce (ICC) as these have been tried and tested. However, arbitration rules may be freely drafted between the parties.

The actors, organizations and other professionals such as patent attorneys

Several organizations assist in providing ADR services, including a multitude of professional profit organizations and some governmental, public or non-profit organizations. The AAA has extensive experience in the United States and the various

chambers of commerce such as the ICC or the French or German Chamber of Commerce have been widely used in the past in Europe.

The cost effectiveness as well as the expected time frame varies widely with existing programmes and a tailored authority might be the better choice, though involving at an early stage more resources in properly defining the arbitrators, mediators or whatever function the ADR authority should have.

Patent disputes tend to be unique and it is not a surprise that most respected arbitrators are retired officials from the relevant courts or patent offices together with specialized service providers such as patent attorneys who have a technical degree.

The patent attorneys deal with the law with a degree of precision that only a scientist or engineer can understand or tolerate. Most general lawyers and judges lack technical training and know little or nothing about intellectual property, particularly patents. Thus, patent lawyers may be more concerned (than lawyers without technical training) about having disputes resolved by judges unfamiliar with both relevant law and technology. They may also be more concerned about trying cases before jurors who have, at best, great difficulty deciding which set of scientists or engineers to believe. This is why 'alternative dispute resolution' can have a major role to play.

In a court system the judgements and findings are open to appeal, but an appeal from decisions by arbitrators is usually very limited. Judges tend to defer arbitrators' awards, including those made without reasons being given. Arbitration sometimes offers a more competent forum for addressing some technical and legal issues. The threats imposed by the non-consensual court system call for alternatives. One should recognize that few cases enter and complete the full course of judicial dispute resolution. Most that do not are resolved privately.

Risks of error are inevitable whatever procedure is chosen. It is often equally important to resolve the dispute as to dispute in the first place. As lawyers say, 'even a bad settlement is better than a good, but unfavourable judgement – life needs to carry on'.

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Where to take action

Despite attempts at harmonization, national courts still interpret European grants in light of their own tradition and practice. So take care in which jurisdiction you litigate, say Nigel Stoate, Simon Cohen and Tanvi Shah of Taylor Wessing LLP.

In 1973 the first European countries acceded to the European Patent Convention (EPC) and conferred the power to grant patents for their jurisdiction on a new supra-national body – the European Patent Office (EPO). Applicants could file one application to obtain a number of national patents in the EPC signatory countries, signalling the beginning of a new centralized European patent system.

This centralized system relates to the grant of patents, and includes a limited central opposition procedure, by which a party can oppose the grant of a European patent by filing an opposition at the EPO within nine months of grant of the patent. However, once granted, the European patent is in effect a ‘bundle of national patents’ and responsibility for enforcement and post-grant amendments (including revocation) remains with the national courts and authorities.

Post-grant harmonization

Since then, the situation has remained similar, but some harmonizing provisions have been implemented, relating to post-grant amendments and enforcement.

The EPC has been amended by an Act adopted in November 2000, which came into force in December 2007, referred to as the ‘EPC 2000’. Broadly speaking, the EPC 2000 was designed to make it easier to obtain and enforce patents.

The key EPC 2000 changes are:

- introduction of a post-grant central limitations procedure, whereby the patent-owner can apply to the EPO to limit the claims of their patent in all the designated states;
- the protocol on interpretation was amended, to require due account to be taken of elements of a potentially infringing product or process which are equivalent to an element specified in the claims of the patent (thereby aiming to harmonize the approach to infringement across Europe); and
- privilege has now been introduced to communications between European patent attorneys and their clients, protecting these communications from disclosure.

Some European Union (EU) legislation has also been implemented which affects the enforcement of patents. A key development is the Directive on the enforcement of intellectual property (IP) rights (the IP Enforcement Directive), which came into force in April 2004. Again, this provision is designed to make it easier to enforce patents.

The key provisions of the IP Enforcement Directive include:

- national courts have the power to order disclosure of evidence and protection of evidence pre-trial;
- reasonable and proportionate legal costs and expenses are to be borne by the unsuccessful party, unless this would be inequitable; and
- various provisional measures, including interim injunctions and seizure of the defendant's assets, can be issued by the court (where necessary without the defendant being heard).

Although the various harmonizing provisions go some way to evening out the differences between European jurisdictions, enforcement of each national patent remains the responsibility of the national courts. The courts of each country naturally interpret and apply the harmonizing provisions in light of their existing procedures and practices and according to their traditional approaches. A harmonized European patent system will only really be achievable once some form of European patent court, with one procedure and jurisdiction over all European patents, is established.

Over the years, various proposals have been put forward for creating such a system – such as the Community Patent and the European Patent Litigation Agreement – but practical difficulties and political wrangling have so far prevented this and there

are currently no firm plans for implementing such a system. Furthermore, attempts by the courts of Europe to overcome this through pan-European actions in national courts have been curtailed by the European Court of Justice. A harmonized European patent system therefore still seems some way off.

So what does this mean for business?

The lack of a harmonized European patent system means that where multiple European jurisdictions are relevant, choosing and coordinating which jurisdiction(s) to litigate in, and in what order, remains tactically important. This is because the differences between the jurisdictions can have a significant effect on the success (in both legal and commercial terms) of a patent enforcement strategy.

In the rest of this chapter we consider the factors relevant to deciding which European jurisdiction to litigate in to maximize success.

Where to litigate a European patent

When deciding where to litigate, some of the key factors typically considered are cost, speed and legal certainty. Participants in the recent Global IP Index survey considered these factors. The results for patent litigation for the 7 European countries surveyed (out of a total of 22 countries surveyed worldwide) were as shown in Table 13.3.1 (the full report can accessed via <http://www.taylorwessing.com/ipindex/>). We consider some of the key factors in more detail below.

Speed

In the interests of commercial certainty it is often preferable for parties to litigation to obtain a quick final decision. Germany, the Netherlands and the United Kingdom's specialist patent courts mean that they are often able to conclude matters quickly, and it is usually possible for a trial to be heard within a year, with no more than a further year for an appeal.

Table 13.3.1 Global IP Index – Patents Index, European jurisdictions

<i>Jurisdiction</i>	<i>Rank</i>	<i>Rating</i>
UK	1	761
Germany	3	737
Netherlands	4	715
France	9	672
Spain	12	615
Poland	16	553
Italy	17	551

Other courts can be much slower, for example Italy and Belgium, and it can take several years to obtain a first instance decision. This is generally a disadvantage for commercial certainty reasons, but has been used as a defensive tactic by potential infringers. This tactic is known as the ‘Italian torpedo’ and involves the potential infringer bringing a pre-emptive action in a slow jurisdiction. This prevents the patentee bringing an action in a faster jurisdiction until the slow jurisdiction has decided whether it is competent to consider the action. Some recent case law has cast doubt on whether the torpedo is still available, but it remains a possibility.

Costs of litigation and recovery

The costs of litigation in the United Kingdom are often higher than in the other jurisdictions (typically ranging from €150,000 to €1 million for a first instance case), although this is slightly skewed as large international organizations often litigate their important, and often therefore more expensive, cases in the United Kingdom. By contrast, the costs are expected to be around €200,000 at first instance in Germany, between €50,000 and €250,000 in France and around €60,000 to €300,000 in the Netherlands.

A related issue is the level of costs that can be recovered. The general rule across the EU, under the IP Enforcement Directive, is that the successful party is allowed to recover its ‘reasonable and proportionate’ legal expenses, and this is therefore harmonized to a certain extent. However, the interpretation of what is reasonable is at each court’s discretion. For some jurisdictions, such as the United Kingdom, there are clear principles to indicate how much will be recovered (typically 60–80 per cent). For others, such as the Netherlands, this is a departure from their usual rule and so the position is less clear.

Court procedures

There are variations in procedure across the jurisdictions, particularly between the United Kingdom (which has a common law system) and the other European jurisdictions (which have a civil law system). The IP Enforcement Directive has removed some of these differences, but many still remain.

For example, in the United Kingdom, trials often last for several days. In the Netherlands each side is limited to 90-minute submissions and in Germany the trial will usually last less than a day. In the United Kingdom the detailed examination of the issues will primarily occur at trial, whereas in Germany or the Netherlands greater reliance is placed on written submissions and pre-trial argument. In addition, the way in which experts are used varies. In the United Kingdom, each side will appoint its own expert (whose duty is to the court) and will cross-examine the other side’s expert in court. By contrast, in the Netherlands and Germany a court-appointed expert produces a single report, on which they are not cross-examined.

