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Issue 26 · December 2014

Computer implemented inventions appeal rejected 4

Planning for profitable medtech 2

Copyright works of employees: who owns what? 6

High Court dismisses extension of time appeal 7

Editorial

Chris Schlicht,
Partner

From everyone at the POF group, we would like to wish you season's greetings and a very happy new year.

2014 has been a significant year for intellectual property in Australia, with several important decisions from the Full Federal Court. In *Research Affiliates LLC v Commissioner of Patents*, the Full Federal Court considered the patentability of a computer implemented method for the construction and use of passive portfolios and indexes for securities trading. Whilst the Court rejected the patentability of the subject matter before it, it confirmed that computer implemented inventions can still be patentable if the computer is "integral" to the invention. Mark Williams and Raffaele Calabrese have provided a review of the decision and some tips for improving the patent eligibility of computer implemented subject matter (page 4).

Another recent Full Federal Court decision also has important implications for the determination of the priority date of amended claims. In *AstraZeneca AB v Apotex Pty Ltd*, one of the patents was amended by excluding subject matter from claim 1. Whilst the amendment narrowed the scope of the claim, the Full Court determined that the amended claim travelled beyond the disclosure in the specification. The Full Court also went on to determine that the claim in question could not be assigned multiple priority dates resulting in the priority date of the claim shifting to the amendment date. As Adrian Crooks explains at page 9, this could give rise to the colliding divisional applications.

In 2014, the Australian Government pledged $538.8 million to assist Australian medical and health researchers. Alyssa Grabb gives some practical advice to medtech start-ups on how to capitalise on their investment and develop a profitable medtech business (page 2).

In this edition, we also take a look at two of our innovative clients, DNA Security Solutions (page 11) and Outotec (page 11), and Anita Brown provides information on how to protect your brand abroad (page 11).

We hope you enjoy this edition of *Inspire!*, and we look forward to continuing to work with you in 2015.

Planning for profitable medtech

Alyssa Grabb, Partner

Australia has a world class history of medical device innovation. From the bionic ear to ultrasound, leave-in contact lenses to spray on skin, Australian innovators have enjoyed great success as world leaders in advancing medical technology (medtech). The Australian government predicts growth in the Australian medical devices and diagnostics sector of more than five per cent per annum to 2015 and beyond.[1] The following points are made to assist medical device innovators to maximise the value they derive from their IP.

Interdisciplinary innovation and mitigating risk

It is often at the interface between traditional disciplines such as engineering, chemistry, ICT and medicine, that we see the most exciting advancements in medical technology innovation. A collaborative partnership can bring together diverse thinkers, who together can expedite problem solving and identify commercial potential. However, these individuals often have different expectations about the demands, performance and longevity of the collaboration, raising the risk profile of the venture. To mitigate these risks, we recommend early agreement on fundamental values and objectives for the collaboration, including:

(i) who is responsible for decision making and finance
(ii) ownership of assets (including IP) brought into and born out of the collaboration
(iii) performance expectations and conditions for sanctions/ejection from the venture
(iv) commercial objectives and performance milestones, and
(v) exit strategy.

IP strategy

Patent positioning is acknowledged by existing medtech companies as a key factor in securing competitive advantage and profitability. However, it is a vexed issue for startups who may lack the funds to independently commercialise, but are reluctant to commit to an IP budget when confronted with so many unknowns. Experience tells us that a medtech startup needs registered IP rights to attract investment. The risks associated with the opportunity can be reduced by:

(i) controlling confidential information and trade secrets
(ii) managing contracts including confidentiality agreements and NDAs, licenses, employment/consultancy contracts, invention assignments and the like
(iii) assessing the risks to market entry (freedom to operate), and
(iv) monitoring competitors and new market entrants for infringement.

Healthcare economics

Governments and private insurers are often prepared to contribute to the cost of medical products and services when these technologies meet the requirements for reimbursement approval. These requirements vary between governments and insurers. Having a reimbursement strategy that takes into account the evidence required to demonstrate:

(i) clinical benefit
(ii) added value, and
(iii) ultimately, relevant reimbursement codes

should be part of the early stage development process.

A startup that focuses their market research on the patient or doctor as the consumer may be seeing only part of the picture. It is the payer who has the real power to decide whether or not a technology will be accepted in the market. Moreover, if a similar product has prior approval for reimbursement, a startup should seriously consider how it can realistically and profitably compete.

Regulatory pathways

For therapeutic goods, regulatory approval is required before the product can be supplied or exported from Australia. Other countries have similar rules, although they vary from country to country. Delays in obtaining regulatory approval can prematurely age a technology, while failure to secure regulatory approval is an obvious sign of peril. With this in mind, regulatory pathways should be considered early and inform product design and manufacturing processes which can, in turn, have an impact on IP strategy.

Generally, the fundamental characteristics of the patent system apply equally to medical devices as they do to other technologies. A notable exception is methods of medical treatment which are not considered patentable subject matter in most countries, with the exception of the USA and Australia. For example, the European Patent Convention states:

> *European patents shall not be granted in respect of … methods for treatment of the human or animal body by surgery or therapy and diagnostic methods practised on the human or animal body …*

This exclusion is problematic where a new therapeutic effect is achieved by using a known product in a new way. For instance, a new use of ultrasound to treat migraines would not be patentable where the invention resides solely in the manner in which the ultrasound device

(which is unchanged from the known apparatus) is used. Whereas a second or subsequent use of a known drug composition may be protected by adopting Swiss-style patent claims (e.g. "Use of a substance or composition X for the manufacture of a medicament for therapeutic application Z"), there is no equivalent tactic for protecting a second or subsequent use of a known medical device.

To further complicate matters, even when the method is not performed on the human or animal subject per se, problems can arise if the method is implemented in software which is not patentable in countries such as Europe, China, Japan or India unless strict requirements are met relating to the technical benefit achieved by operating the software.

