

11 December 2015

Dear Sir / Madam

Intellectual Property Arrangements – Productivity Commissions Issues Paper 2015

The Society of University Lawyers (SOUL) is a company limited by guarantee whose membership is primarily comprised of in-house practicing lawyers who are employed by Australian universities and their related organisations. SOUL's members provide legal services to their respective institutions on the full breadth of legal issues affecting the higher education sector. SOUL's mandate is to promote the exchange of information on legal matters affecting universities and the higher education sector generally.

SOUL welcomes the opportunity to make a submission on this important inquiry as Intellectual Property legislation has a major impact on University activities.

Universities are unique institutions whose fundamental purposes are to conduct teaching and research; to promote public debate and the dissemination of knowledge in society. Universities are also often at the forefront of innovation in research, teaching and learning.

This submission will address selected questions from the Issues Paper that relate to the teaching and learning and research activities of a University and its staff.

1) What evidence is there that patents have facilitated innovations that would not have otherwise occurred, or have imposed costs on the community, including by impeding follow-on innovation?

There are many examples than can be accounted for. However, some examples that are frequently mentioned include:

- Cochlear implants (Bionic Ear)
- Wi-Fi technology
- Gardasil and Cervarix cancer vaccines
- Spray-on Skin
- CPAP Mask

2) Are there aspects of Australia's patent system that act as a barrier to innovation and growth? If so, how could these barriers be addressed?

Yes, aspects of Australia's patent system stymie innovation as described below:

a) Experimental use exemption

In order to facilitate innovation Universities need to be free to conduct research and experiment with patented inventions without risk of infringement.

In 2009 the Go8 made the following submission to IP Australia, "*Getting the Balance Right and Exemptions to Patent Infringement*":

"The Go8 submits that the impact of the discoveries and scientific progress which are achieved as a result of academic research is so important as to justify promoting the free conduct of that research by including a clear statutory exemption in the Patent Act for research undertaken by at least not-for-profit research organisations."

In 2012 the *Intellectual Property Laws Amendment (Raising the Bar) Act 2012* amended the *Patents Act 1990* (s119C) to introduce an experimental use exemption from patent infringement.

Today, the following question arises, "is the exemption broad enough to meet the above objectives of promoting the free conduct of research?" We argue no, it is not broad enough to meet Universities' needs. Under the Patents Act the exemption is limited to experiments "on" the patented invention. As a result research "with" the patented invention may be an infringing activity. University researchers and students are not likely to consider this distinction when conducting research and lack the resources and expertise to search the patent literature prior to conducting research.

b) Cost of obtaining international patent protection.

Universities bear the financial risk of patenting new inventions until the patent is licensed or assigned, at which point the licensee or assignee will usually assume responsibility for such costs. The high cost of National Phase protection and subsequent translation costs frequently result in the abandonment of patent applications, resulting in loss of commercialisation opportunities and, in some circumstances, loss of innovation opportunities.

When a patent reaches National Phase most Australian Universities face a difficult decision. It would be rare that a patent would enter National Phase unless the university has a good understanding of the commercial pathway including interest from likely commercial partners. If there is no licensee or assignee for the patent then the patent will usually be allowed to expire as the cost of proceeding is too high. This means that Universities have a very short time period in which to find a licensee / assignee for the patented invention, usually 30 months from the date of provisional application. For some technologies this is a very short window of opportunity. As a result a substantial number of provisional patent applications are abandoned at National Phase largely due to cost.

It is impossible to quantify the loss of innovation associated with this practice. However, there are examples where Universities took great financial risk to undertake National Phase applications (including European designations) for technologies that are now successfully licensed to industry partners who are able to exploit the invention to benefit of the community.

On-going efforts to globally harmonize patent application, examination and administration processes should result in reducing the cost of international patent applications overall.

However, these are long-term initiatives and we recommend that short-term measures are needed to reduce administrative costs. For example: adoption of official languages for all patent applications, such as those stipulated by the European Patent Office that requires the patent application to be submitted in English, French or German at PCT phase.

We also request that the government provide assistance for patenting in areas of key national strategic importance where Australia has a key leadership position or competitive advantage – quantum computing is one such area.

c) Are the current extensions of term for pharmaceutical substances and data exclusivity periods too short?