Similarly, while interim measures are now available across Europe (under the IP Enforcement Directive), the speed and nature of the procedures vary. In the United Kingdom an interim injunction application can be decided in a matter of days,

whereas in the Netherlands it can take up to six weeks and will include much more of a preliminary review of the case.

Precedent value

Strictly speaking, the courts in one jurisdiction are not bound by decisions from other jurisdictions. However, an earlier decision from one of the more experienced patent jurisdictions is likely to be persuasive in other countries.

Effect of ongoing EPO opposition proceedings

Different countries take different approaches about whether to stay national validity proceedings while an EPO opposition is ongoing. The difference is most marked in Germany where a patent's validity cannot be challenged while there are ongoing EPO opposition proceedings. In the meanwhile, infringement actions can continue – meaning that a party may be stopped from exploiting the market because it is infringing, even though the patent may be invalid and later revoked. By contrast, in the United Kingdom it would be unusual for the courts to stay an action for infringement or revocation on the basis of ongoing EPO opposition proceedings. In the Netherlands, a stay may be granted if there are ongoing EPO opposition proceedings, particularly for a revocation action, but the court may still consider validity issues if raised as a defence to an infringement action.

Conclusion

There are two main aspects to any system for the protection of intellectual property rights – grant and enforcement. Where grant is concerned, a harmonized European patent system was achieved some time ago. For enforcement, however, there is still some way to go. While that remains the case, litigation in multiple European jurisdictions will continue and it will remain vitally important to consider which jurisdiction(s) to litigate in, and in what order.

Taylor Wessing is a leading law firm for companies doing business in Europe. It is a full-service firm that is particularly focused on clients in IP-rich industries, and provides client-focused and value-added services throughout its network of offices. A market leader in many practice areas, Taylor Wessing offers constructive, commercial advice through a partner-led service with a total, long-term commitment to clients around the world.

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280 partners, 760 lawyers and a total staff of over 1,330, Taylor Wessing is able to offer genuine cross-border European services that combine national excellence with an international perspective.

Simon Cohen and Nigel Stoate are both partners in the Intellectual Property department at Taylor Wessing. Simon Cohen specializes in patent litigation, licensing and pharmaceutical regulatory work. Nigel Stoate specializes in patent litigation and advice in the engineering, telecommunications, chemical and pharmaceutical industries. He has a particular interest in patent litigation in Europe and has extensive experience of coordinating patent cases and strategy across the region. Both regularly contribute articles to publications including *Bioscience Law Review* (for which Simon Cohen is the UK correspondent), and both speak at numerous conferences on patent-related matters. Tanvi Shah is a trainee solicitor at Taylor Wessing and has contributed to other intellectual property publications.

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IP LITIGATION IN EUROPE AND ITALY

Technical experts play a central role, says Gabriele Gislón at Marietti, Gislón e Trupiano.

An intellectual property (IP) right can be used by you or against you in a litigation before a national court in infringement proceedings. Whereas in a trade mark or design case any judge is satisfied with their competence, a patent litigation requires a technical knowledge that the judge could lack. This problem is solved in different ways in European countries.

In Germany and in Austria the patent nullity is decided by a separate court that does not decide on infringement. In both countries, technically qualified judges sit in the court dealing with validity. The patent attorney assists the lawyer in infringement proceedings and can represent their client in validity proceedings.

In other countries, eg the United Kingdom, France, Italy, Spain, and the Netherlands, the validity and infringement issues are decided by the same court.

In the United Kingdom the judges (both at the High Court and at the Patents County Court) usually have a technical background.

In Spain and the Netherlands the court can request the relevant national patents office to issue an opinion on validity.

In France, the judge can appoint a patent attorney as an expert to assist the court, and the appointed expert can be involved in litigation before, during and/or after the actual litigation on infringement and nullity.

In Italy, the patent court appoints a court technical expert (CTE), usually a patent attorney, to act as technical assistant to the court.

The expert is formally appointed in a hearing where they are sworn in and given a 'technical question' to answer.

The questions asked by the Italian patent courts are quite wide and require the expert to give their technical opinion on validity and infringement after a thorough discussion with the parties. The technical proceedings of the litigation have to be concluded with a written report by the expert, within a time limit of three to eight months, depending on the cases.

During the technical proceedings with the CTE the parties are represented by their patent attorneys and can file up to four briefs and any document

they deem appropriate and useful to support their arguments. A final meeting is often held.

If requested and so authorized by the judge, the CTE can inspect premises and examine products, plants or processes.

While the court is not bound to the opinion of the expert, the court decision is usually based on the reasoning and conclusion of the CTE report. Thus, in Italian litigation, the patent attorney is a central character and has a critical role in its outcome: a careful choice of patent attorney is essential.

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As a European patent attorney, besides dealing with patent filings and prosecutions, he is involved in patent litigations before the EPO (oppositions and appeals) and before the Patent Court in Milan, either as court technical expert or as the patent attorney of one of the parties. Recent litigations include pharmaceutical cases such as 'alendronate' and 'nebivolol', mechanical cases involving oil drilling heads and electronic cases on anti-counterfeit devices for banknotes. Further details, e-mail: ggislon@mgtpatents.com; tel: +39 0286464387.

Preliminary injunctions

Patent litigation can take forever, so how do you file an injunction in the meantime? Peter-Ulrik Plesner reviews developments in European and Danish practice.

Patent litigation is normally considered to take rather a long time. It is a serious deficiency in the court system that a patentee with an issued patent has to wait for years for a decision to be made in an infringement case. In the meantime the infringing activities will continue to take place. In most cases the patentee will not be awarded any compensation which adequately covers their loss. As a provisional measure, preliminary injunctions (PIs) are meant to overcome the fact that patent litigation takes too long. A PI granted by the court will under certain conditions order that infringing activities must cease until the injunction is confirmed finally by the court.

The TRIPS Agreement, Art. 50, provides that the judicial authorities shall have the authority to order prompt and effective provisional measures to prevent infringement of any intellectual property right from occurring. The EU Enforcement Directive 2004/48/EF, Art. 9, gives the court a similar possibility. Art. 9 contains the following provision:

1. Member States shall ensure that the judicial authorities may, at the request of the applicant:
 - a) issue against the alleged infringer an interlocutory injunction intended to prevent any imminent infringement of an intellectual property right, or to forbid, on a provisional basis and subject, where appropriate, to a recurring penalty payment where provided for by national law, the continuation of the alleged infringements of that right, or to make such continuation subject to the lodging of guarantees intended to ensure the compensation of the rightholder....

In spite of the obligations of TRIPS and the Enforcement Directive, the conditions for granting PIs vary within the European countries. The rules of procedure also differ in the different jurisdictions. In some jurisdictions a preliminary injunction is granted by the court dealing with the case on its merits. This is done by a separate decision prior to the final decision. This is not the case in Denmark where a separate procedure is used.

In Denmark patent cases concerning both European patents and national patents are dealt with by the Maritime and Commercial Court in Copenhagen. This court has exclusive jurisdiction in patent litigation in the first instance. Infringement and invalidity cases are dealt with by the same court and usually in the same case. Invalidity can be entered as a counterclaim. The Maritime and Commercial Court is a specialized intellectual property (IP) court and there is one legal judge and two technical judges on the bench. As in many other jurisdictions, a first instance case will usually take two–four years. There is full appeal to the Supreme Court. The proceedings before the Supreme Court will take another couple of years.

As mentioned, this time aspect is not satisfactory to the patentee. This is particularly unsatisfactory in a situation where a generic competitor causes price erosion, such as within the pharmaceutical sector. A request for a PI is handled by the Enforcement Court which is a division of one of the 24 city courts in Denmark. PI cases are always dealt with by the Enforcement Court at the place where the defendant (infringer) is domiciled. The rules regulating PI procedures are found in chapter 57 of the Danish Administration of Justice Act. The main conditions are contained in section 642 in accordance with which a PI may be issued if the plaintiff proves or renders probable:

1. that the action at which the injunction is directed infringes the right of the claimant;
2. that the defendant would perform the action against which the injunction is directed; and
3. the purpose would be lost if the claimant had to resort to ordinary court proceedings.