Claim drafting is an art that should anticipate the evolution of the product from development to manufacture, distribution and servicing. This is to ensure that component parts, unique packaging and other protectable aspects are all covered to the fullest extent possible, while balancing broad protection with claim features that can distinguish the invention from the prior art.

Opportunity knocks

Although there are challenges that are unique to the sector, there remains great opportunity for medical technology innovators. Despite downward pressure on pricing, medical devices continue to enjoy a price premium compared to consumer products utilising similar internal components. Therefore, the right team combined with the right technology and the right market can lead to profitable opportunities.

In developed economies, there has been a noticeable change in focus from healthcare to wellness. This opens opportunities for medtech innovators to offset the higher risk associated with clinical projects by also developing products and services aimed at the growing middle class of consumers who are prepared to pay for products that help them to live better and longer.

If you would like more information about this subject, please email Alyssa Grabb.

Reference

1 www.investvictoria.com

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Federal Court rejects appeal on the patentability of computer implemented inventions

Mark Williams, Associate, and **Raffaele Calabrese,** Associate

The appeal against *Research Affiliates LLC v Commissioner of Patents* [2013] FCA 71 has been dismissed by the Full Federal Court of Australia.[1] The Full Court has confirmed that Research Affiliates' invention relating to a computer implemented method for the construction and use of passive portfolios and indexes for securities trading is not patentable subject matter. This judgment has confirmed that unpatentable abstract ideas or business schemes – in this case, portfolios and indexes – do not become patentable merely by being implemented on a computer.

Nonetheless, the judgment provided that computer implemented inventions can still be patentable if the computer is "integral" to the invention. Therefore the judgment is a reminder that information about how an invention is implemented by means of computers should be provided in the description and in the claims to support an argument for patent eligibility.

The invention

The invention in this case related to a method of constructing data indicative of a non-capitalisation weighted portfolio of assets implemented on a computer, that had a series of steps starting with receipt of data gathered with regard to a plurality of assets. The computer was used to receive the data and to provide "weighting means" for weighting each of the plurality of assets.

Reasoning

The Full Court conceded that there is no formula that can be mechanically applied to determine if claimed methods are properly the subject of a patent – instead, it is necessary to understand the claimed invention itself. The claimed invention is considered to be a matter of substance, not merely a matter of form, and is the result of human ingenuity. Therefore it is the claimed invention itself that is to be assessed according to the principles of *National Research Development Corporation v Commissioner of Patents* [1959] HCA 67 (NRDC).

The Full Court at [111] took a broader view of the question of patentability than the primary Judge saying "we do not see that the question of patentability can be answered by the observation that the method is simply the writing down of the information – a modern equivalent of writing the schemes on a piece of paper." The Full Court was of the view that this would ignore the "utilisation of the power of a computer to generate information … [and] would also render unpatentable many methods that are inventive uses of a computer that utilise previously unknown abilities of software and hardware".

Nonetheless, the Full Court found that the invention was in the content of the data rather than any specific effect generated by the computer. Further, in determining whether a claimed invention is patentable subject matter, the Full Court noted that it is necessary to look also to the substance of the invention. The Full Court held that in this case, claimed method clearly involved an abstract idea (albeit an inventive idea).

The Full Court also noted that there was no suggestion in the specification or the claims that any part of the inventive step lay in the computer implementation of the invention. The Full Court held that the scheme was merely implemented in a computer, and a standard computer at that.

The RPL Central Pty Ltd case

Interestingly, the Court noted that since the first instance decision in the present case, Middleton J has also considered patentability of computer implemented inventions in *RPL Central Pty Ltd v Commissioner of Patents* [2013] FCA 871) "RPL Central". The Court in the present case noted at [99] that Middleton J – in contrast to the claimed invention of the present case – "aligned that invention with a new use of a computer… in contrast to mere implementation of the invention by a computer". RPL Central is also currently under appeal and a judgment from the Full Federal Court is due soon.

Other jurisdictions

The Court referred to relevant European, UK and US case law[2], and noted at [59] that while decisions in other jurisdictions are not binding, the Australian approach to patentability in this matter is consistent with that taken in the United States and the United Kingdom. Indeed, the Court stated at [120] that the claims "would not be found to claim patentable subject matter in the UK or the United States either". In particular, the Court referred to the recent US Supreme Court decision in *Alice Corporation Pty Ltd v CLS Bank International 134 S Ct 2347* (2014) as also providing "a distinction … between mere implementation of an abstract idea in a computer and implementation of an abstract idea in a computer that creates an improvement in the computer". Further, the Court referred to Lourie J in *Bancorp Services LLC v Sun Life Assurance Co of Canada (US) 687 F. 3d 1266* (2012): "a computer must be integral to the claimed invention".

What this means for you

Australian patent examiners are likely to continue their practice of objecting to claims directed to non-patentable abstract ideas or business schemes which are implemented on a conventional computer.

The judgment provides that analysis of the "ingenuity of the inventors, the end result of which is the invention", and its implementation in a computer, must be considered to ascertain whether an invention forms patentable subject matter. Thus, the judgment clarifies that "dressing up" non-patentable abstract ideas with computer implemented steps is not possible.

Computer implemented inventions may be patent eligible subject matter provided the computer is "integral" to the invention. However, as the present decision shows, it is critical that detailed information is provided about how the invention is implemented on the computer to support an argument for patent eligibility. Ideally, patent specifications should extensively embed computer and hardware elements in the claims and highlight in the description and drawings the central role of these computer and hardware elements in the performance of the invention.

It may also be useful to point, where possible, to a new use of a computer or programmed apparatus, in contrast to mere implementation of the invention by a conventional computer.

If you have any questions about how the outcome of this case affects your current or future patent applications, please contact Mark Williams or Raffaele Calabrese.

