

**SUBMISSION**  
**PRODUCTIVITY COMMISSION DRAFT REPORT**  
**Intellectual Property Arrangements**  
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I am an Electronics Engineer with experience in semiconductor chip design and computer science. I have grown up with computers and programmed them using marked instruction cards, machine code, assembly language and a number of high level programming languages, including Fortran, Pascal, Basic and Symbian. I have seen computers develop from relying on programs that simply submitted basic operands into machines that have ceded many aspects of hardware control to software control. To an Engineer, hardware and software are interchangeable and are simply a means to an end, i.e. making a machine or device function as designed. A computer program written in a high level language has no value whatsoever until it is compiled and stored as high and low bits in the memory of a computer for execution. Once stored, it is a series of high and low voltage charges within a electronic circuit.

I am also an Australian registered patent attorney and legal practitioner. I have worked on computer related inventions for 30 years. I have acted for individuals, start-ups, research institutions (e.g. Universities and CSIRO) and large corporates both in Australia and overseas. I have created patent rights for clients and assisted clients navigate the patent rights of others.

My first introduction to patent law was reading the Australian High Court's decision in *NRDC*<sup>1</sup>. Chief Justice Dixon's Court was highly regarded and commanded respect in various jurisdictions, particularly in the Commonwealth. *NRDC* is considered a watershed decision. The definition of "invention" in the *Patents Act 1990* (Cth) refers to s.6 of the 1623 Statute of Monopolies because *NRDC* allowed our courts to develop the principles for determining what is the proper subject of a patent, and Parliament did not want this disturbed.

Dixon's Court wisely concluded that as the future could not be predicted; verbal constraints on the definition of patentable subject matter should not be imposed. The Court said:

*"The purpose of s.6, it must be remembered, was to allow the use of the prerogative to encourage national development in a field which already, in 1623, was seen to be excitingly unpredictable. To attempt to place upon the idea the fetters of an exact verbal formula could never have been sound. It would be unsound to the point of folly to attempt to do so now..."*<sup>2</sup>

The *NRDC* decision, and all of the subsequent court decisions that have followed it<sup>3</sup>, is the reason why a four century old definition is still referred to in the *Patents Act 1990*. It is also why all previous reviews<sup>4</sup> have left this position unchanged and avoided the inherent risks, uncertainty and negative consequences associated with amending s.18 to exclude specific subject matter, as suggested by the Productivity Commission.

We are after all dealing with the future, not the past.

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<sup>1</sup> *National Research Development Corporation v Commissioner of Patents* (1959) 102 CLR 252

<sup>2</sup> *Ibid* at 271

<sup>3</sup> Including *D'Arcy v Myriad Genetics Inc* [2015] HCA 35

<sup>4</sup> Industrial Property Advisory Committee (IPAC) 1994, Intellectual Property and Competition Review Committee (IPCRC) 2000, Advisory Council in Intellectual Property (ACIP) 2003, and ACIP 2010.

Section 101 of the US Patents Act has similarly allowed US courts to develop principles to determine patent eligible subject matter. The US Supreme Court has said s.101 is a "dynamic provision designed to encompass new and unforeseen inventions"<sup>5</sup>. But despite the breadth of that section, the Supreme Court has also held the provision contains an implicit exception: laws of nature, natural phenomena and abstract ideas are not patentable<sup>6</sup>. The abstract idea exemption was applied by the US Supreme Court in *Alice Corporation*<sup>7</sup> which required at least some improvement in technology<sup>8</sup>.

The inherent flexibility of the Australian and US approach contrasts with the difficulties that can be encountered when a statutory exclusion is introduced, such as those of Article 52 of the European Patent Convention (EPC). The approach in Europe has led to considerable uncertainty and criticism amongst European industry, the European Patent Office and the Courts. The approach is based on statutory exclusion introduced in 1977, similar to that advocated by the Productivity Commission.

A direct contrast can be made between the development of the software industry in Europe since that time and in the US, where there is no such exclusion.