In relation to the first condition the claimant must prove that they have a valid patent. This is simply done by referring to the granted patent. There is a presumption of validity. The Enforcement Court cannot declare the patent invalid. That can only be done in the main case. The defendant can, however, claim that the patent is to be declared invalid in the case on its merits. The defendant has the burden of proof and in order to succeed they must have a very good case. The judge will presume that the patent office was right in its decision granting the patent. In case law the Enforcement Court has only rejected a request for a PI owing to an argument for invalidity if the defendant has produced a new piece of prior art which was novelty-destroying, cf. EPC, Art. 54. An Enforcement Court has never rejected an injunction based on an argument of lack of inventive step, cf. EPC, Art. 56. Even if the patent is under opposition an injunction can be granted. In Denmark, PIs are often granted even in situations where the patent in suit has been declared invalid in other jurisdictions.



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Of course, the patentee must prove that the patent is infringed. Evidence is usually provided in the form of an opinion by the parties' own experts. The experts will give testimony in court and can be cross-examined. The cases are thoroughly prepared and involve the exchange of at least two briefs from each party with new exhibits. There will be an oral hearing, which in a complicated case may take a full week.

The second condition is a question of whether infringement is actually taking place or will take place in the near future. This condition is usually not an issue in patent litigation if the defendant is on the market. However, the condition has recently been under trial in two pharmaceutical cases. The problem was that generic firms had been granted marketing authorizations to market generic products in Denmark. The generic firms were not willing to confirm conclusively that they would not start marketing prior to expiry of the patent in suit. The patent in suit covered the product as such. In these cases injunctions were granted even before the generic firms had started marketing. The decisions are not final and confirmatory actions have been instituted in both cases.

The third condition is always fulfilled in patent litigation because compensation is usually considered not to cover the patentee's full loss.

It is almost always a condition for granting an injunction that the claimant provides security for any damage and inconvenience that may wrongfully be imposed on the defendant as a consequence of the injunction. The size of the security is decided by the court. The security is provided in form of a bank guarantee.

The claimant is obliged to institute a case on the merits (confirmatory action) with the Maritime and Commercial Court within 14 days after the injunction has been granted. If it is established in the case on the merits that the PI was illegal, the patentee is liable for damages. Liability is strict. However, the defendant will have to prove the actual loss in the form of any damage and/or inconvenience suffered. A claim will usually be based on the lost profit caused by not being able to market the product in question. On the other hand, the patentee has had the (unlawful) advantage of having the market to himself.

In the preparatory work for the current wording of the Administration of Justice Act it is stated that

... when determining the conditions under which it must be possible to grant injunctions, the plaintiff's interest in being able quickly and effectively to put a stop to an instituted or threatening infringement should first of all be considered. The rules on injunctions should, however, also to the widest extent possible ensure a decision that is reasonable in relation to the defendant.

Most patent infringement cases start with an application for a PI, and the PI is very often granted. It is not unusual that the conflict is settled after the Enforcement Court's decision. The litigation is solved both much more quickly and cheaply compared to a full trial.

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Counterfeiting and piracy

*How do you coordinate a response to counterfeiting and piracy?
Gábor Németh at the Hungarian Patent Office reports on how the
European Union's enforcement efforts are being implemented.*

The infringement of IPRs is not a new phenomenon in the world economy, but in the past decade it has grown considerably to a point where it has now become a widespread phenomenon with a global impact. Since the 1990s counterfeiting and piracy have gone hand in hand with economic developments such as the globalization of the economy and the expansion of the means of communication. They have fed on the growth of the information society and on the emergence of modern, sophisticated technologies, which are easy to use for the purpose of copying products. The application of new technologies has resulted in an increasing volume of infringement and increasing profit margin for infringers.

The extent and economic impact of counterfeiting

A study on the Economic Impact of Counterfeiting and Piracy by the OECD in 2007¹ makes an initial estimate of the extent of the abuse of IPR, according to which up to US \$200 billion of internationally traded products could have been counterfeited or pirated in 2005. This is equivalent to 2 per cent of world trade and is larger than the national GDPs of about 150 economies.

Counterfeiting and piracy have a negative impact in various fields of the economy:

- The lost sales resulting from customers purchasing counterfeit items rather than the genuine articles result in the loss of jobs. The US motion picture industry estimated that piracy resulted in a direct loss of 120,085 jobs in the US industry, with an additional 20,945 jobs lost in other affected sectors. Thirty thousand jobs are lost in the European automotive sector because of counterfeiting each year.²
- Counterfeit items can have a negative impact on the image of a product itself, as well as on the reputation of the company that developed and distributes it. The good name of the country or region concerned may also suffer if it acquires a reputation as a source of counterfeits.
- Counterfeit products may not comply with basic safety standards, may contain toxic substances or be made from hazardous materials, and therefore, can be a risk to public health and safety. The magnitude of counterfeit pharmaceuticals has been reported as 10 per cent to 30 per cent for some developing countries in Africa and Asia.³ The health hazards from direct use of these products are obvious.
- The counterfeiting 'sector' operates as a black market so losses are experienced at every stage – from corporate profit taxes unpaid by the manufacturer to value-added taxes uncollected when items are purchased. The loss related to copy-right-based industries amounts to US \$100 million in Hungary.
- Counterfeiting tends to have a negative impact on innovation activities since manufacturers are cautious about investing in R&D, being concerned that counterfeiting will not allow the manufacturer of the original products to capitalize on their original investment. Many companies are deterred from participating in normal business activities, including establishing local manufacture or even entering new markets, because they assess the risks from IPR abuse to be either too high or unquantifiable.

Challenges for the IP owners/managers

A major problem that IP owners and managers have to face is the blatant disregard for IPR by counterfeiters. In order to find a proper response to this challenge, the rights holders must be well informed about the extent of the infringement of their IPRs and on the opportunities to initiate appropriate actions against the infringers within the legislation concerned. In addition, the rights holder should be in a position to de facto enforce such rights, which requires the availability of the related support services and certainly the financial means needed. This latter might suppose the involvement of external funding, especially in case of SMEs.

The local chambers of commerce, regional development agencies or business support centres are the most direct contact points to assist with initial information and orientation on IPR and IPR enforcement. Further, they are usually in a position to refer clients to appropriate specialists or service providers. Such professional services may include infringement watch, help services in third countries, litigation-risk

analysts, mediation services, detailed legal advice and representation in civil and criminal cases.

However, SMEs find it difficult to finance enforcement actions, especially if it involves litigation. In certain countries direct financial support is available to SMEs to access professional advice. Such funding is granted to private persons and enterprises via calls for proposals in Hungary. The problem may eventually be solved by appropriate insurance schemes; however, that is not a widespread solution yet. An interesting example of this latter solution is the private sector insurance scheme operating in Denmark (with some public support).

Challenges for the government

The high rate and increasing number of infringement cases is calling for specific steps and each government is engaged in tackling the impacts has led to calls of counterfeiting and piracy and providing the necessary help to IPR owners. In Hungary there are numerous government agencies, which are in different ways competent in intellectual property issues. Courts, public prosecutors, police and customs offices, and public administration bodies could all be involved in the processing of IP enforcement cases, a situation which might be somewhat confusing for the persons trying to enforce their rights.

The effective operation of these organizations requires proper coordination among them. The division of the competences results in a situation where the rights holders and their interest groups, the non-governmental organizations, are not able to express their expectations in a focused way to the decision makers owing to the lack of a competent partner on the government side and an appropriate forum for such discussions. This situation led in many European countries, including Hungary, to the setting-up of various strategy-making and coordination fora organizing the fight against counterfeiting and piracy.

The current EU context of enforcement

The Directive on the enforcement of intellectual property rights,⁴ agreed in 2004, obliged the member states to set up the measures and procedures needed to ensure the enforcement of intellectual property rights, and to take appropriate action against those responsible for counterfeiting and piracy. The Directive should result in less expensive litigation, more uniformity, and more certainty for individuals and companies. However, until recently, enforcing such rights has not been the focus of the European Union's IPR policy.

