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Editorial

Adrian Crooks,
Partner

Change. Whilst we sometimes fear the uncertainty it can represent, change also offers the possibility of an even brighter future.

In a significant change for the future of Phillips Ormonde Fitzpatrick, Graham Cowin will step down from the role of Managing Partner at the end of the month after more than a decade at the helm. On 1 July 2016, Ross McFarlane will commence as Managing Partner, bringing a wealth of experience to the leadership role (page 2).

The Australian IP landscape has undergone a number of legislative changes in recent years, but there may be more to come following the release of the Australian Productivity Commission draft report on intellectual property arrangements. In this edition of Inspire, Karen Spark provides an overview of the report's key recommendations which include the exclusion of software from the definition of patentable subject matter (page 6). While many of the draft recommendations involve a narrowing of IP rights, David Longmuir discusses how the proposed changes seek to enhance protection for plant breeder's rights (page 7).

Change to our IP laws also comes about by judicial interpretation of existing legislation, often in the context of a new technological environment. Although online commerce is now ubiquitous, the applicability of existing trade mark and consumer protection law to that environment is far from settled. On page 4, Russell Waters analyses the case of Veda Advantage Limited v Malouf Group Enterprises in which the Court considered the use of registered trade marks as Google AdWords. We also review recent patent decisions which address the best method requirement and the extent to which expert evidence can assist the Court in claim construction (page 8).

Finally, we take a look at how technology is changing the world around us. George Biernacki investigates the rise of virtual reality platforms as mainstream consumer products, while Peter Wassouf explores the patented technologies that play a significant role in the officiating of professional sports.

Meet our new Managing Partner

Pictured: Graham Cowin (left), with POF's new Managing Partner, Ross McFarlane.

We are delighted to announce the appointment of our new Managing Partner, Ross McFarlane. Ross will take up his new role on 1 July 2016.

Ross has been a Partner since 2006, and was elected to the POF Group Board in 2011. He is a member of the Electronics, Physics and IT practice group, and specialises in Information and Communications Technologies. Ross will continue to have an active role in ICT matters as Managing Partner.

Nominated for Partner of the Year in the 2016 Lawyers Weekly Awards, Ross is a dynamic leader whose strong client management skills complement his technical expertise. As Managing Partner, Ross will guide implementation of recently agreed strategic plans with the support of a new management team. The focus of these plans will be to strengthen our business partnership with clients by providing tailored and commercially relevant IP services.

Ross says, 'I am looking forward to embarking on this new opportunity at POF. The changing landscape of the IP profession in Australia emphasises how crucial it is to maintain a focus on putting clients first. POF consistently adopts a partnership approach with our clients. We are, and will remain a specialist IP firm, and the business success of our clients is at the heart of everything we do.'

Ross succeeds Graham Cowin, who has been a Partner of the firm for over 30 years and Managing Partner since 2005. Graham has played a key role in leading the POF Group through the emergence of the digital era and associated challenges and opportunities of increasing IP globalisation.

Graham says, 'I have enjoyed and appreciated the opportunity of participating in leading the POF Group as Managing Partner. Ross brings to the role a broad range of management skills importantly complemented by new vision and fresh enthusiasm. I am confident he will provide strong leadership in the future direction and growth of the Group, and wish him every success in his appointment.'

We thank Graham for his contributions as Managing Partner and welcome Ross to his new role.

Software patents in Australia: where to from here?

Ross McFarlane, Partner

In May 2016, The High Court of Australia dismissed an application for special leave to appeal the RPL Central decision[1] of the Full Court of the Federal Court of Australia. The Full Federal Court found that RPL Central's invention was not patentable as it was simply a scheme or idea implemented on a generic computer, using standard software and hardware.

In the briefest of decisions[2], the High Court found that the Full Federal Court's decision was 'plainly correct' and that none of RPL Central's grounds of appeal enjoyed 'sufficient prospects of success to warrant the grant of special leave to appeal'.

Background to the decision

As we reported in the last edition of *Inspire!*, RPL Central's invention was a method of gathering evidence for the purpose of assessing an individual's competency relative to a recognised qualification standard. The claims extensively defined the use of a computer, the internet and a remote server in the performance of the method steps. The specification provided significant detail about how these technical elements operated and interacted to implement the invention.

In the first instance of the decision[3], Middleton J found that RPL Central's invention was patentable. Middleton J noted that the specification and claims in issue provided significant information about how the invention was to be implemented by means of computer, and that a computer was integral to the invention as claimed.

However, the Full Court found that the method did not include any steps that were outside the normal use of a computer, other than requiring the computer to process the criteria to generate corresponding questions and present those questions to the user. Since the creation of the plurality of assessable criteria themselves were publicly known, and neither the presentation of the questions nor the processing of the user's responses involved ingenuity themselves, the Full Court found that the claimed invention was an unpatentable scheme or a business method.

Where does this leave us?

The Full Court found that determining patentable subject matter is not a question of stating precise guidelines, but rather of deciding in each case whether the claimed invention, as a matter of substance not form, is properly the subject of a patent.

However, the Full Court reiterated some of the considerations discussed in Research Affiliates[4] for assessing patentable subject matter:

- Where the claimed invention is to a computerised business method, the invention must lie in that computerisation and not in the business method.

- An invention does not become patentable merely by the extensive use of technical elements in the claims, or by a detailed disclosure of how those technical elements perform the invention in the specification.
- An invention must provide a 'technical contribution' (as is the case in the UK).
- A computer acting merely as an 'intermediary', namely configured to carry out the method, but adding nothing to the substance of the idea, is not a patentable invention.
- Artificial intelligence software may be patentable.

Moving closer to Europe

The Full Court looked to the UK Aerotel decision[5] in determining that a claimed invention must make a 'technical contribution'. Recently received Examination Reports appear to indicate that the Australian Patent Office is applying a European style 'technical contribution' approach to patentability, albeit in a less structured manner than is the case before the UK Patent Office or the EPO.

The signposts

Signposts relevant to whether a computer-implemented invention is patentable subject matter have been developed in part from the RPL Central decision. The signposts are included in the Australian Patent Office's *Patent Manual of Practice and Procedure*.[6]

It is becoming increasingly important for patent applicants to develop arguments based on one or more of these signposts during examination of patent applications for computer-implemented inventions before the Australian Patent Office.

Patent specifications also need to be drafted so that they include material than can be relied upon to advance these arguments during examination.

The signposts include:

1. whether the contribution of the claimed invention is technical in nature
2. whether the invention solves a technical problem
3. whether the invention results in an improvement in the functioning of the computer, irrespective of the data being processed
4. whether the claimed method merely requires generic computer implementation
5. whether the computer is merely an intermediary or tool for performing the method while adding nothing of substance to the idea
6. whether the ingenuity in the invention is in a physical phenomenon in which an artificial effect can be observed rather than in the scheme itself
7. whether the alleged invention lies in the way the method or scheme is carried out in a computer
8. whether the alleged invention lies in more than the generation, presentation or arrangement of intellectual information.

If you have any questions about how this decision may effect current or future applications, please contact Ross McFarlane – ross.mcfarlane@pof.com.au

References

1 *Commissioner of Patents v RPL Central Pty Ltd [2015]* FCAFC 177

2 *RPL Central Ltd v Commissioner of Patents [2016]* HCASL 84

3 *RPL Central Pty Ltd v Commissioner of Patents [2013]* FCA 871

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

5 *Aerotel Ltd v Telco Holdings Ltd; Macrossan's Application [2006]* EWCA Civ 1371; [2007] 1 All ER 225

6 http://manuals.ipaustralia.gov.au/patents/national/patentable/2.9.2.7_Computer_Implemented_Inventions_-_Schemes_and_Business_Methods.htm

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Federal Court rules on use of Trade Marks as keywords

Russell Waters, Partner

The increase in businesses using the internet to promote their products and services has prompted a corresponding growth in the ways in which trade marks may be used and abused online.

Apart from obvious uses as domain names and on websites, trade marks may also be used as metatags (invisible tags which describe a web page's content), or as keywords to optimise particular sites being found by search engines, such as Google. If a business uses its own trade mark for this purpose, there isn't a problem, but issues can arise where a business uses a competitor's mark on its website or as a keyword in a Google AdWords campaign. These issues were considered in the recent Federal Court case of *Veda Advantage Limited v Malouf Group Enterprises Pty Limited* [2016] FCA 255.

In 2011, the Australian Competition and Consumer Commission (ACCC) took action in the Federal Court of Australia against a number of traders in relation to use of trade marks as keywords. The action did not consider trade mark infringement, only misleading and deceptive conduct under the *Trade Practices Act 1974* (the forerunner of the current *Australian Consumer Law*). The Court found that customers of Google's Adwords program who used competitors' trade marks and business names in sponsored links or advertisements, were guilty of misleading and deceptive conduct.