References

1 *Research Affiliates LLC v Commissioner of Patents* [2014] FCAFC 150

2 International Business Machines Corporation's Application [1980] FSR 564; *Symbian Ltd v Comptroller General of Patents* [2009] RPC 1; *Aerotel Ltd v Telco Holdings Ltd*; Re *Macrossan's Application* [2007] 1 All ER 225; *HTC Europe Co Ltd v Apple Inc* [2013] RPC 30; *Bilski v Kappos 130 S Ct 3218* (2010); and *Alice Corporation Pty Ltd v CLS Bank International 134 S Ct 2347* (2014)

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The Global Patent Prosecution Highway: the Australian experience six months in

Dr Neil Ireland, Partner

The growth in the filing of patent applications throughout the world has placed considerable strain on a number of patent offices to process patent applications in a timely and efficient manner. This strain has increased the residence time between filing and grant of a patent and has impeded the ability of patent applicants throughout the world to enforce their rights. In most countries, a patent cannot be enforced until after grant.

In an attempt to streamline the process, reduce backlogs and increase the sharing of work product, a number of patent offices joined together in early 2014 to form the Global Patent Prosecution Highway (GPPH).

The patent offices currently participating in the Global patent prosecution highway are: Australia, Canada, Denmark, Hungary, Iceland, Israel, Finland, Japan, Korea, Nordic patent institute, Norway, Portugal, Russia, Spain, Sweden, United Kingdom and United States of America.

The GPPH is an agreement between patent offices which allows the patent applicant with an allowable claim in one country (either through examination of the national application or the PCT application), to request that the examination in another participating patent office be accelerated. This therefore provides an opportunity for Australian companies to accelerate prosecution of their applications overseas based on successful prosecution in Australia. In addition, it also provides a mechanism for foreign applicants to accelerate the prosecution of their Australian application based on successful prosecution in another GPPH country.

The first six months of 2014

Applications into Australia

In the period 1 January 2014 to 30 June 2014, the total number of requests to use the GPPH was a relatively small at 248. This included requests based on both PCT examination and examination of a national application overseas. Of these requests, an overwhelming majority were filed by applicants from the USA 184 (74%), with a smaller number coming from Japan 33 (13%) and Korea 18 (7.3%).

Applications out of Australia

In a similar vein, in the period 1 January 2014 to 30 June 2014, Australian applicants only used the GPPH program on 125 occasions, with most of these requests being filed in the USA (92), followed by Canada (18), Japan (8) and Korea (5), with a single request being filed in both Israel and the United Kingdom.

Table 1

Country	Japan	USA	Korea	Canada
Time from GPPH request to exam report (months)	1.74	4.4	2.45	1.5
Average time for exam report for all cases (months)	10.4	18.4	11.3	14.3
Reduction in time to exam report (months)	8.66	14.3	8.85	12.8

Table 2

Country	Japan	USA	Korea	Canada
Grant rate for GPPH cases (%)	74.7	87.9	87.3	91
Grant rate for all cases (%)	69.8	53	67.9	65

Benefits of the GPPH

The relatively low usage of the GPPH is somewhat surprising given the clear advantages it provides and the way in which it expedites prosecution and facilitates grant.

Faster examination

Statistical data indicates that for applications into Australia, the use of the GPPH reduces the time taken to receive an office action from the current average of 11 months, to just under one month. This represents a significant increase in turnaround time at the Australian patent office and can aid applicants in achieving faster grant.

This increase in examination speed is mirrored for GPPH applications in other countries as well. The data published by the Japanese patent office on the portal for the Global patent prosecution highway provides the analysis for selected countries in Table 1. This data clearly illustrates that the GPPH greatly reduces prosecution time.

Improved grant rates

In addition to faster examination, the data also demonstrates that applications processed under the GPPH have significantly higher grant rates than cases prosecuted through the normal channels. Once again, using the countries above as representative examples, the comparative grant rates are outlined in Table 2.

This data illustrates that the grant rates of GPPH cases are usually significantly higher than cases examined using normal channels.

Conclusion

Notwithstanding that there have not been a large number of cases either filed into or out of Australia using the GPPH, the preliminary data suggests that these will become more significant as more users understand and take advantage of the ability to file requests of this type. The filing of a request under the GPPH significantly increases the speed of prosecution in all jurisdictions. In addition, grant rates of cases handled under the GPPH are higher.

If you would like advice on how to take advantage of the GPPH, please contact us.

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Copyright works of employees: who owns what?

Margaret Ryan, Special Counsel

Copyright is a form of legal protection granted under the *Copyright Act 1968* to the authors or first owners of original literary, artistic, dramatic and musical works, films, sound recordings, published editions and broadcasts. In Australia, and a majority of other countries, copyright protection is automatic upon creation of the work. Employers would generally consider that they own all copyright works that their employees create when at work, however, this may not necessarily be the case.

The first question when dealing with a claim of employee copyright is to determine whether the person is actually an employee rather than an independent contractor. If the author is an independent contractor, he or she will typically own the copyright in what is created unless there is an agreement to the contrary. This is a complex issue that will not be considered here.

The second question is to determine whether copyright material has been created by an employee "in pursuance of the terms of his or her employment" – s35(6) of the Copyright Act. Two Australian cases have considered this question.

EdSonic Pty Ltd v Cassidy (2010) 88 IPR 317

EdSonic was involved in publishing education and training materials. Barbara Cassidy sought employment with EdSonic, however the company lacked funding and initially only granted her shares in EdSonic and promised to pay her royalties on the material that she wrote.

Later Ms Cassidy, in her personal capacity, secured a position with the Property Council and she asked EdSonic to enter the contract with the Property Council instead. EdSonic agreed and paid her 85% of the Property Council fees, an amount for superannuation and workers compensation and retained the remainder of the fees itself. For the Property Council, Ms Cassidy wrote course and assessment materials.

