

ProTon Europe recommends improvements to the Patent System in Europe in order to facilitate Knowledge Transfer from Public Research

Executive Summary

The shortcomings of the patent system in Europe are one of the leading causes for the less effective knowledge transfer from public research. ProTon Europe¹ is urging the European Commission, the Member States and the European Parliament to support the accession of the Union to the European Patent Convention (EPC) and the implementation of the London Protocol, of the European Patent Litigation Agreement (EPLA) and of a range of specific measures in support of innovation from Public Research. In particular, ProTon Europe is recommending the implementation through EPC of a Grace Period, a Provisional Patent system and reduced fees for universities and public research institutions.

Introduction

The European Council and the Commission are recommending a more effective transfer of knowledge from universities and public research organizations in Europe as a key element of the knowledge economy. Patent applications by public research institutions play a critical role in this process, whose importance is not well understood by the stakeholders and by the public. Yet, the patent system in Europe is not well adapted to the needs of public research organisations (PRO).

It is not sufficient to propose guidelines and good practices and to train knowledge transfer professionals, as we have done in the recent years: the patent system has to improve as well. This has long been recognized and the first proposals for a Community Patent date back to 1970, almost 40 years ago! On the other hand, the recent initiatives made in the framework of the European Patent Convention (EPC), namely the London Protocol and EPLA have demonstrated the feasibility of a faster, less expensive and more realistic route for achieving the long awaited patent reform, which does not require unanimous approval of all member states. In contrast to the Community Patent, the potential benefits are immediate rather than progressive over a transition of more than 20 years. Universities, Research and Technology Organisations (RTO) and Industry cannot wait any longer and a large majority is urging the immediate implementation of these benefits.²

¹ ProTon Europe is the pan-European association of knowledge transfer offices affiliated to public research organizations. ProTon Europe represents the positions of national associations in Belgium, Denmark, France, Germany, Italy, Ireland, Poland, Spain, and United Kingdom and of its direct members across most European countries. At the end of 2006, consolidated direct and indirect membership totalled 506 transfer offices providing knowledge transfer services to 680 research organizations.

² Public Hearing organized by the European Commission on July 12, 2006. Report and presentations available from: http://ec.europa.eu/internal_market/indprop/patent/hearing_en.htm

The specific needs of universities and RTOs have not yet been taken into account in the Community Patent or in EPC. The patent reform in Europe should also include several important measures of particular importance to universities, which exist in other competing systems, such as the US system, and which have been debated before. These are the introduction of a “grace period”, of a provisional patent system and of reduced filing and maintenance fees. If properly implemented, these measures are expected to have a significant effect on the quality and number of patent applications filed by universities in Europe and should benefit the European economy.

Finally, as we hopefully converge to a unitary patent system, whether based on EPC or on the Community Patent, the role of the national patent offices will change. The expertise and assistance of these national patent offices have been extremely helpful to universities and we are pleading for the maintenance and development of such proximity support in the future.

These proposals and recommendations have been debated with, and are widely supported by the members of ProTon Europe and of its national partner associations. They are meant to be a positive contribution to the review launched by the Commission, scheduled to take place beginning of 2008.

(1) The stakeholders in Europe should be better informed of the importance and benefits of filing patent applications by universities and public research organisations.

Patents are essential vectors of knowledge transfer and dissemination. They are becoming increasingly important in the “Open Innovation” economy. In the USA for example, 70% of all patents are based on discoveries made by public research organizations³. From the 36 most successful European patents⁴ filed between 1990 and 2000, 50% came from public research institutions and the proof of principle of another 25% was made in partnership with public research institutions. Although the patent applications filed by universities represent less than 3% of the total, they obviously have a much larger impact in terms of public benefits, which has not been recognized yet in Europe.

In the past, many universities were not organized to manage the intellectual property (IP) from their research activities and many patent applications were filed by university inventors in their own name or in the name of industry partners. This was also possible under the so-called “professor privilege” system. Today, it is recognised as good practice⁵ for the universities to own the inventions based on publicly funded research and most governments have adopted regulations or guidelines to that effect. The professor privilege has been abandoned in all countries, except Sweden and Italy. Most large research universities have now developed professional transfer offices to manage their IP, including filing patent applications when appropriate.

Despite this recent evolution, European universities and other public research organizations still file on average 5 times less patent applications than their US counterparts⁶, although the total research budgets are comparable. The lower propensity to patent is attributable to 2 main factors⁷:

³ Francis Narin et al., “The increasing linkage between U.S. technology and public science”, *Research Policy* 26 (1997), 318-330.