In one case, the Trading Post had registered the business name 'Kloster Ford' as a keyword, in circumstances where Kloster Ford did not in fact advertise through the Trading Post. The words 'Kloster Ford' appeared in the subject heading of the sponsored link generated by the AdWords program due to an automated 'keyword insertion' process. This sponsored link was found to misrepresent that the Trading Post was associated or affiliated with Kloster Ford, and that information regarding Kloster Ford cars could be found at the website. The Trading Post was fined, however there was no finding that use of trade marks as keywords per se was misleading or deceptive.

The ACCC also pursued Google for publishing the misleading advertisements and for allowing customers to register trade marks owned by competitors as 'keywords'. This ultimately went on appeal to the High Court, which found that Google was not guilty of misleading or deceptive conduct in those circumstances. This left the onus squarely with advertisers to ensure that they did not infringe competitors' rights nor mislead or deceive consumers.

In the recent case of Veda v Malouf, the Federal Court has again considered use of a competitor's trade marks as keywords in a Google AdWords campaign.

Veda is a leading data analytics company in Australia, and its core business involves issuing credit reports on individuals and businesses to credit providers. These reports are issued by Veda as 'Veda credit reports' and are commonly referred to as 'Veda files' or 'Veda reports'. Where individuals believe that a report is in error, Veda provides a facility for 'repairing' reports through the 'Veda Resolution Centre'. It does not promote this service or actually trade in providing such services; it is merely incidental to providing accurate credit reports. Veda has a number of trade mark registrations, including VEDA, VEDA ADVANTAGE, and other VEDA-derived marks in relation to various financial services.

Malouf is a credit repair business. On behalf of customers with poor credit ratings, it undertakes to remove disputable or contested listings from credit reports, including from 'Veda reports'. As part of this service, Malouf obtains 'Veda reports' as an 'authorised access seeker' under the Privacy Act. It then prepares information to enable customers to contact the credit provider responsible for a negative listing who may, if satisfied with the information, ask Veda to remove the negative listing. To promote its services, Malouf developed a Google AdWords campaign. To attract customers wanting to contact Veda regarding a poor credit report, they registered at least 86 keywords that incorporated the word VEDA. Veda sued, alleging infringement of its registered trade marks and breach of the *Australian Consumer Law*.

The Court found that use of the trade marks as keywords did not infringe, because the keywords were not visible to the consumer and were therefore not used as trade marks. The Court noted that courts in other jurisdictions had found that keyword use did infringe trade mark registrations. However, Australian law requires that, in order to constitute use as a trade mark, the mark must be used to distinguish between respective competitors' goods or services. A mark cannot do this if it is only used as a keyword that is unseen and unheard by the consumer. The Court therefore found that Malouf's registration of Veda's marks as keywords was not trade mark use. However, as was found in the ACCC v Trading Post case, where a mark appears in a sponsored link, it is then visible to a consumer and this may constitute trade mark use.

Malouf successfully argued that in most of the hyperlinked advertisement headings, the word VEDA was not used as a trade mark, rather, the term was used descriptively. The Court found that headings such as 'Fix Your Veda File' or 'Get Your Veda Credit File', did not suggest that the services were supplied by Veda, only that the services provided by Malouf related to Veda files.

Whilst it may be disputed as to whether this was nevertheless use as a trade mark, section 122 of the *Trade Marks Act 1995* provides a defence to infringement where a mark is used descriptively in good faith. Veda argued that Malouf's conduct in registering so many VEDA-related keywords was inconsistent with good faith. However, the Court found that Malouf's conduct generally did not amount to an attempt to undermine Veda, or the integrity of its marks, so there was no lack of good faith.

Although Malouf was successful in arguing that most of its AdWord headings were either not trade mark use, or were descriptive use in good faith, Malouf had also used the AdWord headings 'The Veda Report Centre' and 'The Veda-Report Centre'. These headings were found to be both

use of the word VEDA as a trade mark, and a misleading suggestion that the associated link was connected to Veda and that the services offered there would be provided by Veda.

Veda ran an interesting argument in relation to their *Australian Consumer Law* claim, namely that Malouf's conduct 'as a whole' was apt to mislead or deceive. However, the Court found that although it had been diligent in selecting a large variety of keywords relating to VEDA in order to target potential customers interested in cleaning or repairing their Veda file, it was not unlawful per se to target another party's customers. They concluded that no customer would have been deceived by the conduct as a whole, particularly once they saw the context in which VEDA was used on the pages accessed through the various hyperlinked headings.

Somewhat surprisingly, Veda does not appear to have pleaded infringement of their registrations through use of their marks on Malouf web pages to which a consumer would be directed after following one of the hyperlinked headings. Whilst this was apparently raised in submissions at the hearing, the Court noted that it did not form part of Veda's pleadings and considered that, in any case, the instances of use referred to appeared to be merely descriptive.

Veda was perhaps unlucky that the Court did not also find the heading 'Veda Credit File Repairs' infringed the VEDA registration, stating that this was merely descriptive use in relation to services offered by Malouf. However, since Veda offered (although it did not advertise) 'repair' type services in relation to their credit files (through the 'Veda Resolution Centre'), and since 'credit file repair' services would clearly fall within the general 'financial services' covered by their registrations, it would appear at least as likely that this heading could be seen to relate to Veda-branded credit file repair services.

So, what does this mean for trade mark owners? Unfortunately, someone else using your trade mark just as a keyword will not infringe your trade mark rights in Australia. If you also have registrations overseas, and the goods or services are offered there, you may be able to prove infringement, since a broader definition of 'use as a trade mark' may apply in other jurisdictions. However, if the keyword leads to a page where the mark actually appears, the Veda v Malouf decision confirms that if the mark is used online where a consumer can see it in relation to relevant goods or services being offered in Australia, it may not only breach the *Australian Consumer Law,* but it may also infringe a trade mark registration for that mark.

If you have any questions about the use of competitor marks online, contact Russell Waters – russell.waters@pof.com.au

Russell Waters *BSc LLB FIPTA* is a Patent and Trade Marks Attorney who won the Australian trade mark categories for the ILO Client Choice Award 2013 and ACQ Finance Magazine Law Awards 2012. He was recognised as an IP Star in the Managing Intellectual Property Handbook in 2014 and 2015, and ranks amongst Australia's top trade mark attorneys in the annual World Trademark Review 1000.
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POF welcomes two trainee patent attorneys

Phillips Ormonde Fitzpatrick is pleased to announce two new trainee patent attorneys – welcome to the team Amanda and Adam.

Pictured: POF's new Trainee Patent Attorneys, Amanda Morton and Adam Pepper.

Amanda Morton, Trainee Patent Attorney, Engineering

Amanda recently joined our Melbourne office as a trainee patent attorney in the Engineering team.

Amanda has extensive academic experience, having completed a Bachelor of Engineering (with Honours), majoring in Chemical and Process Engineering, and a Bachelor of Law, both from the University of Canterbury in New Zealand. During her studies, she undertook an engineering honours project on proton exchange membranes used in water electrolysis.

Prior to joining POF, Amanda worked for an intellectual property commercialisation company that uses private and public investment to develop new spin-out ventures sourced primarily from research partners, such as universities and Crown Research Institutes. She also worked as an IP researcher on a variety of projects predominately in the areas of chemical and food engineering.

While completing her law degree, Amanda spent three years as a paralegal working on earthquake litigation relating to the Christchurch earthquakes, including technical exposure to civil and geotechnical engineering.

Amanda says, 'I found that the protection of ideas was critical for fostering innovation and success in previous work with spin-out ventures from research partners. This has made me excited to join POF, a firm that is highly-regarded, client-focussed and that has an engaging culture.'

Amanda's interests include playing sports and exploring the outdoors. She is also passionate about history, film and travelling.

Adam Pepper, Trainee Patent Attorney, Electronic, Physics and IT

Adam recently joined our Melbourne office as a trainee patent attorney in the Electronics, Physics and IT (EPIT) team.

Adam has a decade of commercial research and development experience and is qualified in both Electronic Engineering and Applied Physics, having obtained dual Bachelor degrees (with Honours) from RMIT University. In 2015, Adam completed his Master of Intellectual Property Law to consolidate his experience in intellectual property commercialisation.

Prior to joining POF, Adam was a Design Engineer at NEC, a Japanese multinational provider of information technology services and products. At NEC, Adam predominantly worked on 3GPP and LTE standards-based wireless platforms for use in smartphones, contributing to the NEC intellectual property portfolio as an inventor. It was during this time that Adam developed an interest in intellectual property law, particularly the laws relating to the protection of innovations and inventions as they apply to patents.

Adam says, 'I'm excited to be working alongside such highly regarded attorneys. In fact, working as an inventor with attorneys from Phillips Ormonde Fitzpatrick was a large part of my decision to pursue a career in intellectual property law.'

In his spare time, Adam enjoys cycling and on any given Saturday morning, you will find him at a café inflating stories about how many watts he averaged up Alpe D'Huez!

The Australian Productivity Commission releases draft report on intellectual property arrangements

Karen Spark, Deputy Managing Partner

The Productivity Commission recently released the draft results of its inquiry into Australia's intellectual property arrangements. The inquiry sought to better understand the impact of those arrangements on investment, competition, trade, innovation, and consumer welfare.