The Judge held that the relationship between EdSonic and Barbara Cassidy was "probably" an employment relationship, but that it was plainly directed to employment on a particular project – providing material for the Property Council. There was no overlap between the work Ms Cassidy did for the Property Council and the development of other educational content. She received no salary for these other materials but she received royalties.

The Judge considered that a work was made "in pursuance of the terms of his or her employment" if the contract of employment expressly or impliedly required or least authorised the work to be made. Authorising the work to be made is quite a broad test and it is not clear whether this will be followed in other cases.

The Judge in the Edsonic case likened the law on employee copyright to that of patent law. There is no provision in the Patents Act for ownership of employee inventions. Case law has made it clear that any invention made in the course of the employment when the employee is doing what they are engaged and instructed to do, during working hours and using the materials of their employers, is the property of the employer and not of the employee. However, just because the employee is making use of the employer's time and resources does not necessarily mean the invention is owned by the employer. The contract of employment needs to make provision for this or the employee must be doing what he or she is paid to do.

The key question in both patent law and copyright law is, what is the employee paid to do?

The Judge in the EdSonic case concluded that if Ms Cassidy was an employee, she was an employee for the purposes of the Property Council work only. Thus, copyright in materials created outside the Property Council work were owned by Ms Cassidy.

The situation of Barbara Cassidy was an unusual one, being an employee for some purposes but not an employee for other purposes. The situation of a managing director is a much more common one and there are various authorities including the following.

Complete Technology Integrations Pty Ltd v Green Energy Management Solutions Pty Ltd (2011) FCA 1319 (18 November 2011) Kenny J

Complete Technology Integrations Pty Ltd (CTI) claimed copyright in a template quotation letter created by its managing director, Peter Garrett. Mr Garrett's product description included "overseeing ... CTI's day to day operations", but there was no evidence that the preparation of the template quotation letter fell within his usual duties. Because of this, and also because there was no clear evidence that Mr Garrett was an employee, CTI's copyright claim failed.

The result was similar to *Antocks Lairn Ltd v I Bloohn Ltd* (1972) RPC 219, where the managing director of a furniture company created certain drawings of furniture. Similarly, there was no clear evidence of an employment relationship and no evidence that he was paid to create drawings.

Where a managing director does whatever needs to be done, this may mean that his or her company does not own the results of the work, even if the managing director is an employee, if the work falls outside usual duties. The managing director will hold the copyright on trust for the company, but for a court case, a written assignment of copyright will need to be obtained from the managing director.

The EdSonic and CTI cases are significant for examining what "in pursuance of the terms of his or her employment" in s35(6) of the

Copyright Act means. They show that, in a copyright infringement case, if the work in dispute has been made by an employee, it is necessary to prove, broadly, what the duties of the employee were, and that the creation of this work fell within those duties. This could be a tall ask when the work was created some time in the past by a former employee.

The CTI case also shows that what an employee is paid to do may be considered narrowly. The situation with business copyright works is somewhat different to the inventive process where inventing something may be infrequent, unusual, inspired and a significant thing. Copyright works come into existence in business all the time, for example letters, databases, drawings, packaging, advertising and agreements. If Courts take a narrow approach to the question of what a particular employee is paid to do, companies may find that they have no remedy when a competitor takes an employee's copyright work (unless they have obtained an assignment from the employee).

Again, it can be seen that determining whether a copyright work is in pursuance of the terms of employment can be a complex issue. Merely establishing that the author was an employee at the time of the creation of the work is necessary but not sufficient.

The solution is to deal with the question of intellectual property rights in the contract of employment. However, merely providing that "all intellectual property rights generated in the course of the employee's employment are owned by the employer" will not overcome the problem highlighted by these cases of determining what is in the course of the employee's employment. This term would merely repeat the legal position.

To attempt to capture all work-related intellectual property, it is necessary to include such phrases as "in connection with the employee's employment" and/or "using the company's facilities and resources". It may be helpful to include "during ordinary working hours", although this may be undesirable if the employee normally works outside ordinary working hours. In addition, an employer has to be careful not to overstep the mark in seeking ownership of what would otherwise be the employee's property or it might run the risk of engaging in unconscionable conduct.

Please contact us if have any questions relating to this topic.

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High Court preserves extensions of time for extensions of term

Adrian Crooks, Partner

In a 3:2 split decision in *Alphapharm Pty Ltd v H Lundbeck A-S* [2014] HCA 42, the High Court has dismissed an appeal by Alphapharm, confirming that the Commissioner of Patents had the power to grant Lundbeck an extension of time to seek an extension of term for a patent covering its antidepressant LEXAPRO.

Extensions of term for pharmaceutical patents are governed by section 71 of the *Patents Act 1990* which requires that an extension of term application be filed during the term of the patent ("the first time requirement") and within six months of the latest of three defined dates ("the second time requirement"). Lundbeck's section 71 application was filed prior to the expiry of the patent's original term but after the deadline imposed by section 71(2). Accordingly, Lundbeck sought an extension of time under section 223 in relation to the second time requirement.

Section 223 provides the Commissioner with the power to extend the time for doing a relevant act, defined in part as "an action (other than a prescribed action)". Regulation 22.11(4)(b) stipulates that one prescribed action is:

> *… filing, during the term of a standard patent as required by subsection 71(2) of the Act, an application under subsection 70(1) of the Act for an extension of the term of the patent …*

This regulation has been construed by the Patent Office as precluding an extension of time with respect to the first time requirement, (i.e. if the original patent term had expired). However Alphapharm claimed that the effect of reg 22.11(4)(b) was that no extension of time could be granted in respect of an extension of term application. Alphapharm argued that the regulations prescribed actions rather than time limits and could not therefore prescribe the first time requirement but not the second.