In July 2008, the Commission adopted a Communication on 'An Industrial Property Rights Strategy for Europe'⁵ that adds substantial details to the issues of enforcement of IPRs and combating counterfeiting and piracy. The Communication makes a series of proposals to enhance coordination and best practice exchange

between key players, such as customs authorities, the police, trading standards officers, prosecutors and IP offices, giving special attention to the international dimension of cooperation. Furthermore, the Commission undertakes to improve cooperation between all actors involved in the fight against counterfeiting and piracy, *inter alia*, by encouraging the public and private sectors to work together and by supporting European companies in third countries.

Enterprise Europe Network, IP AwareEurope and China IPR SME Helpdesk should be mentioned as the most important elements of the business support network and services supported by the European Commission.

Facing challenges of infringement of IPRs and inspired by several examples across Europe,⁶ the Hungarian government decided to set up the National Board Against Counterfeiting (NBAC)⁷ as a coordinative forum in January 2008. In the NBAC the full spectrum of enforcement and commercial interests is represented, including the various public administration bodies, enforcement authorities, trade mark and copyright associations, interest groups of commerce and industry, and, not least, enterprises worried about counterfeiting. The board, presided over by the responsible government commissioner, is an entity with proposal-making, opinion-forming and consulting tasks.

With the active involvement of NBAC a national strategy against counterfeiting and an attached action plan were worked out for the years 2008–10, which were adopted by the government in October 2008. The strategy defines the main pillars (statistics, awareness-raising and law enforcement) of the steps to be taken against the violation of intellectual property rights together with directions for action, specifies the required instruments, and determines the aspects relevant to monitoring the implementation and measuring its effectiveness. The action plan set forth for the period between 2008 and 2010 defines the various measures, the responsible persons and the available resources for this purpose. Three sectors are given special attention in the strategy and the action plan: foodstuffs, pharmaceuticals and the creative and IT industries.

Conclusion

The infringement of IPRs is a widespread phenomenon with a global impact. Not only rights holders and manufacturers of the genuine products, but consumers, employees and, indirectly, the whole society suffer from the negative consequences of counterfeiting and piracy. Business support centres and professional service providers, various forms of public funding and insurance schemes are available for IP owners to support enforcement of their rights.

This situation has led, in many European countries, supported by the recent development of the European policy context, to the setting-up of various strategy-making and coordination forums combating counterfeiting and piracy, such as the National Board Against Counterfeiting in Hungary.

Notes

- 1 OECD, *The Economic Impact of Counterfeiting and Piracy*, DSTI/IND(2007)9.
- 2 *The True Cost of Motion Picture Piracy to the U.S. Economy*, IPI Policy Report #186, Institute for Policy Innovation (2006).
- 3 OECD, *The Economic Impact of Counterfeiting and Piracy*, DSTI/IND(2007)9.
- 4 Directive of the European Parliament and the Council on the enforcement on intellectual property rights (Directive 2004/48/EC) OJ L 157, 30.4.2004, pp 45–86.
- 5 Communication from the Commission, *An Industrial Property Rights Strategy for Europe*, 16.7.2008 COM(2008) 465.
- 6 *Comité National Anti-contrefaçon* (CNAC) – <http://www.contrefacon-danger.com>; Intellectual Property Crime Group in the United Kingdom – <http://www.ipo.gov.uk/pro-policy/pro-crime/pro-crime-group.htm>.
- 7 <http://www.hamisitasellen.hu>.

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IP risk transfer

Dan Trueman at Kiln explains how insurers are changing their attitudes towards protecting against loss of IP revenue.

Insurance is not the only intellectual property (IP) risk management solution. An IP strategy can certainly transfer some of the risks, but insurance is now becoming a viable solution for the residual risk of an intellectual property portfolio. In order to understand why this is the case, it is necessary first to understand the reasons insurance underwriters or the insurance industry have been slow to recognize the value and thus the need for protection of IP assets.

Insurance has traditionally been limited by the essential need for, and thus understanding of, the concept of insurable interest. Insurable interest holds that items are only insurable where someone has direct title to them. Traditionally this has only been related in the minds of underwriters to physical or tangible assets. By codifying, identifying, valuing and developing proprietary rights to intellectual property it can be shown that this intellectual property has itself become an asset class where insurable interest should be easy to define and thus protect. However, this is not the only sea change that has made insurance and first-party intellectual property revenue possible. In fact it is this revenue itself that is the crux. In a first-party IP insurance policy it is this revenue derived from intellectual property that is being protected and thus is revenue itself, the revenue belongs to the assured, that becomes the true insurable interest. Consequently, where any threats to this revenue are previously identified insurance perils then it is the loss of this revenue that is protected against. The valuation of said revenue becomes the basis of indemnification under the insurance policy.

It is these perils that should now be focused upon, as a route to understanding both the construction and efficacy of a first-party intellectual property insurance policy. First, however, it should be noted that any strong first-party intellectual

property policy should be written, or bespoke, with the requirements of the assured in mind. There are, however, certain perils whose inclusion brings definite efficacy to that policy. Those perils are, first, where a successful legal challenge either injuncts or invalidates the IP or, second, where government action prevents or prohibits exploitation of that IP. In the first instance this peril would cover successful legal claims if an item of the policyholder's IP is held to be legally invalid or if that policyholder were to infringe a third party's IP rights. Additionally, for full efficacy, the policy would cover successful legal claims by an employee that the policyholder's right vests in whole or in part in the employee or the fact that that employee is not restrained from using knowledge of the policyholder's IP rights upon ceasing their employment. This peril, which is widespread where first-party intellectual property policies are offered, does not, however, offer full coverage of the risk inherent in intellectual property revenue generation. It is the second peril above, that is to say government action, that is fully necessary to complete coverage. This governmental action peril covers discriminatory governmental action that renders the policyholder's rights null and void, or which grants similar or identical rights to a competitor in contravention of the existing law. By doing so, these actions prevent or prohibit policyholders exploiting intellectual property rights in a specific country or countries. Taken in the round, these two areas of coverage offer protection where revenue generation is reliant on the underlying intellectual property from both the internal perspective, that is to say the organization's ability to generate IP, and the external perspective, that is to say the IP situation or regime within which that organization operates.

Having identified the section of the intellectual property portfolio that has most risk, and having then managed those risks through policies and procedures, and consequently identified the shortfall for which an insurance solution may be used, it is now necessary to identify how that insurance solution may be investigated and taken up, that is to say the underwriting process therein. This process is outlined in Figure 13.6.1.

A key aspect of this process may very well be a legal audit to investigate the intellectual property supporting the product lines to be insured. This legal audit will be used by the underwriters to flag up potential issues and risk factors within that IP. Cauthorn (2006) presents a very useful list of those 'red flags' that underwriters may be trying to identify during this due diligence:

- The organization unable to provide a full inventory of IP.
- The organization has no IP of its own and has not licensed-in rights to protect its products in its key markets.
- The organization has received 'offer to license' letters.
- The organization has already been involved in IP litigation (in some cases this can also be viewed as a positive).
- The organization is in an industry that should be more carefully scrutinized – such as the software industry.
- The organization is a threat to the market leader and the market leader owns a large IP portfolio.

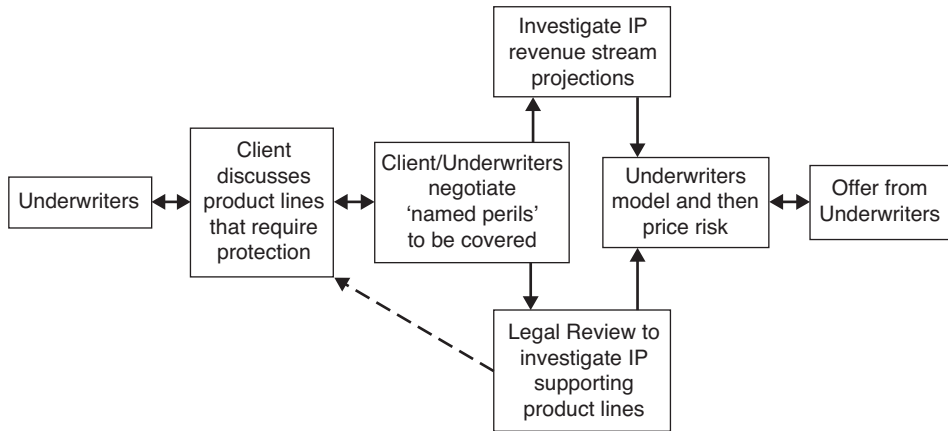


Figure 13.6.1 The underwriting process

- The organization seeks insurance to stand behind IP indemnification to a large, high-profile customer.
- The organization is not contractually indemnified adequately by its clients.
- The organization takes the 'ostrich putting its head in the sand' approach to IP infringement due diligence, failing to follow some or all of the procedures above.