The draft report recommends a number of changes to Australia's current IP system aimed at improving the overall wellbeing of Australian society, taking into account Australia's international trade obligations. The final report from the Commission is due to be provided to the Australian Government by August 2016. If the Commission's final report maintains all of the draft key recommendations, and the Australian Government accepts those recommendations, substantial changes to Australian IP legislation can be expected in the future.

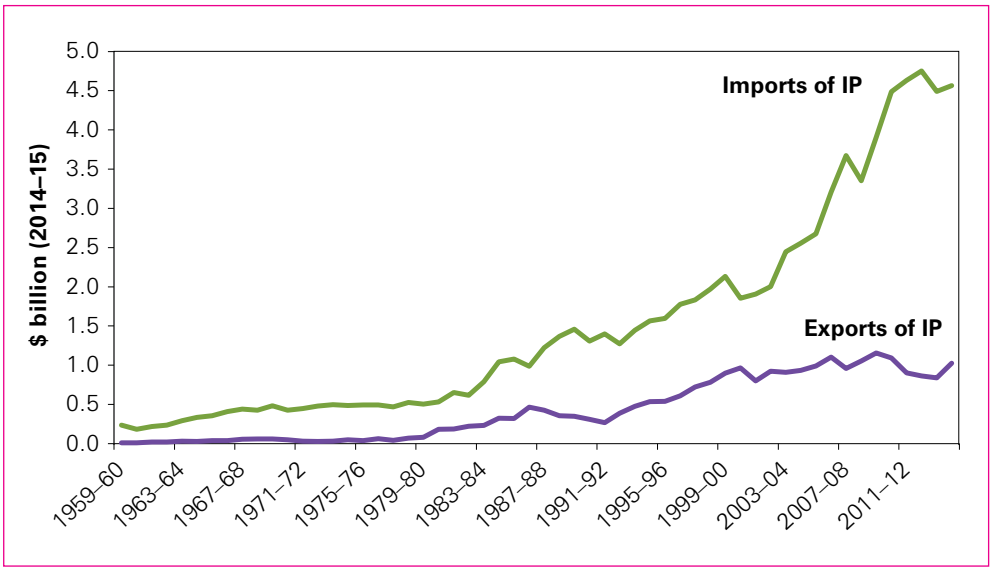

Figure 1 Australia is a large net importer of IP. Charges and fees for the use of IP.[1]

Background

Under the terms of reference issued in August 2015, the Productivity Commission was asked to suggest changes to Australian intellectual property arrangements that would:

a. encourage creativity, investment and new innovation by individuals, businesses and through collaboration, while not unduly restricting access to technologies and creative works;
b. allow access to an increased range of quality and value goods and services;
c. provide greater certainty to individuals and businesses as to whether they are likely to infringe the intellectual property rights of others; and
d. reduce the compliance and administrative costs associated with intellectual property rules.

The Productivity Commission's draft report comments that, notwithstanding a growing focus on Australian innovation in recent years, Australia remains a large net importer of IP (see Figure 1). Despite this, the draft report states that Australia provides relatively strong patent rights compared to other countries. Furthermore, the Commission perceives that there is a non-trivial number of patents granted each year that have low social value and that such patents actually 'impede innovation by frustrating the efforts of follow on innovators and researchers.'[2] The Commission also considers that 'low value patents can be used as a strategic tool for stalling or excluding market entry, and can contribute to 'patent thickets', which potential market entrants must 'hack' their way through in order to compete in a particular technology space.'[3] In this context, and noting Australia's IP commitments under various international agreements which limit the Australian Government's policy-making in the area of IP, the Commission has drafted recommendations intending to rebalance policy more in favour of Australian interests.

Key recommendations

Patents

> amend ss 7(2) and 7(3) of the *Patents Act 1990* (Cth) (Patents Act) such that an invention is taken to involve an inventive step if, having regard to the prior art base, it is not obvious to a person skilled in the relevant art.
> explore opportunities to further raise the overall threshold for inventive step in collaboration with other countries in international forums.
> incorporate an objects clause into the Patents Act. The objects clause should describe the purpose of the legislation as being to enhance the wellbeing of Australians by providing patent protection to socially valuable innovations that would not have otherwise occurred and by promoting the dissemination of technology
> abolish the innovation patent system.
> amend s 18 of the Patents Act to explicitly *exclude* business methods and software from being patentable subject matter.
> reform extensions of patent term for pharmaceuticals such that they are calculated based only on the time taken for regulatory approval by the therapeutic goods administration over and above one year.

Designs

> not join the Hague Agreement (registered designs) until an evidence-based case is made, informed by a cost-benefit analysis.

Trade Marks

> restore the power for the Trade Mark Registrar to apply mandatory disclaimers to trade mark applications.
> repeal part 17 of the *Trade Marks Act 1995* (Cth) (Trade Marks Act) which relates to defensive marks.
> amend s 43 of the Trade Marks Act so that the presumption of registrability does not apply to the registration of marks that could be misleading or confusing.
> amend the schedule of fees for trade mark registrations so that higher fees apply for marks that register in multiple classes and/or entire classes of goods and services.
> amend s 123 of the Trade Marks Act to ensure that parallel imports of marked goods do not infringe an Australian registered trade mark, provided that the marked good has been brought to market elsewhere by the owner of the mark or its licensee.

Copyright

> amend the *Copyright Act 1968* (Cth) (Copyright Act) so the current terms of copyright protection apply to unpublished works.
> clarify that it is not an infringement for consumers to circumvent geoblocking technology.

- repeal parallel import restrictions for books in order for the reform to take effect no later than the end of 2017.
- amend the Copyright Act to replace the current fair dealing exceptions with a broad exception for fair use.

Plant Breeder's Rights

- amend the *Plant Breeder's Rights Act 1994* (Cth) to enable essentially derived variety declarations to be made in respect of any variety.

Multiple submissions from members of the public and interest groups have been filed in response to the Productivity Commission's draft report. It will be interesting to see whether these submissions impact the final recommendations from the Productivity Commission.

We will provide information regarding likely future changes to Australian IP legislation shortly after the Australian Government responds to the Productivity Commission's final report.

If you have any questions about the changes which have been recommended by the Commission and how they may impact you, please contact Karen Spark – karen.spark@pof.com.au

References

1 Productivity Commission. (April 2016). *Intellectual Property Arrangements: Productivity Commission Draft Report*, p. 6.

2 Ibid., p. 7.

3 Ibid.

Karen Spark *BEng(Hons) FIPTA* is a Patent and Trade Marks Attorney and is experienced in all facets of patent and design matters both in Australia and overseas. Karen's clients are primarily Australian entities with varying commercial interests across the engineering fields, who have developed inventions across fields such as general hardware, consumer products, mining equipment, medical devices, and transportation. Karen also provides strategic and general business expertise to her clients.
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The future of Plant Breeder's Rights in Australia

David Longmuir, Senior Associate

As noted by Karen Spark in the article on page 6, the Australian Productivity Commission's overarching recommendations seek to rebalance IP policy more in favour of Australian interests. Whilst the draft report's recommendations largely address this by seeking to further raise the bar in obtaining intellectual property rights, the Commission's recommendations in relation to the current Plant Breeder's Rights (PBR) scheme actually seek to enhance the protection for right owners.

Plant breeder's rights provide exclusive rights in relation to the sale and propagation of protected plant varieties. The rights have a significant term – 25 years for trees or vines and 20 years for all other plant varieties. However, developing new plant varieties can be expensive and time-consuming. In addition, developments are often incremental, for example by the enhancement of an existing variety through the introduction of new desired characteristics. These challenges, and the potential for market failure of new varieties, has meant that historically agricultural plant breeding has been undertaken by the public sector with new plant varieties often made freely available to growers.

The Commission recognised that the PBR scheme in Australia has largely achieved its goal in stimulating greater investment and private sector plant breeding, and noted that breeders now routinely seek protection for new plant varieties in order to earn a return on their investment. This, according to the draft report, has resulted in a highly competitive business culture where breeding organisations compete with each other for market share by developing and commercialising new varieties that improve returns for growers. According to the IP Australia *Australian Intellectual Property Report 2015*, new PBR applications in Australia average approximately 350 per year, with a relatively even split between domestic and international breeders.

Despite the successful uptake by industry of the PBR scheme, the Commission notes a concern amongst plant breeders that the scope of protection provided by PBRs is being undermined by developments in technology which have opened the door to unauthorised copying. In particular, opportunistic follow-on breeders might use modern technologies to rapidly bring to market what are essentially copies of existing high quality varieties, but with sufficient differences in essential characteristics to avoid infringement.

At present, the PBR Act extends protection of registered varieties to 'essentially derived varieties' or EDVs. EDVs are varieties that share all the essential characteristics of a registered plant variety, but are distinct enough to qualify for PBR registration in their own right. The owner of a registered variety can make an application to the PBR Office for a declaration that a subsequently registered variety is essentially derived. Rights to the EDVs fall within the scope of the initial variety with neither owner able to exploit the rights without authorisation from the other.