⁴ Selection made by the EPO for the “Inventor of the Year” award organized in 2006

⁵ Management of intellectual property in publicly-funded research organisations : Towards European Guidelines. Available from : <http://ec.europa.eu/research/era/pdf/iprmanagementguidelines-report.pdf>

⁶ See for instance the ProTon Europe FY2005 survey

⁷ Gilles Capart., “Should universities file patent applications?”, *Ethical Perspectives*, 13 (2006) 221-230.

- The mindset of the academic institutions in Europe, which is still based to a large extent on the Humboldt model. The interaction with the economic world is perceived by many as a threat to academic freedom and the filing of patent applications as misappropriation of public good. The available evidence such as reported above shows, on the contrary, that the filing of patent applications can be supportive of the missions of universities and benefit society, provided that certain principles are observed. This public policy debate was closed in the USA more than 25 years ago with the enactment of the Bayh-Dole Act, considered by many as one of the most successful pieces of US legislation.
- The fact that the US patent system is much more favourable to universities than the European system. In addition to lower cost and single language, the US universities are taking advantage of the protection of inventors by the first-to-invent principle, a grace period of one year, the continuation-in-part system, provisional applications, 50% reduction in filing and maintenance fees, no maintenance fees before grant, wider patentable inventions, etc. There is no question that the US universities could not have achieved the reported benefits for the US economy in terms of new products, new companies, and new jobs with the patent system available in Europe⁸.

The main purpose of universities and RTOs in filing patent applications is not to generate license income. In most cases, such income would not even cover the patent filing and management costs. Patent applications are the visible part of the university innovation capability. They are used to leverage collaborative research and facilitate the creation of new companies based on innovative business models, which both benefit the economy.

According to the code of conduct of ProTon Europe, universities should file patent applications only when doing so increases the probability that the subject inventions will be developed. Those are “strategic” patents for the European economy. In contrast, many patents filed by industry are “tactical” patents intended at protecting market shares and benefit less the public.

The stakeholders are not sufficiently informed and sensitized about the importance of patent applications in general and of the contribution of public research institutions, in particular. Because of the complexity of these matters, the European Commission and the Members of the European and national parliaments have an important role to play.

(2) ProTon Europe supports the rapid implementation of the London Protocol.

At the present time, the patent applications granted by the European Patent Office (EPO) must be “validated” in all the 31 treaty countries and translated into 22 different languages. The cost of translations and the filing and maintenance taxes for each patent are simply not affordable for most universities and public research organizations. The transfer offices, which are responsible for the management of these patent applications, must either transfer the burden to a licensee before granting by EPO, or “validate” the patents in a limited number of European countries only, which is in contradiction with the free circulation of goods and services in the Single Community Market and creates lots of problems later for the licensees when the products are commercialized.

⁸ Kirsten Leute, Senior Licensing Associate, Stanford University, statement made at the 4th annual ProTon Europe conference in Vienna on December 11n 2006.

The London Protocol⁹ is a significant step in the right direction. Under this voluntary protocol the signatory treaty states would waive the translation requirement of the full description in their national language if they have English, French or German as one of their official languages or if the granted European Patent is drafted in the official language of the EPO prescribed by that state (generally English). To enter into force the agreement must be ratified by at least eight states, including France, Germany and the UK. Only the ratification by France is still missing and is expected before the end of 2007.

The implementation of the London Protocol would reduce significantly the translation costs (the estimates range from 29% to 45% reduction, based on the current state of ratification). Once effective, we expect other contracting states to join and the benefits to increase further.

(3) ProTon Europe supports the rapid implementation of EPLA.

Currently, the granted European patents validated in the treaty countries are still interpreted, enforced and litigated in accordance with the existing national laws in each state. This is extremely cumbersome, expensive, time consuming and the outcome may vary in each jurisdiction. The European Patent Litigation Agreement¹⁰ (EPLA) drafted by the Working Party on Litigation set up by the European Patent Organisation would potentially solve this situation.

Although public research organizations do not generally exploit themselves their patents and are less likely to be involved in litigation, the adoption of EPLA would increase the value of their patents by making them more easily enforceable. For this reason, ProTon Europe is also supporting the implementation of EPLA.