A parallel stream of investigation is to identify the revenue projected for those product lines. As Hogg (2004) states, 'it is now common practice to build into the insurance contract defined values for each particularly valuable piece of IP'. More than anything else, the eventual aim will be to come to an agreed revenue projection between the organization requesting the insurance and the underwriter providing it. Once this has been done, giving the underwriter a picture of both the potential frequency and magnitude of claims that could occur from the intellectual property to be insured, the underwriter will then use this information to price the risk. This price will then be offered to the client along with a written policy specifically tailored to the client. This price and its associated policy then allow negotiations to continue as to whether any changes in price can be made against any changes in the policy.

It is clearly important that any insurance policy adequately indemnifies those who wish to purchase it. To this end, it is useful to note that a wide range of limits have historically been placed on intellectual property policies. The current largest limit the market has approached is US \$100 million; however, it is perfectly possible to place limits of anything from half a million US dollars (in fact many underwriters in the market prefer it, and prefer the due diligence process associated with it). These lower-limit policies are particularly relevant where individual IP assets have been securitized or are being used to lend against by financial institutions and those financial institutions wish to protect their own investment. To this end, first-party intellectual property insurance is increasingly developing into an accurate and, moreover, adequate tool to protect the interests of those who wish to purchase it.

While the market for first-party IP policies is a great deal younger and less developed than that for third-party policies, it is nevertheless closer to identifying and addressing a solution for the modern business paradigm as identified above. This paradigm, which holds revenue generation and intangible asset valuation as essential and often paramount in comparison to tangible assets, looks set to have greater emphasis in the future. It is thus important that first-party IP underwriters continue the collaboration model they have developed with purchasers of their product in order to ensure that it not only meets current needs but that it is pre-emptive enough to meet the future developmental needs of those purchasers.

Dan Trueman underwrites a range of specialist first-party cover insurance at Kiln, including intellectual property, cyber disruption and reputational risk protection.

Kiln is an international insurance and reinsurance underwriting group with a portfolio of specialist risks, and offices in Hong Kong, Singapore, South Africa and Belgium. It is a wholly owned subsidiary of Tokio Marine. Since 1962 it has built its business on the strength of its underwriting and its relationships. Its UK operating company, R J Kiln & Co Limited, currently manages five syndicates at Lloyd's and, in terms of capacity, is one of the largest agencies trading in the Lloyd's insurance market. Kiln syndicates benefit from a security rating of 'A+' (Strong) assigned to Lloyd's by Standard and Poor's.

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IP protection in Russia

Riikka Palmos and Petja Papula at Papula-Nevinpat discuss the implication of Russia's new IP law

There have been lots of changes in the recent years in the area of IP protection in Russia. All the changes are aimed not only to improve protection of IP rights but also harmonize the regulations with the International agreements and legislation.

New IP Law

The most significant and recent change is the major law reform which led to the new IP Law in the beginning of the year 2008. In this reform all IP laws, including Patent and Trade Mark Laws etc. were unified to the Part IV of the Civil Code and at the same time separate laws ceased to exist. In this connection some changes were made to the law. Most of the changes are only minor but there are also significant ones which will certainly lead to changes also in practice.

Although the Part IV of the Civil Code has been valid already over the year the internal regulations and guidelines of the Russian Patent Office are still missing. Thus, the legal situation is that the new law is interpreted by the old regulations and guidelines, if any. Therefore, it is still too early and in fact impossible to analyze the actual changes and compare the old and new practices.

For example the Part IV of the Civil Code provides that the use of a trade mark by its owner or any other party under the owner's consent is regarded as sufficient use of a trade mark. Due to lack of the official regulations it is still unclear how to prove the owner's consent in the practice. This question often actualises in the cancellation actions of a trade mark registration due to non-use and thus the regulations are long-awaited.

Customs Regulations

The Regulations on protection of Intellectual Property Rights by Customs Authorities in 2004 in respect of the Customs Code is also worth mentioning. Said Regulations clearly improved the protection of IP rights against counterfeits. Since 2004 it has been possible to file a customs surveillance application at the Customs to prevent import of the counterfeit goods to the Russian markets.

There are, however, prerequisites and limitations for the co-operation with the Customs; without a relevant registration at the Patent Office and registered surveillance application, the Customs may not interfere in the import of the counterfeits. Further, the customs surveillance application can be based only on trade marks, appellations of origin and copyrights. Inventions, utility models and designs cannot be included in the application and thus the Customs does not monitor such counterfeits.

In any case the possibility of the co-operation with the Customs in the fight against piracy can be regarded as an enormous improvement from the Authorities' side. Regrettably IP owners have still not acknowledged this opportunity as a tool in managing their IP portfolio. Currently about 1350 applications based on trade marks have been registered in the

Customs Register. This amount is extremely low given that there are more than 280.000 trade marks registered in the Trade Mark Register of the Russian Patent Office. The battle against piracy definitely needs more activity from trade mark owners.

Importance of trade mark registration

The Russian trade mark system is based on registrations on “first to file” basis. No protection is achieved by use only. The trade mark will be registered according to the application regardless of whether the applicant is the true owner of the mark or someone else.

There is an unpleasant trend among the locals to register both domain names and trade marks of others in their own name in bad faith. Afterwards said registrations are usually offered for sale to their true owners. Also local distributors actively register trade marks in their own name and unfortunately very often without the owner's permission. Thus, it is extremely important to register a trade mark in Russia to avoid loss of rights and unnecessary efforts of cancelling the bad faith registrations afterwards.

Registration strategy

The Russian trade mark system follows International Agreements and the process is thus similar to most of the European countries. Russia has, however, a few specialities which are good to remember when creating a trade mark strategy for Russia.

In principal only Cyrillic alphabet is used in everyday life in Russia. Therefore in addition to the trade mark in Latin characters it is advisable to register the mark also in Cyrillic characters, especially as the registration of trade marks in Latin characters will not protect the Cyrillic version of the mark and vice versa.

Further, the Russian Patent Office is very strict in respect of the use requirements. The use of the trade mark is not controlled ex-officio, but in the case of a cancellation action due to non-use very comprehensive evidence of use (customs declarations, distribution agreements, sales figures etc.) must be submitted. Therefore, to avoid the cancellation of the trade mark registration due to non-use the use should be documented and evidence collected on a yearly basis.

Finally, when co-operating with local representatives, distributors and agents, it is really recommendable to conclude proper agreements on co-operation in writing to avoid any misunderstanding afterwards. Extremely important is to register a licence agreement on trade mark use at the Patent Office. Non-registered licence agreements are regarded as void. There are a few special requirements for the license agreements but in general Russia has adopted a freedom of contract.

Overall, it seems that many requirements for patentability and approaches to patenting will become stricter, as will the Patent Office's practices in general.

Utility model as an interesting tool for inventions

The protection period of a utility model was prolonged from eight to thirteen years in the new law. Utility model's only requirement is novelty, and no inventive step is required. According to the Patent Law: “Level of information shall include information published in the world concerning means of the same designation as the utility model applied for and information

concerning the application thereof in the Russian Federation if such information became generally accessible before the date of priority". There is no requirement whatsoever that the utility model should be "essentially different", only that it must be new and industrially applicable. No methods can be protected by utility model, only "technical solutions relating to a device"

Being that utility model is automatically granted, no inventive step is required, and that a utility model is however considered to have the same protection as a patent, utility model is a recommendable way to protect inventions fast and economically. Fees for a utility model are only a fraction of the fees for a patent. A strong way to protect inventions is to file a patent application, divide it and transfer the divisional to a utility model application; the utility model is granted within about six to twelve months and gives an opportunity to enforce rights quickly, whereas the patent application will be pending on the background. When the patent is granted, the applicant must only either cancel the utility model (or the patent) or, if there is arguably no double patenting, i.e. claims are different, even both can be maintained.

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Petja Papula, M.Sc., Partner, Papula-Nevinpat, joined us in 1998. Petja is a patent attorney specialising in chemistry, in organic chemistry and in biochemistry as well as the patenting procedures in Russia and Eurasia.