As EDV declarations can only be made in respect of varieties granted PBR protection, the PBR Act creates a loophole allowing downstream breeders to copy or make minor or cosmetic changes to existing PBR protected varieties (sufficient to avoid infringement). They can then freely market the resulting plants, simply by not registering their copied varieties for protection under the PBR Act. In order to address this issue, the Commission has firstly recommended action to remove the loophole by recommending an amendment to the PBR Act to enable EDV declarations to be made in respect of any plant variety, not just varieties that are also nominated for PBR protection. This was a recommendation made by ACIP which was accepted by the then Government in 2010, but has yet to be implemented. The Commission believes that the recommendation has the potential to materially improve the effectiveness and efficiency of PBR and should be implemented as soon as possible.

Other mooted reforms include the adoption of a market-impact test in the EDV rules that would examine the impact of a potential or putative EDV on the commercial interests of the original breeder. The Commission notes that such a reform would help to better differentiate new from existing plant varieties, reducing the risk of fraudulent or copycat breeding and ensure that initial and follow-on breeders share appropriately in the value each has contributed. Finally, the Commission also noted that misrepresentation of varieties and refusal to pay royalties remained a concern and that this was best addressed within industry through closer cooperation and consultation.

If you have any questions about the possible implications of these recommendations, please contact David Longmuir – david.longmuir@pof.com.au

David Longmuir *BSc(Hons) LLB(Hons) LLM FIPTA* is a Lawyer and Patent and Trade Marks Attorney who works in all areas of IP litigation. He has been involved in patent litigation in the biotechnology and pharmaceutical areas, and has experience in relation to Plant Breeder's rights. David also provides clients with advice in relation to non-contentious IP matters.
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Full Court shines a light on claim construction

Adrian Crooks, Partner

It is a well-established principle of claim construction that it is not permissible to vary or qualify the plain and unambiguous meaning of the claim by reference to the body of the specification. Frequently however, it will be necessary to look beyond the words of a claim in order to give proper context to the language employed. Two recent decisions of the Full Federal Court provide important guidance on how functional requirements can impact on claim construction and the role of expert evidence in that process.

In Artcraft v Streetworx[1], the court was required to construe the term 'visible' in the context of a street lighting assembly. Specifically, the claim in question required that the lighting assembly have a visor which covered an internal compartment, referred to as the 'termination chamber', with at least part of that chamber 'being visible through the visor'.

As noted by the trial judge, the claim itself did not provide any express content or context to the term 'visible', leaving open the question 'How clearly visible is a part of the termination chamber to be?'.

The key to construing the term lay in the patent's description of one embodiment of the invention, stating that:

> *'Preferably, the components located within the "termination chamber" … are visible through the visor. For example, this part of the visor may be clear or lightly frosted compared to the remainder of the visor. … a preferred embodiment of the present invention allows a linesman to carry out a visual inspection of the components without having to remove any covers.'*

Agreeing with the construction put forward by the patentee, the trial judge found that the term 'visible', as used in the claim, meant that one could see the presence of components located within the 'termination chamber' through the visor, but not necessarily the components in detail.

On appeal, Artcraft contended that the trial judge had erred in separating the described preference for the components located within the 'termination chamber' being visible through the visor from the associated advantage of allowing a linesman to carry out a visual inspection of the components without having to remove any covers.

The majority of the Full Court was not satisfied that the trial judge had made such an error and rejected the appeal. Although the specification itself did not establish any clear functionality for a level of visibility which fell short of allowing inspection of the internal components, there was expert evidence that there might be some practical benefit, such as allowing assessment of whether insects or spiders were contaminating the chamber.

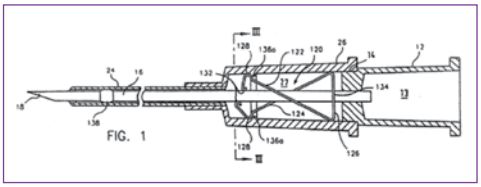
In a dissenting judgement, Jessup J concluded that having regard to the specification as a whole, the term 'visible' was linked to, and given context by, the functional requirement of allowing inspection of the components within the 'termination chamber'. While a skilled reader might appreciate that there could be other advantages associated with a lower degree of visibility, the specification was not drafted with those advantages in mind. Such considerations would therefore not influence the skilled reader's understanding of the term 'visible' as used in the claim.

Jessup J also commented on the patentee's submissions that it was not legitimate, in the absence of an express reference, to import features of a preferred embodiment into a claim to limit its scope. The cases establishing that proposition were said not to qualify the conventional rule that recourse may be had to any clearly relevant part of the specification for the purpose of understanding the character of the invention to which a claim relates or of resolving terms of the claim which may be ambiguous. Where the claim language itself derives from the description of a preferred embodiment, any recourse to the specification for constructional purposes in relation to the claim would of necessity be to the passage in which that embodiment is described. As such, in appropriate circumstances, it is permissible to construe a claim by reference to functional requirements attributable to a preferred embodiment.

In Multigate v Braun[2], the court was required to construe the term 'spaced apart' used in the context of a medical device. From the outset, the court noted that the evidence of a skilled reader is not determinative of a construction question. It is always a matter for the Court to construe the particular claim adopting the relevant lens, but giving such weight to the expert evidence that it sees fit. If words or phrases are used in a claim in their ordinary English meaning, their meaning cannot be distorted by an expert's use of a functionality lens to give them an application in tension with their plain meaning.

At first instance, it was held that the expression 'spaced apart' did not require there to be a gap between the two relevant parts, and that they could be in a 'spaced apart relationship', even though they might be touching, provided that they were not constructed so as to be connected. This conclusion was in part based on expert evidence as to the functional requirements of the relevant components.

The trial judge noted that any space or gap between the two parts would serve no function. What did serve a function was that the two be separate for the operation of the device. The relationship of being 'spaced apart' was not a relationship which prevented the two from having a connection or touching at all times. Rather, a gap between the two only became a necessary feature in the operation of the device and was provided for by a construction which ensures that a gap emerges during operation.



The Full Court rejected this conclusion, stating that the trial judge's approach was erroneously influenced by irrelevant functional considerations. In their view, such a construction had the effect of varying or qualifying a clear and unambiguous term in the claim. While there was expert evidence that physical separation of the components was not functionally necessary, there was nothing to suggest that the words 'spaced apart' had any special technical meaning. There was no reason why the words should be given anything other than their ordinary English meaning. That meaning did not encompass a situation in which there was no gap between the relevant parts.

From these decisions, it is apparent that functional considerations can provide important context in which a claim is construed. However, the primary source of such context is the specification itself. Functional considerations which are not linked to the claim language via the specification, or which are contrary to the plain meaning of that language, may be of limited assistance.

If the words used in a claim are intended to have a particular meaning which might differ from their plain everyday meaning or are intended to import a functional requirement associated with how the invention works in practice, then it is crucial that such a meaning or function is adequately described in the specification.

References

1 *Artcraft Urban Group Pty Ltd v Streetworx Pty Ltd* [2016] FCAFC 29

2 *Multigate Medical Devices Pty Ltd v B Braun Melsungen AG* [2016] FCAFC 21

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 international clients in opposition proceedings before the Patent Office.
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Full Court looks into Best Method requirements

Malcolm Bell, Partner

Ever since its introduction into the 1952 Patents Act, there has been a statutory requirement for an Australian complete patent specification to include a disclosure of the 'best method known to the applicant of performing the invention'.

Although the failure to include the best method has long been a ground upon which a patent could be held invalid, attacks against patents for lack of best method have been relatively rare. As a consequence, the issue of what the best method requirement means in practice, and how that requirement can be met, has been the subject of limited attention in the Australian courts.

However, in the recent Full Federal Court decision Servier v Apotex[1], the Full Federal Court upheld the trial Judge's decision revoking a patent for failure to provide the best method. In so doing, the Full Court looked in some detail at the best method requirement.

The Full Court made it clear that, in looking at the question of the best method, the critical consideration is to understand the nature of the invention, not simply at what was claimed.

The facts

The patentee was Servier, and its patent related to a chemical compound perindopril, used for the treatment of heart disease. Perindopril and its pharmaceutical qualities were previously known, having been the subject of an earlier patent. However, there were problems with finding a pharmaceutically acceptable salt of perindopril which had good bio-availability and adequate stability needed for the preparation and storage of pharmaceutical compositions.

The solution presented in the Servier patent was the arginine salt. The only information as to the preparation of the arginine salt contained in the specification was that it had been 'prepared according to a classical method of salification of organic chemistry,' (salification simply means to form into a salt). Servier knew before it filed its patent application that perindopril arginine had been prepared in 1986 and 1999 (well before the priority date of the patent), using two slightly different classical salification methods. Neither method was referred to in the specification.

At first instance, the trial Judge held that there had been a failure to provide the best method. On appeal, the Full Court agreed.