The EPLA stands ready for implementation by the EPC contracting states. The only remaining question is the compatibility with the Community legal framework. The options are the accession of the European Community to EPC, which is relatively simple, or the creation of a community jurisdiction that could also be used for the future Community Patent, as recently advocated by the Commission¹¹, which would be more difficult and time consuming. We understand that the concern of the Commission is not to put the future Community Patent in jeopardy. Since ProTon Europe no longer expects the implementation of the Community Patent in a reasonable future, we support the immediate implementation of EPLA by the member states and EPC contracting states.

(4) ProTon Europe considers that the EPC route is a more realistic near term alternative to improve the patent system in Europe than the Community Patent and recommends the accession of the Union to EPC.

The principle of the Community Patent¹² is to create a single new instrument under the Community jurisdiction that would be valid and enforceable across all countries of the European Union. In its original formulation, the Community Patent had the potential to solve the two problems discussed above. For this reason, the university transfer offices have supported it so far.

⁹ See for instance : <http://www.epo.org/patents/law/legislative-initiatives/london-agreement.html>

¹⁰ See for instance: <http://www.epo.org/patents/law/legislative-initiatives/epla.html>

¹¹ Communication from the Commission to the European parliament and the Council : Enhancing the patent system in Europe, April 3, 2007, COM(2007) 165 final.

¹² See for instance: <http://www.epo.org/patents/law/legislative-initiatives/community-patent.html>

Implementation would be progressive. According to the 2000 proposal for a Council Regulation¹³, the inventors would still have the options to (1) continue to file patent applications directly in the countries of interest, (2) continue to file European Patent applications and have the granted patents validated only in the EPC countries of interest or (3) choose the new Community Patent. The procedures for prosecuting the Community Patent applications would be administered by the EPO according to the existing rules. It is reasoned that the Community Patent would become so attractive compared to the other systems that it would progressively displace them over time in a smooth transition.

In practice, however, the compromises¹⁴ proposed by the Council's Common Political Approach of 2003, in order to obtain unanimous approval by the member states, have deprived the system from much of its potential benefits. Under these conditions, there is a serious risk that the Community Patent will not displace the other systems and that the total costs for running the patent system in Europe will actually increase.

The coexistence of 3 systems will add to uncertainty and complication. Even if the strategy works eventually, it will take more than 20 years (the life of existing patents) to complete the transition, assuming immediate adoption and implementation of the Community Patent, which is most unlikely. By that time, the competitive position of the European economy will have been irreversibly harmed.

By contrast, the potential benefits afforded by the London Protocol and by EPLA would apply immediately to the patents granted and validated through the EPO in the adhering member states.

Furthermore, the systems and governance existing in EPC have demonstrated the capability to address effectively the problems without requiring unanimous approval of all contracting states. This means that future improvements of the system, including those recommended hereafter will be much easier to implement.

We understand that the accession of the Union to EPC might require unanimous approval of the Member States. To the extent that all current member states are already signatories to EPC, we do not see any reason why there might be opposition.

(5) ProTon Europe recommends the implementation of a Grace Period in the European patent system.

To be patentable, an invention must meet, among other criteria, the criteria of novelty and inventive step. In Europe, this means that the invention cannot be obvious to the person "skilled in the art" having access to and understood all public information available on the date of filing, even published in another language.

As pointed out above, most inventions are based to some extent on discoveries made by public research institutions. In Europe, if such discoveries are made public before filing a patent application, then the practical applications of these discoveries can no longer be protected by a patent, to the extent that such applications might then be obvious to the man skilled in the art, and they often are. Under EPC, even the oral disclosure to a person not bound by a secrecy agreement is sufficient to destroy novelty. Few university patents can resist this test.

¹³ Proposal for a Council Regulation on the Community Patent, August 1, 2000, COM(2000) 412 final

¹⁴ Community Patent – Common political approach of 3 March 003. Available from http://www.european-patent-office.org/epo/pubs/oj003/05_03/05_2183.pdf

In the USA, this is not so. The inventors have up to one year from the time of discovery to figure out all possible applications, and even speak with potential licensees, before filing a well constructed patent application. The public disclosures made during this period cannot be opposed to the patent application filed by the inventors or their assignees. This is referred to as a “grace” period of one year. In Japan, Canada, Australia and more than 30 other WIPO countries, there are grace periods of 6 months to 12 months for public disclosures made by the inventors themselves.

The system of grace period is not essential to commercial companies, because they can rely on trade secrets and are not interested in making their discoveries public. By contrast, universities are expected to publish their discoveries as soon as possible and to share them with their fellow scientists in the “Open Science” paradigm. Rapid public disclosure of discoveries is not avoidable, nor should it be avoided. The problem is that those applications that cannot be protected by patents as a result of such disclosure may never be developed for lack of protection of the required investments.