He has, in addition, filed oppositions in Russia and Eurasia, as well as participated in infringement and revocation proceedings and actively given lectures on the patent practices of these territories in Finland and abroad.

Petja regularly participates in conferences and seminars, including e.g. the INTA (International Trademark Association) and APAA (The Asian Patent Attorneys Association).

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Riikka Palmos is a Master of Laws and EU trademark attorney in the head office of patent and trademark agency Papula-Nevinpat in Helsinki. Palmos joined Papula-Nevinpat in 1995, and she also is a partner of the company.

Palmos specialises in the trademark rights and practices in Russia and in the states created in the territory of the former Soviet Union. She has more than thirteen years of experience in the trademarks in the territory of the former Soviet Union, including changes in the trademark legislation and practices, licensing and assignment of trademarks, protection of well-known trademarks, registration of domain names, infringement cases and registration processes in the Russian Patent Office. Palmos also has experience in Finnish and EU trademark processes, and she handles cases relating to international trademarks.

Palmos has written a number of articles about the trademark rights and practices and gives regularly lectures and presentations in several seminars in the field of Intellectual property rights.

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Appendix 1

History, organization and procedures of the European Patent Office

Origins

Over 20 states met at a diplomatic conference in Munich in 1973 to discuss the introduction of a European patent grant procedure. The conference concluded with the signing of the European Patent Convention (EPC) by 16 participants. Four years later, on 7 October 1977, the EPC came into force. All signatories to the EPC aligned their national patent law with the EPC, resulting in substantial harmonization in patent laws across Europe.

Those states which have acceded to the EPC (either in 1973 or subsequently) are said to be members of the European Patent Organisation.¹ The legislative body of the Organization is the Administrative Council, whose delegates come from every Member State and meet four times each year. The Administrative Council decides matters of policy and finance, and numerous committees, boards and working groups on technical topics report to it.

The executive body of the European Patent Organisation, namely the European Patent Office (EPO) in Munich, began its work as a granting authority when the EPC came into force. On 1 June 1978 the first applicants filed for European patent protection. In that same year the Office expanded to include sites in Berlin and The Hague, originally the seat of the International Patent Institute. By 1979, 10,000 European applications had been filed. The EPO granted its first patents in 1980.

The filing figures reflect the rapid development of the Office: the 100,000th application was filed in 1983 and nine years later the total was 500,000. During 1998, total filing figures reached the million mark.

The Vienna site was established in 1992 and incorporated the former International Patent Documentation Centre already located in the Austrian capital. A small EPO liaison office was also opened in Brussels to build up relations with European Union institutions. A further 15 states have acceded to the European Patent Convention since 2002 alone – a testimony to the strength of the European patent system.

Patentability

A *patent* is a legal title granting its holder the right to prevent third parties from commercially exploiting the invention without authorization. European patents are granted for inventions that

- are new,
- involve an inventive step, and
- are susceptible of industrial application.

Furthermore, discoveries, scientific theories and mathematical methods; aesthetic creations; schemes, rules and methods for performing mental acts, playing games or doing business; and computer programs are not considered to be inventions, if the European patent application only relates to such subject-matter or activities *as such*. This means that, for example, a computer program alone is not a patentable invention, even though a novel technical invention which is implemented through means including a computer is eminently patentable – such an invention is more than just a computer program alone.

In addition to this, inventions falling into the one of the following categories will not be able to obtain patent protection: plants and animal varieties or essentially biological processes to produce plants or animals; inventions contrary to '*ordre public*' or morality.

In return for the protection bestowed by the patent, the holder has to disclose the details of the invention. This information is published in the patent document so that everyone can benefit from the information it contains. The exchange of information concerning the invention in order to gain the protection offered through a patent is also known as the 'patent bargain'.

Patent application procedure

The services of a qualified European patent attorney are advisable to ensure that a robust patent application is filed which will be an asset to the applicant. The European grant procedure takes about three to four years from the date the application is filed. The application must be filed in one of the EPO's three official languages: English, French or German. There are two main stages for the patent application:

- **Formalities examination and search report preparation**, where the Office checks that the application meets all formal requirements, and a search report, listing documents relevant to the patent application ('prior art'), is prepared and

sent to the applicant together with the so-called Extended European Search Report, an opinion on whether the application seems to meet the requirements. After 18 months from the first filing date (or sooner, at the applicant's request) the patent application is **published**, and included in the patent databases around the world to be viewed by the public.

- **Substantive examination** is when the EPO, at the applicant's request, investigates whether the invention meets the requirements of the EPC and whether it is patentable. This process can involve several exchanges of written arguments between the EPO examiner and the applicant (or, rather, the applicant's patent attorney) as they refine the scope of protection for the invention (eg to be limited just to those features which are novel and inventive in view of the prior art).

Applications into the first stage come to the EPO either by direct filings, or by transmission of applications filed at national patent offices on the request of the applicant. There is, however, an alternative route. If an application has been filed at the World Intellectual Property Organization (WIPO) under the Patent Cooperation Treaty (PCT), then it will have its formalities examination and search report prepared under (similar) PCT procedures, and then be transmitted to the EPO for the second stage (substantive examination). Often the search will have been done by the EPO too, because the EPO is one of the competent authorities to which search work under the PCT is delegated. Of course, PCT applications can also form the basis for substantive examinations in over 100 other countries too.

Once all objections arising from substantive examination have been resolved, the patent will be granted, with the claims appearing in all three official languages. There may then follow a third stage:

- **Opposition proceedings**, which can take place if an opposition is filed within nine months of publication of the mention of the grant of the European patent. Oppositions can be filed, for example, on the grounds that an invention is not patentable under the EPC, that it does not disclose the invention clearly and completely so that a person skilled in the art could carry it out, or that the subject-matter of the European patent extends beyond the content of the application as filed. Such challenges are heard by Opposition Divisions of the EPO, and can take several years to resolve, owing to filing of evidence and written arguments by both sides. Decisions of the Opposition Division (to uphold, amend or revoke) the patent can be appealed (see below). If revocation of the patent is upheld then rights are lost in all Member States.

Validation and maintenance

Up until grant the application will have proceeded through the EPO in one of the three official EPO languages (English, French or German). Once granted, the patent specifications are published in the language of proceedings. The publication also includes a translation of the claims in the two other official languages of the EPO. The European patent is a bundle of patents which take effect in the designated

states. To take effect in some Member States translations into the respective official language of that state must be filed of the complete granted patent (claims, description and possibly drawings).² These translations must be filed at the national patent offices, usually within three months³ of the mention of the grant of the patent, otherwise rights in that state will be void. The national laws of some states allow for the re-establishment of rights if the deadline for filing translations is missed.

However, since the London Agreement came into force in May 2008, some Member States have relaxed the requirements for translations,⁴ which had been estimated to contribute to up to 40 per cent of a patentee's total costs. In countries using an official EPO language such as the United Kingdom, France, Germany and Switzerland, the requirement for filing any translations has gone. In other countries where the local language is not any of the three EPO languages (eg the Netherlands, Sweden or Denmark) a translation of the full patent specification into their local language is no longer required: just a translation of the claims into the local language, plus the description in English (which in most cases it already is), will be enough to bring the granted patent into force into that country. In the coming years it is hoped that more of the EPO Member States will join the London Agreement and simplify the demand for translation on applicants.

Granted patents are kept in force by the regular payment of renewal fees. For those patents which originated through the EPO procedure, 50 per cent of the renewal fee collected by the national patent office is paid back to the EPO. If renewal fees are not paid, the patent will lapse and the technology which had been protected becomes free for everyone else to use. Where a patent owner has allowed their patent to lapse, no one can restore it and bring it back into force. (Conversely, if a renewal payment is missed by accident and prompt remedial action is taken within prescribed time limits, the patent can be saved.)

Once a European patent has been granted and the opposition period has passed, it is traded, licensed or litigated as if it were a national patent in each of the countries where it takes effect. The loss of European patent rights in one country (ie through lapsing, or adverse court decision) does not affect the rights in another country.

The Boards of Appeal

Although administratively integrated in the structures of the EPO, the Boards of Appeal are independent from the Office in their decisions and are bound only by the European Patent Convention.