The EPC of 1977 excludes computer programs "*as such*" from patent protection. The wording appears in Article 52(3) of the European Patent Convention and has enabled the EPO Board of Appeal to find that computer programs "*as such*" are excluded from patentability, but not if they produce a "*further technical effect*". The "*technical effect*" requirement comes from EPO Board of Appeal decisions interpreting Rule 43 of the EPC. This rule defines that "*the claims shall define the matter for which protection is sought in terms of the technical features of the invention*".

The EPO approach has been developed over a considerable period of time but the approach has been often criticised as being inconsistent and contradictory to the EPC itself<sup>9</sup>. For example, the UK Court of Appeal has said "The decisions of the EPO Boards of Appeal are mutually contradictory" and its approach in two decisions "is simply not intellectually honest"<sup>10</sup>. The EPO Board of Appeals in reply said the UK Court of Appeal approach "is not consistent with a good-faith interpretation of the European Patent Convention"<sup>11</sup>.

The complications and confusion that has arisen over the interpretation of Article 52 of the European Patent Convention, and the equivalent provisions in the UK, has seen the UK Intellectual Property Office exclude an entire class of subject matter from protection on 2 November 2006, only to have to overturn its practice 15 months later on 7 February 2008.

In October 2008, the President of the EPO was so concerned she asked the EPO Enlarged Board of Appeal to consider a set of questions concerning the patentability of programs for computers. In its Opinion<sup>12</sup> of May 2010, the Enlarged Board justified the EPO approach and highlighted the difficulties associated with a statutory exclusion for computer programs<sup>13</sup>.

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<sup>5</sup> *Bilski v Kappos*, 561 U.S. 593 (2010), page 8.

<sup>6</sup> *Alice Corporation Pty Ltd v CLS Bank International* 134 SCt 2347 (2014), page 5

<sup>7</sup> *Alice Corporation Pty Ltd v CLS Bank International* 134 SCt 2347 (2014)

<sup>8</sup> *Ibid* at page 15

<sup>9</sup> At a [Diplomatic Conference in Munich 2000](#) a number of Countries and NGOs sought to remove the "computer programs" exclusion.

<sup>10</sup> *Aerotel/Macrossan* [2006] EWCA CW 1371, paras 25 and 27, 2006

<sup>11</sup> *Dunns Licensing Associates, L.P.*, T 0154/04, 2007

<sup>12</sup> G 0003/08, EPO Enlarged Board of Appeal, 12 May 2010

<sup>13</sup> *Ibid* at sections 13.5. and 13.5.1 for example.

## Draft Recommendation 8.1

Amending the *Patents Act 1990*(Cth) to explicitly exclude business methods and software from being patentable subject matter is not only unwarranted, but it also risks introducing the considerable uncertainty that the Productivity Commission wishes to avoid. No other jurisdiction has introduced an exclusion in its patent statute in the form that the Commission proposes, and the long and torturous experience in Europe sounds a clear warning that any exclusion should be avoided.

Treating business methods and software together, as the Commission has done in Chapter 8, is also nonsensical and illogical.

Business methods relate to operating an economic enterprise and are economic and commercial processes.

Software relates to computer science and is used to cause a machine to execute a wide variety of tasks, including controlling:

- power and energy systems;
- wireless, optical and fixed communications systems;
- signal, image and video processing, including pattern recognition and object tracking;
- biomedical applications;
- vehicles, including aerial, aerospace, and marine vehicles;
- intelligent transportation systems;
- robotics;
- sensors; and
- data analytics.

Software is critical to solving many of the problems of today's society, including environmental applications and applications to perform data analytics and pattern recognition on patient data to detect various conditions, including predisposition to physiological and psychological conditions.

Developers of business methods and software also usually have entirely different educational backgrounds and experience.

The Full Federal Court in *Grant*<sup>14</sup> has made it clear that "a mere scheme, an abstract idea, mere intellectual information ... has never been held to be patentable"<sup>15</sup>.

The Full Federal Court in *RPL Central*<sup>16</sup> has further clarified that a technical innovation is patentable but a business innovation is not<sup>17</sup>. The Court concluded "the claimed invention is to a scheme or a business method that is not properly the subject of letters patent"<sup>18</sup> The High Court has dismissed RPL Central's application for special leave to appeal.

Unlike business methods, software (like hardware) lies in the technical arts and is susceptible to patent protection.