The majority (Crennan, Bell and Gageler JJ), rejected Alphapharm's approach to the construction of reg 22.11(4)(b), stating that:

> *It is not always appropriate to dissect a composite legislative expression into separate parts, giving each part a meaning which the part has when used in isolation, then combine the meanings to give that composite expression a meaning at odds with the meaning it has when construed as a whole …*

They concluded that the text of the regulation taken as a whole, its syntax and immediate context, supported the construction that only the first time requirement was prescribed.

The minority (Kiefel and Keane JJ) agreed with Alphapharm concluding that it was clear on the face of reg 22.11(4) that it prescribed acts, not time limits. Accordingly, the relevant act prescribed by reg 22.11(4)(b) was the filing of an extension of term application.

The decision which preserves the capacity to seek an extension of the second time requirement will no doubt come as a great relief to patentees of pharmaceutical substances.

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The amazing story of the first personal computer, circa 1965

George Biernacki, Partner

Nearly 50 years ago, a small team at Italian manufacturer Olivetti managed to do what nobody had done before them – they created a computer small enough to fit on an office desk. It was known as the Programma 101, and many consider it to be the world's first personal computer. Olivetti filed a patent application on the device in March 1964 (US3495222).

To understand why the Programma 101 was revolutionary, you have to remember what computers looked like back in 1965. It was an era of large mainframe computers that were as big as refrigerators that could sometimes fill entire rooms, and most people did not have access to them.

So how did this amazing paradigm shift happen? At the beginning of the 1960s, Olivetti tried to compete with American companies making large mainframe computers. Being from Europe, they were a bit of an outsider, but Roberto Olivetti, the then president of the company, wanted to try something really revolutionary. He wanted to make a small computer that was more affordable and could be used by everyone.

Roberto handed the project to Pier Giorgio Perotto, an engineer at Olivetti, and a team of just four people to try to get past all the technical barriers and create this revolutionary device. The technology used in computers back then was too bulky, so the team had to come up with something new for almost every element of the device, which was to be the size of a typewriter.

History in the making

The first thing the team had to do was to shrink the memory, as memory modules in the early 1960s were huge. If Olivetti used existing technology, the size of the memory alone would be greater than the whole computer they envisioned. So they had to create a memory module from scratch. This was not an easy thing to do, but they came up with a kind of magneto-strictive delay line memory, which was only a fraction of the size of other memory modules.

Next came storage. How would they store the programs? It had to be something small and practical. The team came up with a brilliant solution – a card with two magnetic strips that could be inserted into the machine. Each card could have one, sometimes two programs, which could be run by pressing a button. With this, they had invented the programmable magnetic card. In this way, anyone could enter the finished program to the device and run it in a few seconds. This legacy lasted decades, including a subsequent evolution of the idea, such as the magnetic floppy disk.

Another challenge was ease of use. The computer had to be easy enough for anyone to be able to learn how to use it. Perotto's approach was to create a simple programming language, a sort of simplified assembly language consisting of only a small set of instructions.

The actual physical design of the device was also a challenge. It had to be elegant, human-oriented and ergonomic. What ended up in the computer case, which was not much bigger than an ordinary typewriter, was easy to program, could store and run programs from magnetic cards and could be placed on a regular desk. It weighed 35 kg, a comparable featherweight at the time.

Financial trouble hits Olivetti

The Programma 101 was ready in April 1964 and was the first personal computer ever built, but there were clouds on the horizon. In the spring of 1964 the company was in serious financial trouble, and part of the solution was to sell off the electronics division of the company. General Electric (GE) stepped in and bought the electronics division from Olivetti early in 1965. Perotto's team did not want their hard work to end up in the hands of Americans to be canceled at will. Luckily they had a trick up their sleeve. To prevent ingestion by GE, they changed the name of the project from 'computer' to 'calculator'. It was a tiny change, but it meant that they were left under the umbrella of Olivetti. GE got the whole electronics division of the company minus the Programma 101 team.

Nevertheless, the situation was awkward. Perotto's team continued to work in the Italian facility where GE now owned everything except their office. The team even blacked out the windows of their office so GE employees would not be able to see what they worked on. To make matters worse Roberto Olivetti left his position as President and the new board knew little about computers, and did not see the potential of this new invention. They were convinced there was no market for it.

The Programma 101 unveiled at The World Fair 1964–65

Were it not for the World Fair in New York in 1964–1965, Programma 101 may never have seen the light of day. Like many other companies, Olivetti wanted to show their latest products to the masses at the World Fair and their goal was to demonstrate a new mechanical calculator, the Logos 27. Programma 101, on the other hand, was hidden in a small back room as the new management at Olivetti still did not believe in the project, and had it there as a prototype, an interesting oddity.

When Programma 101 was finally unveiled at the World Fair in October 1965, it was the first time it was seen by the general public. At a time when people largely regarded computers with suspicion it had an impact few could have predicted. At the unveiling, the presenter of Olivetti held a demonstration for the audience to show them it could calculate the orbit of a satellite. The presenter entered the program card and within just a few seconds the computer began printing the result. Today, this may not seem so impressive, but 50 years ago it was a real surprise.

The reception was overwhelming and the word spread quickly. Olivetti soon had a huge hit on its hands and suddenly the Programma 101 was front and centre of attention on the Olivetti stand. People marveled at how something so small could be a fully working computer, and some even suspected that they had cables connected to a larger computer hidden somewhere behind the scenes. The press loved

it and there were articles in *The Wall Street Journal* and *Business Week* with titles such as "Desk-top computer is typewriter size."

Mass production begins

It was all too much for the taciturn management at Olivetti to ignore. Mass production began soon after, and Programma 101 went on sale just a few months after its unveiling. The price for a Programma 101 was about $ 3,200, which is in excess of $ 20,000 today after adjusting for inflation. This may seem like a lot, but if you compare it with the cost of a mainframe computer in 1960, it was a bargain.