Issues on the appeal

Although there were a number of arguments made by Servier in the appeal, probably the most interesting was that the best method requirement is met by identifying the essential integers of the product. Servier argued that as the relevant claims were to a product and not a process, the best method obligation was met by identifying the claimed compound and details of the method of producing it were not required.

This was rejected by the Full Court. The Full Court said that the key to understanding the best method obligation was to understand that it was directed to the method of performance 'of the invention'. The nature of the invention is as described by the whole of the specification.

In this case, the trial Judge had recognised that the 'point' of the invention was the storage ability of a compound. That storage ability can vary depending on the nature of the salt formed and can vary with the form of the salt. Accordingly, the particular salt formation and the methodology to get that salt formation, have more importance than might be the case where the claimed invention was a product for which those characteristics were irrelevant. Further, 'the patentee has an obligation to include aspects of the method of manufacture that are material to the advantages it is claimed the invention brings'.

The claimed class of compounds were described as a patentable invention in the specification because of their properties, including their use as pharmaceutical compositions. In those circumstances, there was an obligation on the patentee to provide the best method for producing a form of perindopril arginine that would best fulfil the promises of the invention.

The trial Judge had held that Servier had failed to describe the best method known to it in performing the invention where it described only the general method of salification rather than any specific method. Such specific methods include the 1986 or 1991 methods which would have provided the reader with information as to a method that met the characteristics of the claimed invention. The Full Court held that Servier had not shown that the trial Judge was wrong.

If you would like to know more about the best method requirements and how it may affect your future applications, please contact Malcolm Bell – malcolm.bell@pof.com.au

Reference

1 *Les Laboratories Servier v Apotex Pty Ltd* [2016] FCAFC 27

Malcolm Bell *BSc(Hons) LLB LLM FIPTA MRACI* is a Lawyer and Patent and Trade Marks Attorney whose legal focus is patent litigation, with an emphasis on chemical and pharmaceutical technologies. He is also experienced in other areas of IP litigation, particularly in relation to copyright. Malcolm practises in all aspects of patent and trade mark work, including the provision of infringement and validity advice.
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Building a brand? Lay the legal foundations right.

Natasha Marshall Teoh, **Trade Marks Attorney**

Earlier this year, I attended The Brand Forum in Sydney and had the privilege of listening to how some of the best marketing brains in the world devised campaigns to build on the legacy of well-established brands, and also build new super brands. The forum featured representatives from Airbnb, The Procter and Gamble Company, T2, The Walt Disney Company, The Lego Group, Bang & Olufsen and R.M. Williams, to name a few. Each of these brands are marketed with strong and inspiring messages about what the company stands for and why they are loved by their customers.

Whilst marketing campaigns are vital to building successful brands, it is also important to lay down the best possible legal foundation to protect and enforce them. It is helpful to think about this foundation at brand inception, and not neglect it until a few weeks before launching to the market. Here are some important steps you can take when developing new brands, and throughout the life of existing brands:

> **Search before you use**
When deciding on a brand or trade mark, do thorough searches to make sure that your trade mark is clear to use and that it won't infringe the trade mark rights of another party. You do not want to spend a lot of money on a marketing campaign only to receive a cease and desist letter because the trade mark you have developed infringes the rights of another trader.

> **Include target countries**
If you plan to expand overseas, include target countries in your searches. It can be frustrating (and expensive) to discover a similar trade mark being used by another trader in one target country, especially when you have already gone to market and secured trade mark rights in other countries.

> **Plan and align your trade mark filing strategy with your marketing strategy**
This is an important step that should be implemented both domestically and overseas. For example, you may consider applying for an international registration under the Madrid Protocol, which designates your key countries of interest. In order to do this, you need an application and/or registration in Australia on which to base your international application. Also, it is recommended that you prioritise filing in first-to-file countries of interest, such as China and Japan. This will prevent someone else jumping ahead of you in the trade mark application-queue with a similar trade mark covering similar goods and/or services, which would prevent you securing registration.

> **Use the ™ symbol**
In Australia, use the ™ symbol to refer to your trade mark while a trade mark application is pending. You can also use this symbol if you don't intend to register the mark, but rather use your trade mark at common law. Only use the ® (registered symbol) when your trade mark is registered.

• **Trade mark watches**
Put trade mark watches in place and receive alerts when similar trade marks are accepted for registration so that you can consider whether to oppose them. Opposition periods are limited (two months in Australia), so it is important to move fast if you choose to take action.

> **Avoid using trade marks as generic names**
Don't let your trade mark become a generic name for certain goods and services. In Australia, trade marks that become common descriptors may be removed from the Register. Furthermore, it becomes difficult to enforce a trade mark if it becomes a generic name. Use your trade mark as an actual trade mark, and correct others if they use it as a generic name. For example, include the term of the art or product descriptor to refer to your goods and the trade mark to refer to the brand, such as XEROX photocopier, GRANOLA cereal and HOOVER vacuum cleaner.

> **Register a notice with customs**
Once your trade mark is registered, it is recommended that you register a notice with customs in Australia and in other countries to prevent counterfeit goods entering the market.

> **Use your trade marks**
Use the trade marks you have registered, or potentially lose them to cancellation for non-use.

Building strong and successful brands requires powerful and emotive marketing campaigns. It also requires good legal planning, securing of trade mark rights, and enforcing these rights to protect the goodwill of your brand.

To find out more about selecting and registering trade marks, please contact Natasha Marshall Teoh – natasha.marshall@pof.com.au.

Natasha Marshall Teoh *BA (Asian studies) (Hons) LLB* is a Trade Marks Attorney and Lawyer who assists clients with trade mark search advice, prosecution and enforcement. She has previously worked in Japan, where she used her bilingual skills to assist foreign clients with prosecuting trade marks. Natasha also worked as an in-house IP lawyer for an Australian company with a large international trade mark portfolio.
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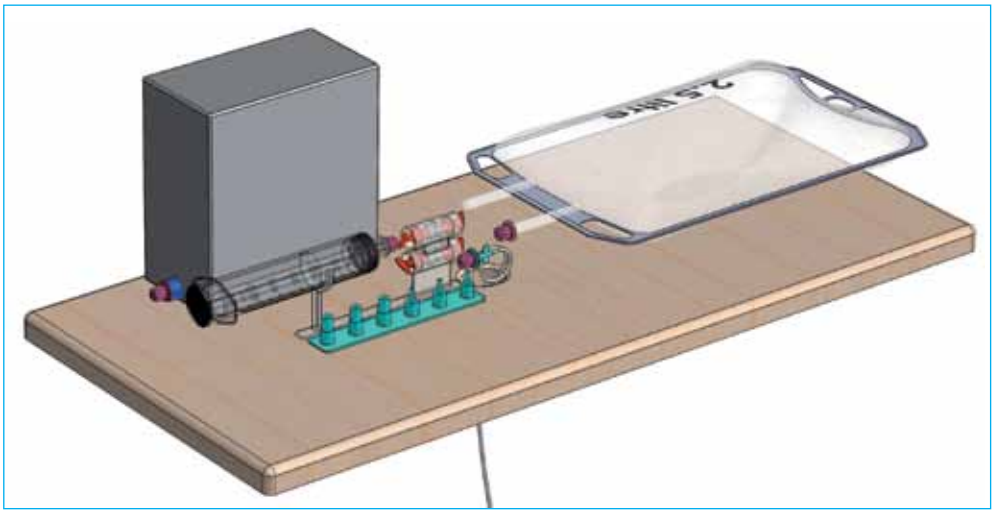
POF client, Vincent Garvey, wins the Affordable Dialysis US$100,000 prize

Alyssa Grabb, Partner

We would like to congratulate POF client Vincent Garvey, who was recently granted the Affordable Dialysis Prize for his new low cost dialysis system, which was unveiled on World Kidney Day. Garvey's compact dialysis system can fit into a small suitcase and uses a standard solar panel to power a highly efficient, miniature distiller capable of producing pure water from any source. The innovative design is recognised as the world's first low-cost dialysis system and Garvey was deservedly awarded $US100,000 for his contribution.

Currently, there are 2.6 million people in the world with terminal kidney disease who require dialysis. Just one year on dialysis costs approximately US$90,000 per person in the USA, and many thousands of dollars in low-income countries. These shocking statistics prompted The George Institute for Global Health, the International Society of Nephrology and the Asian Pacific Society of Nephrology to establish the Affordable Dialysis Competition. The competition was established to encourage inventors worldwide to develop a dialysis system that could be sold for less than a thousand dollars with low running costs.

Vincent Garvey, a manufacturing engineer from the Isle of Man in the United Kingdom, had little knowledge of dialysis or kidney disease when he entered the competition, but was inspired by the challenge and the chance to help save lives.



Mr Garvey said, 'The statistics are pretty chilling. We are not just talking about one individual, there are millions of people who don't have access to dialysis and suffer pretty awful deaths. I have always loved a challenge, and the idea of solving this problem excited me from the start. It's incredible to win this prize, but I am already focused on building the team to tackle the challenges ahead.'