Currently, eligible patents may have their terms extended by up to five years. In our experience, this extension is too short to account for the long development and approval time for most pharmaceutical and biotech patents. As a result there is a short window of opportunity in which the invention may be exploited and costs recovered before it is in the public domain.

We expect this is one of the issues that drive the high cost of some pharmaceutical products in Australia. However, this is a complex issue that has been the subject of much public debate including the Commonwealth's *Pharmaceutical Patent Review Report (2013)*¹ and more recently it has arisen in the context of the Trans-Pacific Partnership agreement.

d) Retention of the innovation patent system

In 2011 the Australian Government Advisory Council on Intellectual Property commenced an investigation into the effectiveness of Australia's innovation patent system. Following the release of its inconclusive final report in 2014, the Council issued a belated assessment in May 2015 that the innovation patent is not achieving its objectives to stimulate innovation among SMEs, and that the Government should consider abolishing the system.

We believe this system should be retained as it provides Universities with an additional option to secure a degree of protection for innovations for which standard patent protection may not be achievable or desirable. Such circumstances might include protection of an incremental advance on existing technology, or where the invention has a shorter expected market life.

However, please note our comments below under question 7.

3) Do patents provide rewards that are proportional to the effort to generate IP? What evidence is there to show this? How should effort be measured? How does the balance of costs and benefits from patent protection compare across sectors and innovations?

Universities engage in research involving a range of technologies from engineering and software to medicine and agriculture. We understand that the research and development processes differ greatly from one technology to the other which means that the rewards are not always commensurate with the effort required to generate the IP.

The metrics used to fully cost the "effort to generate IP" are complex and, if it included the entire innovation pipe-line (including those innovations that were tried and failed) the results would give an overwhelming impression that the costs outweigh the benefits in most cases.² Particularly as

¹ Harris, T., Nicol, D., Guien, N. 2013 *Pharmaceutical Patents Review Report, Canberra*.

² For example, the estimated average pre-tax industry cost per new prescription drug approval (inclusive of failures and capital costs) is approx. \$2,558 million. Tufts Centre for the Study of Drug Development "Briefing Cost of Developing a new Drug" (November 18, 2014) Retrieved from: http://csdd.tufts.edu/files/uploads/Tufts_CSDD_briefing_on_RD_cost_study_-_Nov_18,_2014..pdf

the metrics do not take into account the ancillary benefits that are obtained from the effort overall including training of new researchers, industry engagement, publication of outcomes, consultancies and a range of knowledge transfer that occurs during research and development.

Universities generally view the costs and benefits of patenting differently to corporate innovators. Research is a core activity performed by Universities for public benefit. This is reflected in the prevailing preference for most university inventors to publish the results of their research rather than patent them. It is not surprising then that Universities generally view patenting as a “low effort” activity with potentially substantial rewards if the patent is commercially successful.

For example, many new drugs are created in universities and commercialised by the pharmaceutical industry. This shows that patenting novel drug compounds is not a difficult step for most universities provided that the costs of the patented compound are transferred to a commercial partner prior to National Phase.

4) What scope is there to better leverage the economic benefits of patents, by taking steps to improve the diffusion of patent information?

Traditionally, universities disseminate patent information through academic publication, conferences and industry events. The dissemination of patent information through IP Australia, WIPO and international patent offices is secondary to academic publication. However, some universities are taking advantage of new digital marketplaces to bring patent information to the attention of businesses most likely to invest in further research and development or take up a license to use and exploit the patented invention.

New patent marketplaces such as IP Australia’s “Source IP” (aims to make public sector patent information more accessible to Australian businesses) and WIPO Green (aims to connect “green technologies and service providers with those seeking innovation solutions”³) are just two examples of alternative means available for the dissemination of patent information.

Though it is somewhat early to evaluate the effectiveness of these initiatives, universities generally support any such innovative and cost effective means to market patented inventions that increase the likelihood of successful commercialisation.

5) Is the patent system sufficiently flexible to accommodate changes in technology and business practices?

No, please see the comments provided under question no 2(a) (Experimental Use).

In addition, universities should have freedom to investigate, test, workshop and interrogate new technologies not just for research purposes but for teaching and learning purposes too without fear of patent infringement as is currently the case.

6) Are there any issues with the administrative arrangements of IP Australia for assessing and granting patents?