Olivetti had created a new market and had been richly rewarded for it, selling about 40,000 units. Since it was relatively inexpensive and portable, Programma 101 gained widespread use. Although at this price it could hardly be called a computer for everyone, it was still a huge step in the right direction. NASA bought more than ten Programma 101s and used them for calculations for the 1969 Apollo 11 landing on the moon.

It was only when HP started selling the HP9100 series in 1968 that the Programma 101 got some real competition. Even then, it was heavily inspired by the Programma 101 and HP was ordered to pay $900,000 to Olivetti in royalties for the use of such similar architecture and the famous magnetic card.

When you consider what Olivetti achieved, it is simply amazing. A small team of just 4–5 people completely revolutionised the computing experience and ushered in the era of personal computers.

Programma 101 Specifications

By today's standards, this is not exactly a powerhouse, but remember, it was 50 years ago, and engineers were pushing the limits of what you could fit in such a small device.

Weight: 35.5 kg

Power: 350 W

Display: None. It used a small printer and paper roll 23 cm wide.

Memory: about 240 bytes.

Storage: Magnetic cards. The programs could be divided into several cards, if it could not fit on one.

Processor: None. This was before microprocessors and integrated circuits, which had not really arrived on the scene yet. The Logic was all made up of transistors, diodes, resistors and capacitors, an amazing achievement.

Computer innovation today

The subsequent invention of the microprocessor and the resulting digital revolution has created an ever increasing variety of software-controlled products and services, which have led to what is referred to as the age of information technology, e-commerce and globalisation.

The Electronics, Physics and IT team at POF remain abreast of all developments in these fields and can assist with obtaining patents for software related inventions.

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Patents

Full Court sets colliding divisional trap

Adrian Crooks, Partner

The Full Federal Court decision in *AstraZeneca AB v Apotex Pty Ltd* [2014] FCAFC 99 has important implications for Australian patent practice, particularly in relation to the priority date to be given to amended claims.

In this case, one of the patents (referred to as the 842 Patent), was amended and resulted in certain subject matter being expressly excluded from the scope of claim 1. While accepting that the effect of the amendment was too narrow, the Court stated that:

> *We do not accept that s 114(1) can never be engaged in circumstances where the claim in question claims less than what was described in the specification immediately prior to the amendment.*

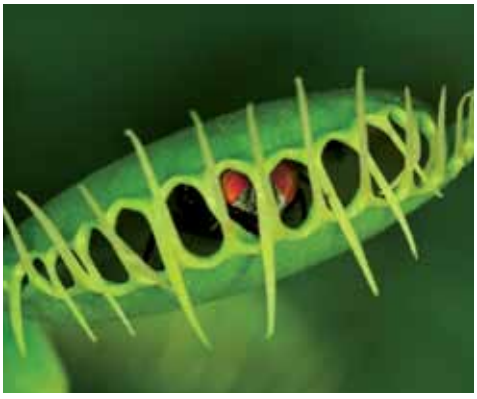
The Court noted that while the specification of the 842 Patent indicated that compositions of the invention may include a phosphate counter anion, the claims in their amended form made it clear that compositions that use phosphate for that purpose were not within the scope of the claimed invention. Accordingly, it was held that the unamended specification of the 842 Patent did not contain an adequate disclosure of the invention the subject of the amended claim.

More significantly, the Court held that section 43(3) could not be relied upon to assign the claim two different priority dates, despite there being subject matter within its scope which if separately claimed, would have been entitled to an earlier priority date.

Section 43(3) applies "where a claim defines more than one form of an invention". In relation to claim 1 of the 842 Patent, the Court found that while there may be any number of potential variants within the scope of the claim, there was only a single form of the invention defined. In contrast to previous patent office practice, the Court indicated that section 43(3) was only intended to apply where for example, a claim by its terms define two or more alternative embodiments or is dependent or more than one independent claim.

In the case of claim 1 of the 842 Patent, the claim was entitled to a single priority date, being the date of the amendment. This resulted in the claim lacking novelty in light of a number or prior publications including related applications.

This decision appears to significantly narrow the application of section 43(3) to situations where amendments cause a change in priority date. It also gives rise to the possibility of 'colliding' or 'poisonous' divisional applications where a later



filed divisional application becomes prior art against its parent by reason of a loss of priority.

Patent applicants will need to consider their amendment strategies with even greater care to avoid falling into a colliding divisional trap.

Adrian Crooks *BEng(Civil)(Hons) LLB LLM FIPTA* is a Lawyer and Patent and Trade Marks Attorney representing clients in a range of patent infringement matters, particularly in relation to engineering technologies. Adrian also regularly acts for Australian and overseas clients in opposition proceedings before the Patent Office.
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Brand protection basics for exporters

Anita Brown, Associate

In October 2014, the Australian Government released its *Industry Innovation and Competitiveness Agenda Report*. A key part of its reforms include the development of five Industry Growth Centres, which are designed to improve competitiveness and productivity and grow exports in:

- **food and agribusiness**
- **mining equipment, technology and services**
- **medical technologies and pharmaceuticals**
- **advanced manufacturing, and**
- **oil, gas and energy resources.**

Among the many legal issues both small and large exporters face is the protection of their brand or trade mark abroad. Our Q&A provides an introduction to overseas brand protection.

Why should I protect my trade mark overseas?

An Australian trade mark registration does not give the trade mark owner any rights outside of Australia. Exporters and potential exporters of goods and services risk another party copying their trade mark, registering their trade mark or having to do battle with counterfeiters if they do not seek appropriate trade mark protection in their key markets. Ultimately, exporters could lose sales or become involved in costly legal disputes if trade mark protection has not been sought abroad.

How do I protect my trade mark overseas?