Researchers hope to commence animal trials as early as 2017, with human trials potentially underway within two to three years.

We congratulate Vincent on this outstanding achievement that will significantly contribute to saving millions of lives!

Alyssa Grabb *BSc BEng(Biomed)(Hons) GDipIPLaw FIPTA* is a Patent and Trade Marks Attorney and Biomedical Engineer. Her technical speciality is in medical devices and instrumentation. She has 15 years' experience drafting and prosecuting patent applications in a wide range of medical-related technologies, including vascular and orthopaedic implants and devices, automated drug delivery, dental devices, medical software and remote monitoring systems.
alyssa.grabb@pof.com.au

Anti-counterfeiting

POFL partners with leading anti-counterfeiting organisation, React, in New Zealand

Marine Guillou, Associate

Leading anti-counterfeiting organisation, React, have extended their network to New Zealand and have appointed Phillips Ormonde Fitzpatrick Lawyers (POFL) as their exclusive partner. POFL has been the exclusive partner of React in Australia since 2010.

React is a European, not-for-profit organisation of approximately 200 member companies with 25 years' experience in the anti-counterfeiting space. The organisation deals with many areas of infringing goods in various industries including fashion and merchandising, tobacco, electronics and mobile phones, pharmaceuticals and toys.

React has a large international network with offices and partners located worldwide to fight the global trade of counterfeit goods. The partnership agreement with POFL aims to provide more anti-counterfeiting services to React members and assist them in working with customs in Australia and New Zealand.

On 25 – 26 July 2016, POFL and React are organising a two-day seminar and counterfeit identification workshop in Auckland for React members and authorities in the anti-counterfeiting field. The event will include a seminar, providing a platform to facilitate the exchange of best practices against counterfeiting. There will also be a training component to educate authorities responsible for cargo inspection, investigation, risk analysis and consumer protection, on the most current counterfeiting trends and critical risk indicators to assist them in identifying counterfeit goods. An additional training session will be held in Sydney on 27 July 2016.

If you would like to find out more about the event, or if you have any issues in relation to anti-counterfeiting, please contact Marine Guillou – marine.guillou@pof.com.au

Marine Guillou *LLM (Edinburgh University)* is a Trade Marks Attorney who specialises in anti-counterfeiting programs, customs proceedings, training and trade mark infringement litigation. Marine gained valuable experience as an in-house lawyer for the French anti-counterfeiting group, Union Des Fabricants (Unifab) and as an anti-counterfeiting Area Manager with Société Bic. In 2015, Marine was ranked as one of Australia's top specialist experts in anti-counterfeiting in the World Trademark Review 1000.
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Always moving forward: POF client, dorsaVi, share their insights into the inspirational success of their business

POF client, dorsaVi, has gone from strength to strength with their revolutionary wireless technology thriving in the global market. In December 2013, dorsaVi listed on the Australian Securities Exchange raising $18 million through the sale of 41.25 million shares at 40¢ each.

Founded by brothers, Dan and Andrew Ronchi, dorsaVi specialises in wearable wireless sensors designed to accurately and objectively measure human movement. dorsaVi initially started in the clinical and OH&S space and have since expanded to sports-related monitoring. The sensors precisely measure how people bend, twist and step using technology such as accelerometers, magnetometers and gyroscopes. These components, paired with algorithms, accurately measure movement at a variety of different places on the human body. In addition, the muscle activity sensors measure the activity of muscles near the surface of the skin using adhesive electrodes.

dorsaVi has created three key products that incorporate this advanced technology, including the ViPerform, ViSafe and ViMove. The ViPerform is well-known in the sports industry, used to assess injured athletes and professionals. The ViSafe collects data via motion and muscle sensors which can be used to improve posture, motion and work practice techniques. The ViMove measures movement and turns it into actionable data for medical applications, such as physiotherapy, to assess and treat lower back pain and other musculoskeletal conditions. The AFL team Hawthorn, NRL club North Queensland Cowboys and English football giant Manchester United are among dorsaVi's acclaimed customers, as well as reputable physiotherapy clinics in both Australia and the UK.

POF recently had the opportunity to interview Dan Ronchi, co-founder of dorsaVi, about the journey to achieving this significant business success.

What were the biggest challenges in creating and launching your invention?

Developing any product is difficult. Starting out as a burgeoning company with a staff of four people, there were many challenges throughout product development, including regulatory hurdles and clearances to obtain in Europe, Australia and the US. Post market entry, there was a lot of hype around the wearable industry and we were 10 years ahead of that buzz, so it was challenging to educate the market about the potential and future of wearable technology.

Your brother, Andrew Ronchi, has a background in physiotherapy. Did this influence the invention of dorsaVi products?

As a physiotherapist, Andrew believed that there must be something more that he could offer to people with chronic back pain.

dorsaVi sensor placement cradle

He wanted to create something to help measure the level of disability caused by back pain via accurate measurement of movement to gain more efficient rehabilitation. Andrew envisioned a more evidence-based approach to clinical management and looking for better patient outcomes by means of reducing pain and increasing function.

What role has effective IP protection played in dorsaVi's business success?

Initially, it was extremely important to obtain patent applications to raise capital. When speaking to venture capitalists and other sources of equity, IP protection was a key point of discussion due to its impact in terms of value and assets, as well demonstrating our understanding and sincerity to investors.

Given that we have invented something launched both locally and overseas, the topic of patents is also often an important discussion point with our customers. IP protection signifies that we have something unique to offer and that we take our business seriously.

Lastly, IP protection is also important as the company grows in terms of large corporate deals and protection against competitors.

How has POF supported dorsaVi over the years?

We have worked exclusively with George Biernacki, POF Partner and Patent Attorney, since the beginning. With George's background in physics and electronics, he has a firm understanding of what we were trying to achieve and this helped us extract the unique elements of our inventions.

The support has been great. POF have not only been successful in creating the patent, but also in creating the elements of the different lodgements in 48 countries and the additional effort to maintain those jurisdictions.

We also appreciate that POF go above and beyond in terms of reminders about due dates and extensions available.

What projects and industries will dorsaVi work on in the future?

We currently work with a broad range of clients in different industries including medical, elite sports, transport, manufacturing and mining. There is a lot of work underway, including contract services to OH&S from projects with the London Underground, which involves whole body vibration assessments of train drivers, to developments in the mining industry with explosive handlers taking equipment into the Kimberley. Our aim is to reduce risks and injuries in roles that require manual handling.

With the recent successes of dorsaVi, we have no doubt they will continue to be a market leader in the rapidly changing market of wearable technology. We would like to thank dorsaVi for sharing their valuable insights on their significant business success.

To find out more about this specialised technology, or IP matters relating to your technology, please contact George Biernacki – george.biernacki@pof.com.au

dorsaVi has created three key products that incorporate this advanced technology, including the ViPerform, ViSafe and ViMove. The ViPerform is well-known in the sports industry, used to assess injured athletes and professionals. The ViSafe collects data via motion and muscle sensors which can be used to improve posture, motion and work practice techniques. The ViMove measures movement and turns it into actionable data for medical applications, such as physiotherapy, to assess and treat lower back pain and other musculoskeletal conditions.

Phillips Ormonde Fitzpatrick Lawyers wins for Flexopack S.A. Plastics Industry

Magda Bramante, Associate

On Friday 11 March 2016, Phillips Ormonde Fitzpatrick Lawyers (POFL) won for Flexopack S.A. Plastics Industry in an important trade mark decision – *Flexopack S.A. Plastics Industry v Flexopack Australia Pty Ltd & Anor [2016]* FCA 235. The win was on all claims made, with Justice Beach finding that Flexopack Australia Pty Ltd infringed Flexopack S.A.'s trade mark, engaged in passing off and breached the *Australian Consumer Law*.

Importantly, the decision provides guidance as to the operation of the own name defence to trade mark infringement under subsection 122(1)(a) of the *Trade Marks Act 1995*. Flexopack Australia Pty Ltd argued that it came up with its name without any knowledge of Flexopack S.A. It submitted that it had no knowledge of Flexopack S.A.'s registered trade mark for a Flexopack logo as the company had not completed a trade mark search at the time of deciding on its name. His Honour found that Flexopack Australia Pty Ltd failed to demonstrate that it acted in good faith when adopting the name. He stated that good faith in this subsection '… is properly interpreted as requiring reasonable diligence to ascertain that a chosen name does not conflict with a registered trade mark.'

Other important aspects of the case were that Flexopack Australia Pty Ltd's Director was found to be a joint tortfeasor in the trade mark infringement and passing off, and knowingly concerned in the breach of the *Australian Consumer Law*. His Honour also found that Flexopack Australia Pty Ltd's use of its domain name, www.flexopack.com.au, was trade mark infringement.

POFL has been working with Flexopack S.A. for two years and are delighted with the result. Magda Bramante, POFL Associate, says, 'We are very pleased to have successfully enforced our client's registered trade mark. This case highlights the importance of developing a clear trade mark strategy and taking action against those who infringe your rights.'