There are advantages and disadvantages to a grace period system. These have been debated at length over the last ten years, including at conferences and workshops organized by the European Commission. ProTon Europe, after having carefully reviewed the advantages and possible complications of a grace period in Europe, considers that a well implemented and managed grace period would result in more and better quality patent applications from universities, which will ultimately benefit all stakeholders and the public. This view was unanimously supported by all members at the general assembly in Dublin in November 2004.

The general consensus emerging from these debates is that a grace period would be beneficial as a “safety net” protecting patents against accidental or unavoidable disclosure by the scientists, but should not be taken as an excuse for not acting diligently to protect the applications of new discoveries before publication. As one of our members put it recently in a conference, filing university patents without a grace period is like “playing soccer against Brazil without a keeper in the goal”.

This view was actually endorsed by the EU member states in 2002 and proposed at the 2003 WIPO Standing Committee on Patent Law. Unfortunately, the progress on the negotiation of the new Substantive Patent Law Treaty (SPLT) has been stalled since 2000. We do not see any reason why Europe should wait to incorporate such a provision in EPC, especially when most patent systems in the other regions of the world, including the USA¹⁵, Japan, Canada, Australia and many other countries already have such a system.

We understand that the implementation of a grace period is possible under EPC and exists already for certain events such as trade fairs. ProTon Europe therefore recommends the creation of a Working Party by the European Patent Organization to review the implications and to make practical recommendations in view of incorporating this provision in EPC.

¹⁵ The USA are currently considering to move from a first-to-invent system to a first-to-file system, as practised in the rest of the world. The grace period of one year would be maintained for disclosures made directly or indirectly by the inventors.

(6) ProTon Europe recommends the introduction of a provisional patent application system under EPC.

The USA and certain other countries including Australia, United Kingdom and Japan provide for the filing of provisional patent applications, which are recognized as priority filings by most countries, including by EPO. The filing of regular patent applications with the EPO, without paying the fees, does not provide the same benefits.

These are particularly useful when the inventions are likely to be further improved during the priority year, which is often the case for early stage university inventions. They permit the search for licensees, while delaying the larger costs of regular patent prosecution and extension. In the USA, they can extend the period of patent protection by up to one year. Many lower quality or less promising provisional applications are never confirmed. This system is widely used by US universities and is believed to result in a lower number of better quality regular applications.

Provisional patents do not replace the need for a grace period, since the description must be complete and enabling for the protection to be effective.

The filing of provisional patents applications in the USA or in the UK, which is an attractive strategy for European universities, is not available in all European countries as some of them impose to their national inventors to file national priority patents first.

An improved European patent system should provide for a provisional patent system, with benefits comparable to the US system. In practice, we also recommend the creation of a Working Party by EPO to consider the implementation of Provisional patents within EPC.

(7) Reduction of the filing and maintenance taxes for universities.

The patent applications filed by European universities represent a small percentage, typically less than 3% of all the patents filed at the EPO or the national offices. However, as pointed out above, their contribution to innovation and economic development is much larger.

In the USA, universities and SMEs enjoy a 50% reduction on the filing and maintenance fees collected by the USPTO. A similar measure in Europe by the EPO and national patent offices would not affect significantly the revenues of patent offices, but would send a strong political signal acknowledging the public benefit of quality university patents.

(8) The duplication of work between the EPO and the national offices should be progressively reduced in favour of a decentralised assistance structure

The large cost of the patent system in Europe is originating to some extent from the duplication of procedures at national and EPO level. In a Single Market, the use of national patents should progressively disappear as they are not consistent with the Single Community Market.

On the other hand, universities and SMEs in several European countries are receiving much assistance from their national patent offices. ProTon Europe recommends that such assistance be reinforced and extended to all member states. ProTon Europe welcomes the efforts of the Patent Academy of the EPO in this direction, in collaboration with the national patent offices. The improvement of the quality of the patents filed by universities in Europe will benefit all stakeholders.

Conclusion

ProTon Europe is convinced that these proposals are in the interest of all the stakeholders of the patent system and of the public and have the potential to increase significantly the contribution of public research to innovation.

ProTon Europe IASBL

Rue des Palais 44
B-1030 Brussels
Belgium

Tel: +32 (2) 211 3432

Fax: +32 (2) 211 3404

Web: www.protoneurope.org

For enquiries about this statement, please contact Gilles Capart, Chairman of the patent SIG,
g.capart@protoneurope.org.