Trade mark registration is generally specific to a country. It is not possible to protect a brand in every country in the world through a single trade mark application. For some jurisdictions, a trade mark applicant can file an application via the Madrid Protocol ('MP') to obtain an international registration. Trade mark protection under an international registration is available in more than 90 countries contracted to the MP. A full list of countries contracted to the Madrid Protocol is available on www.wipo.int

After the filing of the initial application for international registration, a trade mark applicant can designate additional countries where they wish to seek protection at any time. This strategy may be particularly useful for exporters who can designate new countries as their market expands.

The application for international registration undergoes a formalities examination at the International Bureau in Geneva, and then undergoes examination based on the law of each country designated. Designated countries are required to review the international registration within either 12 or 18 months from the filing date of the application for international registration. When your international registration is granted in your designated country, your trade mark will have the same protection as a national registration in that country.

The MP system makes it possible to record subsequent changes or to renew the registration centrally in a single step and using a single currency. Thus, it can be cheaper and easier to administer a single MP registration than to file registrations in separate countries. However, the application for international registration must be based on a home country application or registration (e.g. an Australian application or registration). The disadvantage of this option is that it remains dependant on the home country application or registration for the first five years, so that if the home country application or registration lapses or is cancelled for any reason, the international registration is also cancelled. There are however, mechanisms to retain protection in individual countries should this occur.

Some countries are not part of the MP, so it is necessary to file a national application in that country of interest. There may also be other considerations for choosing to file a national application, even if that country of interest is part of the MP.

There are some regional systems where it is possible to file an application to protect a number of countries. For example, a European Community Trade Mark application is a single application that covers the majority of the European Union member countries. This may be filed either as a national application or via the MP.

What is a first to file country?

Many countries follow a first to file trade mark system. This means that the person who filed a trade mark application and obtains registration will have priority, even if another party can show prior use of the trade mark. In these countries, use of the mark without a registration is not required in order to obtain to registration of the mark. Use of the mark without a registration will generally not provide priority trade mark rights, although in some countries there are exceptions for famous marks. In first to file countries, it is important to file your trade mark application as early as possible to minimise the likelihood an unscrupulous party will obtain rights to your mark.

What is a first to use country?

Some countries such as the United States, the United Kingdom and Australia follow a common law system whereby the first person to use a trade mark will have priority over a person who files a trade mark application at a later date. In these countries, it is important to consider undertaking trade mark clearance searches for both registered and unregistered trade marks.

What is trade mark squatting?

Trade mark squatting occurs when a party intentionally files a trade mark application for another party's registered trade mark in a country where the other party does not hold a trade mark registration. These are also referred to as bad faith filings. The squatter takes advantage of a particular country's first to file trade mark system to secure a registration, usually with the aim of requiring the true trade mark owner to purchase the registration.

In some cases, the trade mark squatter may be the squatter's manufacturer, distributor or retailer the exporter deals with. Sometimes, the squatter may have become aware of the exporter's plan to expand into another country after seeing the product at a trade show.

Apple is among a string of large companies who have been tied up in lengthy legal battles or paid significant sums to trade mark squatters to secure their trade mark rights.

Which countries should I protect my trade mark in?

In addition to protecting your trade mark in countries where you sell, or plan to sell, your products or services, consideration should also be given to protecting your mark in countries where you manufacture or develop your products, particularly if it is a first-to-file country.

Why is it important to obtain a trade mark clearance?

A trade mark clearance search will determine if there are any prior conflicting trade marks and whether use of a mark carries a risk of infringement. A search can also help to determine whether a mark is likely to be considered sufficiently distinctive to obtain protection in a particular jurisdiction.

Should I register a Roman character mark or another form of the trade mark?

One approach is to file for the trade mark in Roman characters and in the local language as some countries do not consider the foreign language trade mark the equivalent of the English version.

Brand owners should also consider whether it is appropriate to use and register a Roman character trade mark in a particular country. Local consumers may not read or understand English and may adopt their own name for a Roman character brand either by way of translation or transliteration. Or perhaps the translation or transliteration of a brand may be inappropriate for the particular product or even offensive. It may be worthwhile obtaining the advice of a native speaker/marketing expert to assist in the selection of an appropriate local trade mark.

Finally

Remember, trade mark registration is one way of protecting your intellectual property abroad. Consideration should be given to whether copyright, design or patent protection can be obtained and whether there is any confidential information and know how that can be protected.

Anita Brown *BA LLB MIPLaw* is a Trade Marks Attorney and Lawyer. She has a Master of Intellectual Property Law and specialises in trade mark searching, prosecution, registration and enforcement. She also advises on trade mark assignments and licensing. Before joining POF, Anita worked as a journalist and then as a lawyer at a firm specialising in advertising and marketing law.
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Outotec's cutting-edge technology for Port Pirie redevelopment

Dr Edwin Patterson, Partner

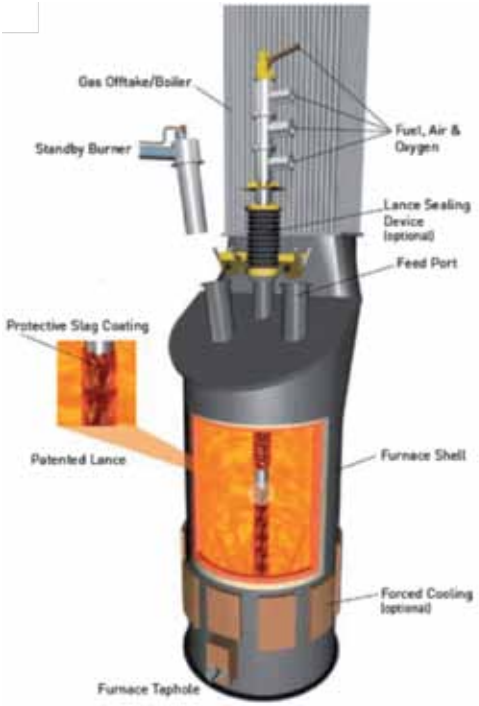
We congratulate our client Outotec in reaching an agreement with Nyrstar, a global integrated mining and metals company, to provide Outotec® Ausmelt Top Submerged Lancing (TSL) technology to the Port Pirie redevelopment in South Australia. Outotec will provide a technology licence, engineering, proprietary equipment and advisory services for the redevelopment of Nyrstar Port Pirie into an advanced metals recovery and refining facility.