The recent review of the innovation patent system by the Advisory Council on Intellectual Property (ACIP) identified several issues with innovation patents that are a concern to universities. In particular, some of the strategic uses of the innovation patent that may prevent universities, start-up companies and SMEs from enforcing its patent rights. For example, the emerging practice of using innovation patents to make divisional applications on standard patents, creating a patent thicket. This practice a potential deterrent to a patent owner making a claim for infringement as the claimant will likely need to challenge each of these innovation patents as well as the original standard patent.⁴

³ Lybecker, K. and Lohse, S. (2015): *Innovation and Diffusion of Green Technologies: The Role of Intellectual Property and Other Enabling Factors*. Global Challenges Report, WIPO: Geneva. Found at: <https://www3.wipo.int/wipogreen/en/>

⁴Advisory Council on Intellectual Property “Review of the Innovation Patent System – Final Report” May 2005 (page 36). Retrieved from: http://www.acip.gov.au/pdfs/Final_Report_for_Innovation_Patent_Review.pdf

In addition, another strategic use of the innovation patent during litigation includes filing a divisional application during infringement proceedings for a standard patent using the details of the alleged infringement to ensure the alleged infringer is caught by the scope of the divisional application because the divisional will have the same priority data as the standard application.⁵

As a result, an alleged infringer may need to defend multiple claims of infringement. This would be a potential deterrent to initiating proceedings for infringement and as the proceedings progress, new divisional applications can be made to address the weaknesses of the first patent, extending the monopoly.

We note that some but not all of these practices have been curtailed by reforms to the *Patent Act 1990* (Cth) under the *Raising the Bar Act 2012* (Cth). This includes limiting the opportunity to file an innovation divisional patent of a standard patent to within three months after the advertisement of acceptance of the patent application instead of the date of grant of patent. Thereby, significantly reducing the period in which divisionals can be made on the standard patent from many years to three months.⁶

Copyright

1) To what extent does copyright encourage additional creative works, and does the current law remain 'fit for purpose'? Does the 'one size fits all' approach to copyright risk poorly targeting the creation of additional works the system is designed to incentivise?

Our view is that the *Copyright Act 1968* (Cth) (**Copyright Act**) is not fit for the purpose in which it was originally intended. Please see our comments below under question 3.

2) Is licensing copyright-protected works too difficult and/or costly? What role can/do copyright collecting agencies play in reducing transaction costs? How effective are new approaches, such as the United Kingdom's Copyright Hub in enabling value realisation to copyright holders?

Generally, universities find copyright collection agencies are inefficient and costly.

In 2013 Universities Australia stated, "*Some of the content that universities currently pay for under the statutory licences, and which is likely to fall within a fair use exception, includes freely available internet content, (including content uploaded onto blogs and freely available wikis that no one ever expected to be paid for) and orphan works. Currently, the money paid by universities for this content is eventually paid to Copyright Agency members who have no connection to the works that were copied. That is because Copyright Agency has no one else to distribute it to. In other words, these members benefit from a windfall payment - at the expense of publicly funded education institutions - due to the inefficiencies of the statutory licence.*"

SOUL recommend that voluntary licenses (in combination with Fair Use or a more flexible Fair Dealing exception) would be more cost effective and efficient than the current statutory licenses for Educational Institutions set out in the Copyright Act.

3) How should the balance be struck between creators and consumers in the digital era? What role can fair dealing and/or fair use provisions play in striking a better balance?

a) Fair Use

SOUL supports the proposal put forward by Universities Australia to the *Australian Law Review Commission's discussion paper on Copyright and the Digital Economy* to introduce fair use and repeal the education statutory licences of the Copyright Act replacing these with a broad and flexible fair use exemption. If enacted, we believe these amendments will provide a flexible and "fair" copyright framework that promotes innovation in the higher education sector and in Australia more generally.

⁵ Ibid (page 37)

⁶ Ibid (p 38)

For example, if fair use is enacted, universities will rely on it to make and communicate allowable quantities of copyright protected material for its own use (i.e. preparation of course materials and research) and to make copies and communicate these materials to persons for educational and research purposes. We therefore strongly support the ALRC's shift away from the current position under the Copyright Act that considers "who is doing the copying" to the fundamental question of whether or not the copying is "fair".