There are currently 24 technical boards of appeal, the Legal Board of Appeal, and the Enlarged Board of Appeal in the European Patent Office.

The technical boards of appeal and the Legal Board of Appeal examine appeals from the decisions of the receiving, examining, legal and opposition divisions of the Office. You can consult the division of technical fields between the individual boards in the 'Business distribution scheme' documents in the Patents section of the EPO's website. Work is allocated according to the International Patent Classification. Members and chairpersons of these boards are appointed for a term of five years.

To ensure uniform application of the law, or if an important point of law arises, a question of law can be referred to the EPO's Enlarged Board of Appeal, either by a board of appeal or by the President of the Office. Members of the Enlarged Board of Appeal are appointed for a term of five years.

In recent years the boards of appeal have been receiving about 2,000 new cases and settling about 1,600 cases per year. The public is informed about the decisions of the boards via the Register of European patents, the Official Journal of the EPO, a database of decisions available online and on ESPACE Legal DVD. A systematic overview of the complete case law is available in an EPO publication: 'Case Law of the Boards of Appeal of the European Patent Office.'

Applications filed	2008
Direct European applications	63,013
Euro-PCT applications entering the regional phase	83,548
Total European applications (including PCT regional phase)	146,561

Searches	2008
European searches	87,667
International searches	82,063
Searches for national offices and third parties	17,104
Total searches completed by the EPO	186,834

Examinations	2008
European examinations	99,053
International preliminary examinations	10,430
European patents granted	59,819
Decisions in opposition cases	1,982

Technical fields with the most filings	2008	
IPC classes	Number	%
Medical or veterinary science; hygiene	17,006	11.6
Electric communication technique	14,842	10.1
Computing	9,520	6.5
Basic electric elements	8,901	6.1
Measuring; testing	8,206	5.6
Organic chemistry	8,016	5.5
Vehicles in general	4,513	3.1
Organic macromolecular compounds	4,001	2.7
Biochemistry, genetic engineering	3,953	2.7
Engineering elements	3,867	2.6
Sub-total	82,825	56.5
Others	63,736	43.5
Total	146,561	100.0

NB: These are preliminary data compiled in March 2009. Final official figures for 2008 can be seen in the EPO Annual Report, published in June 2009.

Leading countries of origin of applications to the EPO in 2008

US	United States of America	37,359	25.5%
DE	Germany	26,653	18.2%
JP	Japan	23,081	15.7%
FR	France	9,049	6.2%
NL	Netherlands	7,289	5.0%
CH	Switzerland	5,972	4.1%
GB	United Kingdom	5,068	3.5%
KR	Republic of Korea	4,346	3.0%
IT	Italy	4,343	3.0%
SE	Sweden	3,140	2.1%
CA	Canada	1,931	1.3%
BE	Belgium	1,900	1.3%
FI	Finland	1,780	1.2%
DK	Denmark	1,586	1.1%
CN	People's Republic of China	1,510	1.0%
AT	Austria	1,492	1.0%
ES	Spain	1,322	0.9%
IL	Israel	1,118	0.8%
TW	Taiwan, Province of China	1,057	0.7%
AU	Australia	1,056	0.7%
Others 5 509		3.8%	
Total		146,561	

Notes

- 1 <http://www.epo.org/about-us/epo.html>.
- 2 At the time of writing, the states which have *not* acceded to the London Agreement and which *do* require a translation of the entire patent specification are: Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Estonia, Finland, Greece, Hungary, Ireland, Italy, Malta, Norway, Poland, Portugal, Romania, Spain, Slovakia and Turkey.
- 3 Some states allow more time, but only on payment of a surcharge.
- 4 Signatories to the London Agreement include: Croatia, Denmark, France, Germany, Iceland, Latvia, Luxembourg, Monaco, the Netherlands, Slovenia, Sweden, Switzerland and Liechtenstein, and the United Kingdom. Although they have not signed the London Agreement, Lithuania and FYR Macedonia require only a translation of the claims into their local language for the European patent to take effect in their countries.

Appendix 2

The Office for Harmonization in the Internal Market

Community trade marks and designs

The trade marks and designs registration office of the European Union, The Office for the Harmonization of the Internal Market (OHIM), was set up in 1994 to register Community trade marks – regarded as an essential element of the free movement of goods and services at the heart of the single European market. The Community trade mark was launched two years later in 1996, and in 2003 OHIM also started registering Community designs. Both measures for intellectual property protection are extremely popular, with undertakings ranging from large multinationals to tiny SMEs.

Organizations can choose to protect their brands at the national level – in one or several countries – or at the Community level. A Community trade mark registration means that brand names, for example, cannot be copied or mimicked in any part of the European Union. While it is currently more expensive to register a Community trade mark than one or two national registrations, Community-wide protection is typically the choice of ambitious organizations that wish to tackle the European and even global markets. In addition, as a result of efficiency measures leading to higher productivity, the fee for registering a Community trade mark is set to fall by 40 per cent in 2009 to under €1,000, making the CTM an even more affordable option.

Having a Community trade mark available allows companies to use the same brand name (incorporated in advertising, packaging etc) in more than one country. Having a Community design means that the outward appearance of dress designs or car shapes, for example, cannot be copied.

Building an international brand is impossible without having international trade mark cover, either by collecting various national registrations or by opting for Community-wide registration which covers the European Union in a single transaction.

OHIM, whose full name is the Office for Harmonization in the Internal Market (Trade Marks and Designs), is a non-profit-making European agency funded entirely by fees from users. It is based in Alicante in Spain and employs 705 people (140 of them teleworkers) drawn from every part of the EU. The Office has five working languages – English, French, German, Italian and Spanish – and applications can be made in 22 languages. OHIM's work is known and valued by those whose business life depends on efficient and cost-effective IP protection and OHIM has drawn praise for its 'business-like' approach to cutting out bureaucracy and waste.

The Office for Harmonization in the Internal Market (OHIM) is not the best known of EU organizations but it is arguably one of the most successful. (*European Voice*, December 2008)

Community registration of trade marks and designs is based on the principle of offering EU-wide protection for each of these IP rights through one single registration process for trade marks and another for designs, each governed by its own single piece of legislation. The trade mark or design right granted by OHIM is therefore indivisible and unitary in character, offering either trade mark or design protection under one single IP title for the entire European Union as a single territory, currently made up of 27 Member States.

What can be trade marked?

What can be trade marked is sometimes a complex question. You cannot trade mark something that is purely descriptive of goods and services, for example – there is no point in trying to register the word 'bicycle' for a make of bicycles.

Words can be trade marks, eg Coca-Cola, and figurative images which may incorporate words. In addition, colours and colour combinations may be trade marked. For example, the purple colour used on the 'Milka' chocolate wrapper is a European trade mark for confectionery, and some colour combinations have been trade marked for postal services, for example.

In recent years, OHIM has also been able to accept sound trade marks and these may now be accompanied by an MP3 sound file. There have been several hundred applications for sound marks to date – these range from the MGM lion's roar to advertising jingles and even include the Johnny Weissmuller version of Tarzan's call, which became famous in a series of Hollywood films.

The Community trade mark

While OHIM is based in Spain, the majority of Community trade mark applications come via the internet, making the agency's physical location irrelevant to most

customers. Electronic filing also carries a 10 per cent reduction in the filing fee and the agency has a corporate goal of going 100 per cent electronic over the next few years.

In 2008, OHIM received 87,000 applications for Community trade marks (CTMs), slightly fewer than the previous year. While the steady growth in demand experienced since the CTM was introduced in 1996 took a pause owing to the global financial crisis, the agency still received 46 per cent more applications than in 2004. In all, OHIM has dealt with around 750,000 Community trade mark applications from more than 170 countries worldwide, and has registered well over half a million CTMs.

Goods relating to the information technology and telecommunications industries top the ranking in terms of CTM filings, followed closely by services in the field of telecommunications.

Applications to register a Community trade mark can be made directly to OHIM in Alicante or via any of the national industrial property offices of the European Union, who will in turn pass the application to the OHIM for processing.

Once received, an application is examined by OHIM to see if it can be accepted for registration. If accepted, it will be published for a period of three months to allow potential prior rights holders an opportunity to oppose the registration. OHIM, unlike many national IP offices, does not make *ex officio* objections to Community registration on the basis of prior rights existing, but leaves the matter of raising such objections to the affected parties.