Nyrstar's Port Pirie redevelopment is a significant upgrade, transforming the 125 year old smelter into an advanced metals recovery and refining operation. Nyrstar's Port Pirie lead smelter has been in continuous operation since 1889, with many of the core production assets having been in service for up to 60 years. The Ausmelt TSL technology will replace the now outdated sinter plant with a state-of-the-art oxygen enriched bath smelting furnace. This upgrade will enable a wider range of raw materials to be processed and improve the environmental footprint of the facility through reduced airborne metal and dust emissions.

The technology involves the submerged injection of process gases into a moltenslag phase in a furnace using a lance having its discharge end lowered into the slag. Fuel also passes down the lance and is combusted at the lance tip to heat the furnace. The gas injection increases the rate of reaction and obtains better contact between reductant and slag in the bath. Controlled swirling of the process gases inside the lance cools the outer section sufficiently to solidify a protective coating of slag around the outer surface of the lance.

Outotec® Ausmelt's TSL technology is covered by an extensive patent portfolio central to the technology's strength and ongoing growth. Applications of the Ausmelt TSL technology includes processing of primary and secondary copper, nickel, lead and tin, zinc bearing residues and various waste materials and ferrous feedstocks. It is a Best Available Technique (BAT) for lead and tin by European Union definition.

Phillips Ormonde Fitzpatrick has been assisting with protection of the Ausmelt technology since the early 1990s.



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Congratulations to our client Tania Jolley of DNA Security Solutions on her win in the Women in Innovation Awards

In September 2014, the Women in Innovation Awards recognised and celebrated a number of innovative women across a broad range of sectors, from IT to health. The awards were run by Women in Innovation and Technology SA (WITSA) in conjunction with News Corp Australia, owner of *The Advertiser*.

POF client, Tania Jolley, won an award in the manufacturing and defence category for her work in criminal identification technologies. Tania is the co-founder of Adelaide-based security company DNA Security Solutions, which manufactures a range of defence products including a spray that triggers an alarm and marks an attacker.

Congratulations Tania and everyone at DNA Security Solutions!

Patent assignments

Dr Grace Chan, Senior Associate
and **Dr Leon Wong,** Trainee Patent Attorney

Intellectual property, like real property, can be exploited for gain and also be bought, sold or licensed. Establishing ownership of the intellectual property right is important to establish who is entitled to deal with the property right.

What is a patent assignment?

An assignment is a legal instrument by which title or ownership of the rights to intellectual property can be transferred.

Why are assignments necessary?

Assignments of patents can be recorded on registers administered by Patent Offices and provide prima facie evidence of ownership and entitlement to the patent.

The inventor generally retains ownership of the invention, subject to any agreements to the contrary. Where an inventor wishes to transfer ownership of the invention to a third party, an assignment can be executed to ensure that the rights are validly transferred.

When inventions are made during the course of a program of research, background agreements surrounding the research may contain ownership clauses relating to any intellectual property that is developed. However, background agreements do not always identify the specific intellectual property covered by the agreement, nor do they identify the inventors. As a result, the chain of entitlement of the invention from the inventors to the eventual patent owner may be unclear. In these circumstances, assignments can be used to help to identify the invention and set out the chain and basis of the patentee's claim to ownership of the patent from the original inventors.

What needs to go into an assignment?

Assignments can exist in many different forms and the exact wording used in an assignment will often need to be tailored to ensure it suits particular circumstances. It is therefore best to seek professional advice when it comes to drafting an assignment.

To assign a patent in Australia, section 14 of the Australian *Patents Act 1990* (Cth) mandates that assignment must be made in writing and be signed by both the assignor (the "seller") and the assignee (the "buyer") or their authorised representatives. The assignment document should also be dated to establish when the transfer occurred.

Table 1 Minimum assignment requirements in selected countries as of July 2014

Country	Copy	Notarised	Legalised by Consulate	Certified by Apostille	Original
Australia	★				
Brazil		★ and ★			
Canada	★				
Chile		★			
China*	★				
Europe	★				
India					★
Israel		★			
Indonesia		★ and ★			
Japan		★			
Malaysia		★			
Mexico		★ and (★ or ★)			
New Zealand	★				
Singapore	★				
South Africa		★			
South Korea					★
USA*	★				

* A notarised copy of the assignment may be required if the copy is not accepted at first instance.

Where a patent is co-owned by two or more parties, section 16(c) of the *Patents Act 1990* (Cth) provides that one of the parties cannot assign their interest in the patent without the consent of the other co-owner. Hence it is necessary to include the co-owner as a party on the assignment to indicate their consent.

Recording assignments: what do Patent Offices require?

Once an assignment has been executed it is a good idea to have it filed with the relevant Patent Office to ensure the new proprietor is recorded on the register. A failure to record an assignment may limit the ability of the patent owner to enforce rights against potential infringers or to recover damages or obtain relief from any infringement.

Requirements for having an assignment recognised and validly recorded by a Patent Office can vary between different jurisdictions. Some countries, like Australia, will accept a simple copy of an executed assignment. However, other countries have more stringent requirements and will require notarised and/or legalised assignments to be filed. In other countries, only original assignments will be accepted. A summary of the requirements in selected countries is set out in Table 1.

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