Further, universities increasingly perform a broader community engagement role in making knowledge and education accessible to all (e.g. by public lectures, massive open online courses (MOOCs)). The statutory licences do not appear to extend to these activities. As a result universities invest considerable time and expense in an effort to clear copyrights for these activities or abandon the activity altogether.

b) Contracting Out

If contracts are permitted to over-ride statutory exceptions (as is currently the case) this will erode the benefits gains from such a flexible exception. To ensure that "fair use" and/or "fair dealing" operates in the manner in which it is intended universities recommend that all voluntary licences are negotiated or entered into in the context of what is "fair" (ie: no restrictions placed on fair use/fair dealing).

c) Technological Protection Measures (TPMs)

The Copyright Act allows universities to reproduce and communicate a range of materials for teaching and learning. In certain circumstances this includes the express right to circumvent TPMs in order to access, reproduce and communicate these materials as permitted under the Copyright Act ("Permitted Acts"). Unfortunately, important learning resources such as films and some sound recordings are not included in this category of materials and the university cannot lawfully circumvent TPMs in order to use these materials in ways that are otherwise permitted under the Copyright Act.

The lack of a broad right for Educational Institutions to circumvent TPMs to facilitate use of materials in the course of education limits our teacher's ability to engage in flexible on-line education design such as use of lecture recording systems for distance and flexible learning. This restriction hinders innovation in curriculum development and course delivery methods.

4) Are copyright exemptions sufficiently clear to give users certainty about whether they are likely to infringe the rights of creators? Does the degree of certainty vary for businesses relative to individual users?

Copyright exemptions lack clarity in the context of current activities in research and education including data mining and orphan works.

a) Data Mining

In 2013 Universities Australia illustrated this issue with the following example:

"Big data' is generating increasing interest amongst researchers. Universities are moving towards collaboration in storage, access, categorisation and analysis of large data sets, metadata and associated material. The Research Data Storage Infrastructure project⁷ (which has received \$50 million of funding under the Commonwealth's Education Investment Fund) is one example and it involves:

- *Collection of data from data custodians*
- *Creation / modification of metadata that may reproduce parts of that data*
- *Storage on that data on infrastructure across participating institutions ("nodes") or cloud service providers*
- *Replication of that data across nodes*

⁷ <http://rdsi.uq.edu.au/>

- *Provision of the data to university researchers when requested*
- *Analysis of the data by researchers*

Any one of the above steps may involve an exercise of the copyright that subsists in the data, however the current copyright legislation is unclear on the permissibility of these steps. It is possible that researchers may be able to rely on the fair dealing for research or study exception in undertaking the final step, but that exception is unlikely to be available to research institutions and service providers involved in the preceding steps. Nor will it enable outcomes of the research to be communicated without the permission of rights holders. In most instances, it would be impossible to obtain clearances from all individual rightsholders.

Where large data sets contain orphan works the value of these works is withheld from the data or text search due to the inability to clear copyright as the rightsholder cannot be identified or located.”

SOUL supports Universities Australia’s proposal to introduce “a broad data mining exception that is technology agnostic and framed in terms of the end-user outcome rather than attempting to define each act.”

b) Orphan Works

In respect to orphan works, most universities have substantial holdings of unpublished materials (and indeed, unpublished orphan works) in its rare and special collections. Under the Copyright Act, the copyright in these works will never expire unless the works are published in accordance with the provisions of the Copyright Act. Perpetual copyright means that some of these unpublished works will not be publicly available online unless the copyright owner is located and, where necessary, permission is granted by the owner to allow the University to copy and communicate the work to the public for research and study.

In addition, most university libraries have an on-going digitisation program that relies on existing provisions in the Copyright Act to digitise works for archival purposes. Once digitised, unless the copyright has expired or there is a licence from the copyright owner, the digitised version is only available for inspection at the Library. Ideally, the University would like to make more of its digitised rare books and special collections available to library users and members of the public for the purposes of research and study.

Additional Issues for discussion:

The Productivity Commission has indicated that submissions need not be limited to the matters explicitly raised in the Issues Paper. In order to provide a complete overview of the key intellectual property issues faced by Universities in respect of research and innovation, we suggest the following supplementary comments be submitted for consideration.

a) Commonwealth Funding Agreements (Research)

“Agencies should maintain a flexible approach in considering options for ownership, management and use of IP.” Australian Government Intellectual Property Rules – Statement of Principles for Australian Government Agencies

Where the Commonwealth provides funding for University research, it is the position of universities that the relevant department should only seek a licence to the intellectual property to the extent required for its own internal uses and rarely for commercialisation purposes.