At the initial stages of an opposition to a CTM application, both parties enter into a ‘cooling-off’ period where, without any intervention from OHIM, they are given two months in which to come to an agreement over who owns the rights and whether or not the CTM application should proceed to registration. Any agreement reached by the parties at this stage will be accepted by the Office. If no such agreement is possible, it falls to the OHIM to take a decision based on the subsequent submissions of each of the parties, in which it will either allow the CTM application to proceed to registration or refuse it.

Table A2.1 CTM application: top 10 by country of origin

	2007	%	2008	%
Germany	15,300	17	15,500	18
United States	14,000	16	12,900	15
United Kingdom	9,300	10	8,500	10
Italy	7,100	8	7,200	8
Spain	7,300	8	6,900	8
France	6,000	7	6,000	7
Netherlands	3,200	4	3,200	4
Switzerland	2,600	3	2,800	3
Japan	1,800	2	2,100	2
Austria	2,000	2	2,000	2

In spite of the progressively higher volume of applications received, the average time to registration for straightforward applications fell by 50 per cent between 2004 and 2008. The average time to register a trade mark is now eight months, including the three-month publication period to allow for objections. Many applications are processed more quickly; for example, the 500,000th CTM was issued towards the end of 2008. It went to a small Italian design company called Handy Dandy Design, and the trade mark was registered in just under six months (25 weeks).

In addition to oppositions which may be made during the publication period, it is possible to apply for the cancellation of a Community trade mark, through either a revocation request or an invalidity request, once the mark has been registered.

A registered Community trade mark is valid for 10 years from the date of filing and can be renewed indefinitely for subsequent periods of 10 years upon payment of the corresponding renewal fee.

The registered Community design

Registering a Community design is a much simpler and quicker process than registering a Community trade mark, principally due to the fact that OHIM does not carry out any substantive examination as to the registrability of the design.

In spite of the global recession, in 2008 Community design applications rose slightly to 78,000, but the rate of annual growth was significantly slower compared with previous years. Since 2003 when the registered Community design (RCD) became available, the agency has received 380,000 designs and has registered 360,000 of them.

As with CTM applications, a Community design can be filed directly at OHIM, with the option to file online, or via any of the national IP offices of the EU Member States. Unlike the CTM system, RCD filers can include any number of designs in one single application, as long as each of the designs is for the same type of product. The registration of a single design costs €350 including all fees, but with multiple applications there is a progressive scale of fee reductions for each design after the initial design, and again for each design after the first 10 filed.

The examination of a Community design prior to registration is based exclusively on formalities and any elements of the design itself which may contravene accepted standards of public morality.

Table A2.2 CTM: average time to registration (months)

2004	16
2005	14
2006	11
2007	10
2008	8

Once registered, the design right obtained is valid for a period of five years and can be renewed for a further four periods of five years each, giving a maximum lifetime of 25 years

Owing to the relative simplicity and speed of Community design registration, there has been a rapid rise in demand from undertakings from all over the world, with over 78,000 designs registered in 2008 compared with 54,000 in 2004 – an increase of around 45 per cent.

Once again, the time to registration has dropped rapidly, down from 17 weeks in 2004 to 6 weeks in 2008. In fact, for a significant number of design applications (almost one-third of the total follow the necessary simple application rules), registration is now possible in under 10 days. This speed of registration is hugely appreciated by designers working in industries with very short life cycles, such as fashion and toys.

E-business and information services

The OHIM has developed a number of e-business tools over the years to facilitate interaction between the Office and the users of the RCD and CTM systems, and to encourage the switch to online services. During 2008 the OHIM website had its first major revamp, introducing a more user-friendly design, providing easier

Table A2.3 RCD applications: top 10 by country of origin

	2007	%	2008	%
Germany	18,400	24	19,000	26
Italy	10,900	14	9,700	13
France	6,800	9	6,200	9
United States	6,200	8	6,100	8
United Kingdom	5,300	7	4,200	6
Spain	4,600	6	4,100	6
Netherlands	2,200	3	2,500	3
Japan	2,200	3	2,300	3
Switzerland	2,800	4	2,300	3
Poland	1,800	2	1,800	3

Table A2.4 RCD: average time to registration (weeks)

2004	17
2005	11
2006	8
2007	6
2008	6

access to our key e-business services. The website is an important tool for communicating with users, both by providing accessible information on demand, and through the front page news service. During 2009 it is planned to progressively introduce more interaction with users through structured online discussions and opinion polls. The Office's online magazine, *Alicante News*, complements the news service by delivering more detailed information about the Office and other matters of concern to IP users, and is also distributed free by e-mail to more than 6,000 IP professionals every month.

E-filing continues to grow in popularity and is now the preferred route for many users. At present, around 83 per cent of CTM applications, excluding those that come via the World Intellectual Property Organization, use the online route. For RCDs, e-filing accounts for around 40 per cent of designs received, and around 18 per cent of oppositions against CTM applications are filed electronically. While the overall trend towards using online services is common to most countries, there continue to be national variations, with Italy and Spain the most active e-filers.

The move towards e-filing is strongly supported by OHIM through continued investment in the agency's electronic services. All the OHIM databases, such as CTM Online, RCD Online, and Online Access to CTM Files, can be accessed free of charge by anyone with an internet connection.

A new and improved version of OHIM's electronic communication system for MyPage users, E-Communication, was phased in during 2009, allowing more efficient management of communications between the Office and users. In order to use E-Communication, it is necessary to sign up for the MyPage service, which is a personalized, password-protected online platform allowing the reception of search reports online, access to the E-Communication mailbox, the online modification of personal details and management of OHIM's e-business tools.

Major improvements to both the CTM and RCD E-Filing systems were being rolled out during 2009. The new version of CTM E-Filing, launched in February, allows the delivery of certificates online. The improved RCD E-Filing system will link up with MyPage, helping to deliver even faster registration times via a streamlined workflow.

Table A2.5 E-filing: CTMs and RCDs filed electronically

	<i>CTM e-filing (%)</i>	<i>RCD e-filings (%)</i>
2004	21	13
2005	32	19
2006	72	27
2007	78	33
2008	83	40

OHIM facts and figures

The combination of higher volumes, faster processing speed and efficiency measures, and a fairly steady staff establishment number has resulted in high levels of productivity which have drawn comment from *The Economist* among others:

OHIM offers a streamlined, paperless operation and does much of its business online, keeping costs down and speeding up the processing of applications.
(*The Economist*, 8 March 2008)

In fact, productivity measured in terms of registrations of trade marks and designs per member of staff has grown by 70 per cent between 2004 and 2008, and the financial surplus has risen in consequence. In 2008 OHIM had an income of around €217m against an expenditure of €143m and the total financial surplus accumulated over a number of years had risen to €350m by the end of 2008.

OHIM is regulated by the European Commission and agreement with Member States is necessary in order to reduce fees. However, the agency has actively encouraged the idea that this cycle of increased efficiency, higher productivity and increasing financial surpluses should close, with the benefits being shared with customers.

A first fee reduction was introduced in 2005 and towards the end of 2008, the European Commissioner for the Internal Market, Charlie McCreevy, confirmed that the cost of having a CTM (€1,600–1,700 in 2008) would be brought down by a further 40 per cent in 2009. The impact of this will mean that in less than five years the cost of a Community trade mark will have halved from just over €2,000 when the process started to less than €1,000 in 2009.

Website

Further information can be obtained via the OHIM website at www.oami.europa.eu or by sending an e-mail to information@oami.europa.eu.

The CTM Online and RCD Online databases offer fully searchable data at no cost and can be accessed, as with all of the Office's other online tools, at: www.oami.europa.eu.

Subscribe free of charge to *Alicante News* by sending an e-mail to:
subscribe@oami.europa.eu.

Table A2.6 Total registrations

<i>Registration year</i>	<i>Total CTM and RCD registrations</i>
2004	91,000
2005	128,000
2006	132,000
2007	144,000
2008	162,000

Reg Rea is web editor at the European trade marks and designs registration office, OHIM, and was previously a press officer at the European Commission in London. A former BBC business correspondent, he has advised large private sector organizations and led an EU-funded research project to help SMEs develop their marketing and communications skills. As well as looking after the OHIM website, which was extensively redesigned in 2008, he edits OHIM's online magazine, *Alicante News*.

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