We congratulate Flexopack S.A. Plastics Industry on this successful outcome.

Magda Bramante *BSc LLB LLM* is a Lawyer and Patent and Trade Marks Attorney with a wide range of experience in all aspects of IP including patent, design, trade mark, copyright and trade practices issues. Magda is also experienced in Federal Court matters and opposition proceedings before the Patent and Trade Mark Office.
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Congratulations to our newly qualified patent and trade marks attorney, Dr Annabella Newton

Congratulations to our newest patent and trade marks attorney, Dr Annabella Newton, who registered on 11 March 2016.

Annabella joined POF in February 2013 following her work as a postdoctoral fellow at CSIRO. During this time, she collaborated with the University of Melbourne on an organic chemistry project, applying continuous flow processing methods to the synthesis of bioactive small molecules. She also worked with the University of Sydney on a green chemistry project focused on converting biomass into chemicals and materials.

Annabella completed her undergraduate studies at the University of East Anglia in the UK, where she carried out a final year research project in organic synthesis and graduated with a Masters of Chemistry with Honours. She went on to study a PhD in alkaloid natural product synthesis at the University of Nottingham. Her PhD research was sponsored by AstraZeneca and she spent four months working in their Process Chemistry team. After a short postdoctoral stint at Nottingham, Annabella relocated to Melbourne in 2010 and joined CSIRO.

Annabella's research work has been published in several high-impact journals. She is also an active member of the RACI's Women in Chemistry and Bioactive Discovery and Development groups.

Annabella says, 'I am very excited to reach this milestone. I look forward to continuing to assist our innovative clients with their intellectual property needs.'

With expertise in Chemistry, Life Sciences, Materials Science and Pharmaceuticals, Annabella is an invaluable member of POF's Chemistry and Life Sciences team.

From everyone at POF, congratulations to Annabella on this significant achievement!

‘Was it in or out?’: the fundamental importance of patented goal line and ball tracking technology

Peter Wassouf, Trainee Patent Attorney

‘C’mon! You can’t be serious?!’ How often have we heard this phrase in sport? Fortunately at the elite level of tennis, cricket and soccer, this expression is gradually being phased out thanks to patented technology.

One of the first and probably most widely adopted officiating aids is the versatile goal net, which was patented by John Alexander Brodie in 1890 (Patent application no. 19,112). The net was designed to help determine whether a ball had passed between two posts, in response to a disputed goal in a fiercely contested match

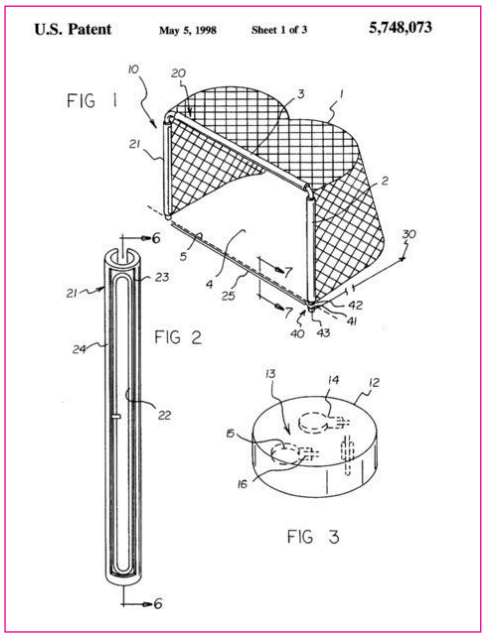

Figure 1a: Electronic Goal Detector, US Patent No. 5,748,073 (1998).

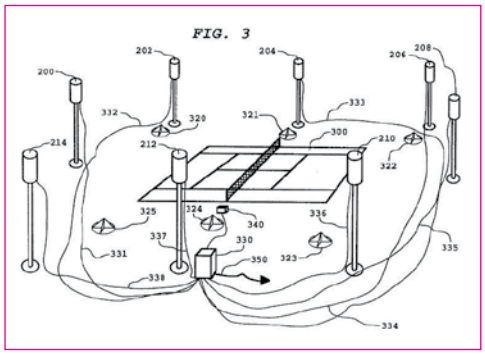

Figure 1b: Method and apparatus for radar measurement of ball in play PCT/US1992/007129 (1992).

between Everton and Accrington in 1889. Since 1890, goal line and ball tracking technology has become more sophisticated and numerous patents have been submitted which incorporate the use of electromagnetic sensors, signals, and high speed imaging.

However, it was not until approximately 10 years ago that these more sophisticated patented technologies have been used as officiating aids in elite sports, making the treasured sporting codes safer, and more engaging. These inventions have circumvented passionate disputes, and maintained a certain degree of world peace by giving us definitive answers to some very important questions such as ‘Was it in or out?’, ‘LBW?’ (Leg Before Wicket), and ‘Did it cross the line?’.

Current patented technologies

The Hawk-Eye System (Patent no. WO200141884)

The ‘Hawk-Eye’ System is by far the most commonly used technology by broadcasters and officiators in elite sport. It commands the respect (and at times ire) of players, officials and crowds alike in cricket, tennis and soccer, amongst other codes. The system was developed by Dr Paul Hawkins, an avid cricket fan. It was originally designed to track and predict the trajectory of a cricket ball to analyse LBW decisions.

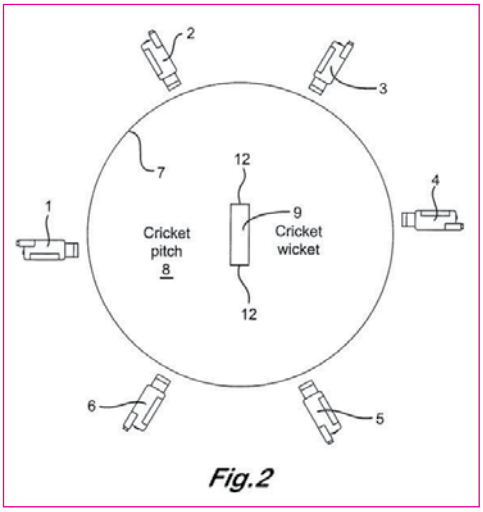

Figure 2: Hawkeye in action on the cricket pitch.

The ‘Hawk-Eye’ System is software that relies on the principle of triangulation using visual images and timing data provided by a number of high-speed video cameras placed at different locations around an area of play. Images are processed in real-time by a number of computers and sent to a central computer programmed to process and analyse the data according to set parameters relevant to the sporting code. In each camera frame, the system identifies the cluster of pixels that corresponds to the image of the ball, whereby only 25% of the ball needs to be visible. For each frame, the system calculates the three-dimensional position of the ball by comparing the ball’s position at the same instant in time captured by the different cameras. A succession of frames builds up a record of the path along which the ball has travelled. Using this information, the system is able to track and predict the trajectory of a ball, even if the ball has hit an obstruction. The system is extraordinarily accurate and performs with an average error of 3.6mm!

GoalControl-4D (Patent no. WO2014059971)

Following a blatant mistake by the officiators at the 2010 FIFA World Cup, where England’s Frank Lampard was denied an obvious goal, FIFA decided to introduce goal line technology at the 2014 FIFA World Cup in Brazil. ‘GoalControl 4-D’ was installed in all World Cup stadiums.

The system is made up of 14 cameras placed around the rim of the stadium, and are positioned to focus on the goals. The cameras are connected to a powerful image processing computer system which tracks the movement of the ball by analysing triangulation data sent from the cameras which capture approximately 500 images per second. Once the ball has crossed the goal line, a vibration and signal is sent to the referee’s watch. The system has an accuracy of goal detection of up to 5 mm, which is much more accurate than a linesman standing approximately 25 metres away!

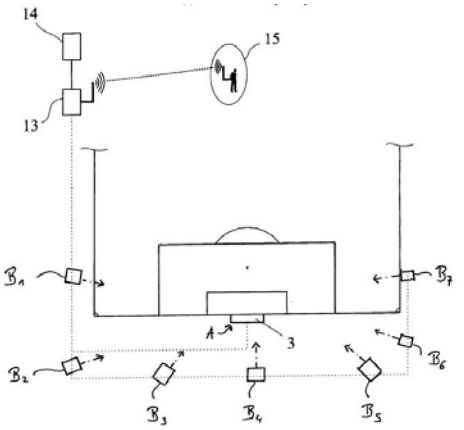

Figure 3: Patent No. WO2014059971.

Goalminder (Patent no. WO2012038746)

The 'Goalminder' system was developed by Harry Banes after seeing his beloved Bolton Wanderers relegated from the English Premier League because of a disputed goal. The system comprises fibre optic cameras built into the crossbar and posts of a goal, which record images at 2,000 frames per second to track the trajectory of the ball. When the ball crosses the line, the information collected by the cameras is processed by a computer which uses three-dimensional imaging software to map the trajectory of the ball in real-time. Once the ball has crossed the goal line, the referee is sent a visual display confirming the goal.