Most Commonwealth funding agreements require universities to licence (and in some cases assign) intellectual property created by it to Commonwealth departments (other than ARC and NHMRC funding programs). Where the department seeks a licence to such intellectual property, the terms frequently include rights to “exploit” the intellectual property.

However, such assignments or broad licences may, in some cases, have the effect that the full innovation potential of the intellectual property will not be realised. In practice the university may

be reluctant to protect or commercialise intellectual property that it cannot exclusively licence if required.

Often, the relevant department may not have the expertise to commercialise the intellectual property, or else it will only be exploited for a narrow purpose. On the other hand, most universities do have commercialisation expertise and are generally better placed to protect the intellectual property and, where possible, maximise the benefits to society through broad licensing practices such as “field of use” arrangements. It is also accepted that successful commercialisation usually requires active engagement from the inventors.

Therefore, in most instances, universities will be better placed than the Commonwealth to engage with the inventors on an on-going basis.

The recent initiative by the Defence Science and Technology Organisation of the Department of Defence (DSTO) is one example that recognises the importance of intellectual property ownership vesting with the university. By establishing standard contracts which reflect this mutually beneficial position, the Commonwealth can retain the ability to itself enjoy and implement the results of sponsored research, but allow universities to continue to develop and (where appropriate) commercialise such results unfettered.

SOUL recommends that Commonwealth departments be encouraged to review their contract terms and eliminate the practice of seeking to own or obtain an exploitation licence to intellectual property, and rather, implementing a position along the lines of the DSTO suite of agreements.

b) Joint intellectual property ownership between Universities and public health organisations

“Significant issues arise in relation to intellectual property created by clinical academics, who work in both the University sector and the public hospital sector.... Similar issues arise in relation to joint teaching hospital/University facilities, where health research may be undertaken jointly by a mixture of University and hospital staff.” Intellectual Property Arising from Health Research – Policy – NSW Department of Health

The policy goes on to state that these issues should be dealt with expeditiously and as early as possible in the identification/protection/commercialisation process. However, in practice this rarely occurs and substantial delays can arise. Universities often invest considerable time and effort to resolve these issues, diverting their limited resources away from active and constructive commercialisation activities.

Universities recognise the vital role the public hospital sector organisations play in partnering with universities for clinical research and development activities. Often though, such organisations do not have the resources or expertise to effectively carry out commercialisation.

We recommend that these issues may be overcome by a state government policy directives introduced by all states that enable universities to have exclusive rights to register such jointly owned intellectual property and undertake commercialisation, provided that equitable arrangements are in place with the public health organisation for the sharing of revenue.

c) Employer entitlements to own inventions created by employees – post *University of Western Australia v Gray*

In its 2009 submission to IP Australia, *“Getting the Balance Right and Exemptions to Patent Infringement”* the Go8 expressed its concern that research outcomes such as patents are not adequately protected under the contracts for employment of research staff. The Go8 proposed that the Patents Act be amended to introduce an equivalent section 35(6) of the Copyright Act that expressly states that ownership of patents vest with the employer.

d) Affordable enforcement of intellectual property rights.

Enforcement of IP rights in Australia is hampered by the high cost of litigation. Most universities and small to medium enterprises (including university start-up companies and other commercial

partners) would find it difficult to enforce their intellectual property rights due to the high cost and uncertainty of enforcement.

In the United Kingdom, the Intellectual Property Enterprise Court has been established in 2010 to improve access to justice in intellectual property cases by providing efficient, affordable and specialist dispute resolution for intellectual property matters.

Effective and efficient enforcement is a cornerstone to a robust and effective intellectual property system. We recommend the UK model (or similar measures) be considered for introduction in Australia.

There are examples available where universities have undertaken patent litigation at considerable expense and risk to the University and examples where the cost of litigation has been a deterrent to the university initiating proceedings against an alleged patent infringement.

e) Grace period for Designs. We recommend the introduction of a grace period for public disclosure of designs akin to the grace period enjoyed for patentable inventions.

Yours faithfully

President
Society of University Lawyers