Yet there are a number of barriers associated with obtaining patent protection for software in Australia.

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<sup>14</sup> *Grant v Commissioner of Patents* [2006] FCAFC 120

<sup>15</sup> *Ibid* para 32

<sup>16</sup> *Commissioner of Patents v RPL Central Pty Ltd* [2015] FCA FC 177 para 100

<sup>17</sup> *Ibid* para 100

<sup>18</sup> *Ibid* para 113

1. The cost and time associated with prosecuting a patent application and obtaining a patent.
2. The patentable subject matter requirements. The invention must involve a technical innovation or contribution, or an improvement in computer technology.
3. The invention must be novel.
4. The invention must involve an inventive step, i.e. it cannot have been obvious to other software developers.

A patent specification describing the invention is also published 18 months after the first patent application, regardless of whether a patent is granted or not. This facilitates the distribution of knowledge concerning developments. Without patent protection for software, this information will no longer be available and developers will seek to keep their work secret, thereby hampering further development.

Software, unlike hardware, can be easily replicated. Whilst copyright protection is available for software, this only protects the expression of the code and requires a causal connection to be established between that expression and the copy that is made. Copyright does not protect what the software developers care most about, and that is the functional features and the processes that the software executes. Without patent protection, these features and processes can be replicated without even sighting the code. Only patents can protect these inventive features, and it is certainly unjust and unwarranted to allow hardware developers to obtain protection, but not software developers.

Software developers seek patent protection to protect the commercially advantageous and inventive features of their software products so they can commit or attract the considerable capital required to develop the products and their business. Without that protection investment declines or is non-existent. As these businesses grow they employ more Australians and benefit the country.

Software patents have been available in Australia for over 25 years, and there is no evidence that this has hampered the Australian software industry in any shape or form. In fact I have witnessed the opposite, with entrepreneurs and developers building successful businesses relying on the security patent protection affords, and then investing further in other software developments. The rewards can be considerable. For example, CSIRO's WiFi patent<sup>19</sup>, which covers data processing and transmission executed by software, has earned over \$400 million for Australian research.

Some of the metrics referred to in the Draft Report to try and determine patent value (e.g. the measures of Box D.1) are largely irrelevant. The value of a patent is determined by the scope and validity of a patent's claims and the extent they cover features or processes that have commercial value within the jurisdiction of the patent. It is that commercial value alone that represent the patent's value, and there are a number of quantitative (cost-based, market-based, income-based, and option-based methods) and qualitative approaches for determining that value.

Even in the US, where the unique peculiarities of US litigation practice have in the past<sup>20</sup> favoured patent owners, the software industry has flourished spectacularly together with the open source community.

Any change introduced to the Australian *Patents Act 1990* is unnecessary and will introduce uncertainty and risk, at a time when Australia needs to be doing everything to encourage its innovators, not hamper them.

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<sup>19</sup> [US Patent 5487069](#)

<sup>20</sup> For example, previous lack of cost awards against unsuccessful patentees and ease of referral back to the US PTO.

### **Draft Recommendation 6.1**

Inventive step is an important criteria that needs to be as objective as possible and set at a level that provides an appropriate balance. The threshold, however, has only recently been adjusted following the extensive consultations that were undertaken and led to the reforms introduced by the Raising the Bar Act<sup>21</sup>. Time is needed to determine the effect of these reforms, and allow Australian courts to interpret them, before any further adjustment is made.

### **Draft Recommendation 6.2**

IP Australia's proposed objects clause referred to on page 188 of the Draft Report is acceptable, although the reference to "competing" should be deleted.

The Commission's reference to "socially valuable innovations that would not have otherwise occurred" is unfortunately impractical as it cannot be assessed objectively by a decision maker.

### **Draft Recommendation 6.3**

IP Australia has recently explored the costs and benefits of using higher renewal fees, and IP Australia's recent proposals are acceptable.

### **Draft Recommendation 7.1**

In line with the submissions of most participants to IP Australia's consultation on ACIP's proposal to abolish the innovation patent system; the system should be retained but the threshold for meeting innovative step should be raised.

3 June 2016

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<sup>21</sup> *Intellectual Property Laws Amendment (Raising the Bar) Act 2012 (Cth)*.