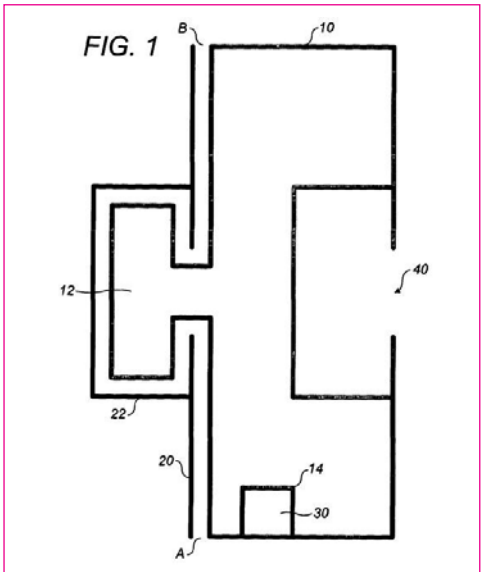

Figure 4: Patent No. WO2012038746.

Cairos GLT system (Patent no. WO2008119479)

In its first foray into goal line technology, FIFA trialled the 'Cairos GLT System' at the 2005 Under-17 World Championship. The system involves embedding thin cables in the turf of the penalty area and behind the goal line. The electrical current that runs through the cables generates a magnetic field, which is divided up into grids. The ball incorporates a sensor which measures the magnetic grids and transmits data about the ball's location. When the ball completely crosses the goal line, a radio

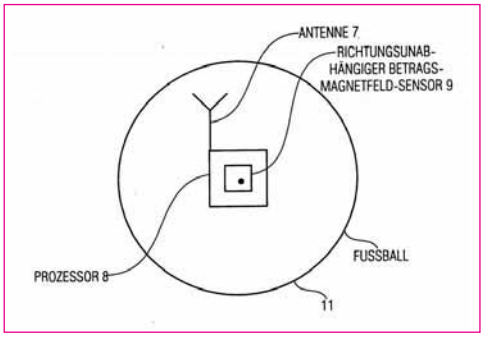

Figure 5: Patent No. WO2008119479.

signal is transmitted to the referee's watch instantaneously. Despite being satisfied with the performance of this technology, FIFA decided against its use in subsequent tournaments, controversially insisting it was only '95% accurate', and expressing concern that the chips in the ball may be displaced by the magnificent force exerted by a Cristiano Ronaldo kick!

GoalRef (Patent no. WO2009046722)

Similar to 'Carios', 'GoalRef' uses magnetic fields to detect if a goal has been scored. The system requires a weak magnetic field to be created at and behind the plane of the goal. In essence, this creates the radio equivalent of a light curtain at the goal. The strength is monitored by sensors linked to a computer. A weak magnetic field is also created around the ball through the use of a passive circuit embedded as an interior layer. When the ball completely penetrates the curtain, a change in the magnetic field is detected and the computer automatically sends a signal to the referee's watch. Unlike the 'Cairos', the ball does not act as a sensor. The System has passed FIFA's stringent testing criteria and has been approved for use at elite competition level.

Unfortunately, there's still a long way to go before we see these exciting and innovative

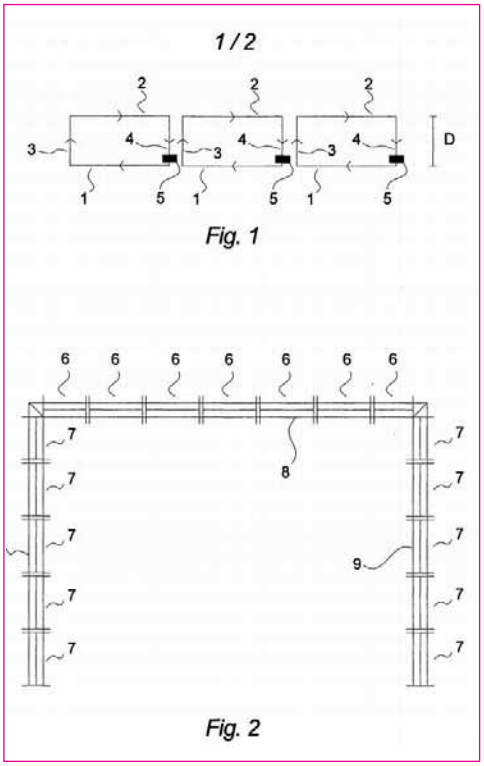

Figure 6: Patent No. WO2009046722

technologies used in semi-professional and amateur competitions, as the cost is somewhat prohibitive. Until then, we have to rely on the versatile goal net, the umpire and referees.

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Virtual reality goes mainstream in 2016

George Biernacki, Partner

With the recent release of the Oculus 'Rift' and HTC 'Vive' headsets, and the Playstation 'VR' to launch by the end of this year, virtual reality is set to dominate headlines in the technology sector in 2016.

Virtual reality (VR) is an artificial environment that is created with software and presented to the user in such a way that the user suspends belief and accepts it as a real environment. On a computer, VR is primarily experienced through two of the five senses; sight and sound.

Most up-to-date VRs are displayed either on a computer screen or with special headsets that include stereoscopic displays. Some simulations include additional sensory information and focus on real sound through speakers or headphones targeted towards VR users. Some advanced systems now include tactile information, generally known as force feedback in medical, gaming and military applications.

VR also covers remote communication environments, providing the virtual presence with concepts of telepresence and telexistence. Virtual artefacts can be created, either through use of standard input devices, such as a keyboard and mouse, or multi-modal devices, such as a wired glove or omni-directional treadmills. The simulated environment can be similar to the real world in order to create a lifelike experience, for example, in simulations for pilot or combat training. In contrast, the environment can also differ significantly from reality, such as in VR games.

Current VR devices

The Samsung 'Gear VR' was the first consumer-grade product to hit the market, apart from Google's hobby kit, Google 'Cardboard'. Like 'Cardboard', the 'Gear VR' uses a smartphone to power the headset, but in this case, the 'Gear VR' is limited to newer Samsung models. Also, unlike 'Cardboard', some of the smart technologies, including a gyroscope and accelerometer, are built into the headset providing lower latency and a smoother overall experience.

The Oculus 'Rift', developed and manufactured by Oculus VR, was released on 28 March 2016, making it the first to kick-start consumer-targeted VR headsets. The 'Rift' is not a standalone device as it must be connected by a cable to a personal computer in order to work. The 'Rift' uses a dedicated screen (an OLED panel) for each eye, each having a resolution of 1080×1200 pixels. This, combined with a high refresh rate and low persistence, means that the user experiences none of the motion blurring or judder that is experienced on a regular monitor. The 'Rift' has six degrees of freedom, with rotational and positional tracking performed by a precise, low-latency and accurate tracking system. One reviewer who spent several days with the Oculus 'Rift' said that it is a seriously impressive piece of technology when compared to earlier VR devices. It's comfortable, well built, easy to use and delivers a vastly more immersive experience than the two dimensional windows we use to peer into today's games and applications.

The HTC 'Vive', developed by electronic company HTC and PC game publisher Valve Corporation, was released on 5 April 2016. This headset is designed to use 'room scale' technology to turn a room into a 3D space via sensors. This technology allows the user to navigate the virtual world naturally and use motion-tracked, handheld controllers to manipulate objects and experience immersive environments. The HTC 'Vive' received over 22 awards at the CES (Consumer Technology Association) 2016, including best of CES.

The 'Vive' has a refresh rate of 90 Hz and uses two screens, one per eye, each having a resolution of 1080x1200 pixels. The device uses more than 70 sensors, including a MEMS gyroscope, accelerometer and laser position sensors. It operates in a tracking space of 4.6 metres by 4.6 metres, with base stations that track movement with a precision of less than a millimetre. A front-facing camera is used as part of a safety system which allows the software to identify moving or static objects in a room and displays a feed from the camera to safely guide the user from obstacles.

What's next for VR?

Besides developing games, VR developers are directing major investments into developing VR experiences for pre-recorded (and eventually live) entertainment and sports programming, marketing and product retailing, and education and training applications. In addition, Facebook and

enterprise IT suppliers see social and peer-to-peer communications as hugely promising areas for VR. Down the track, increasingly capable 3D cameras and apps will allow users to play back and share experiences in VR.

Although 2016 may be viewed as a pivotal year for VR, it will be necessary for suppliers to manage expectations given limited available content and technical limitations of entry-level VR.

Among the three vendors, Samsung is expected to lead the market in terms of sales volume due to the price advantage of the 'Gear VR', while Oculus and HTC are more likely to compete neck-and-neck in the sector due to the similarity of their devices. Analysts see smartphone-based VR potentially emerging as a 'gateway' to upsell higher quality VR experiences to consumers, but high-end PC and console-based headsets will initially be limited to early-adopter enthusiasts and high-end gamers. This is due to the price and because most VR titles will initially be limited to games.

If you would like to further discuss VR devices, or you are considering future applications in this area of technology, please contact George Biernacki – george.biernacki@pof.com.au

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