

# Innovation and Intellectual Property in South Africa: The Case for Reform



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# 1.

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## Introduction

## 1. Introduction

On 8 August 2017, South Africa's Department of Trade and Industry ("the dti") published the Draft Intellectual Property Policy of the Republic of South Africa: Phase 1 ("the draft IP Policy") for public comment. Interested parties were given 60 days to make written submissions. Once a final policy has been adopted by Cabinet, the dti will in all likelihood begin the process of amending the Patents Act 57 of 1958 ("the Patents Act") to give legislative effect to the contemplated policy shifts.

While there has been much public debate on the substantive policy issues at play, little attention has been given to understanding the existing patent landscape in South Africa – by which we mean both the lay of the land with respect to the patents that have been granted, as well as the legal framework within which such patents have been granted and enforced. In our view, the strengths and weaknesses of any new IP policy must be measured against this landscape.

Instead, key assumptions appear to have underpinned the adoption and/or retention of certain entrenched positions.<sup>1</sup> One of these, ordinarily advanced by those intent on maintaining the status quo, is that a soft regulatory touch stimulates innovation. The flip-side of this position is that substantive policy proposals of the type contained in the draft IP Policy are likely to undermine – if not kill – innovation.

In such a scenario, the number of patents granted is claimed to be a proxy for the level of innovation, even though this makes patents both an incentive for innovation, and a measurement of the desired output. Yet recent research by economists has found that there is no compelling evidence that patents result in increased innovation in developing countries, even those that – unlike South Africa – examine patent applications. Moreover, the research also suggests that the consequences of an inappropriate patent regime for a developing country may be dire.<sup>2</sup>

It is with these observations in mind that this paper has been written, with the modest goal of making a contribution towards a better understanding of the

existing patent landscape. The paper proceeds from the understanding that the mere grant of patent protection, without anything more, tells us very little.

To understand the nature and extent of South African innovation, we begin by considering and analysing a dataset of 4,064 patents granted by the dti's Companies and Intellectual Property Commission ("CIPC")<sup>3</sup> to South African individuals and bodies over the period January 2005 to July 2015.<sup>4</sup>

Thereafter, we consider and analyse the relevant statutory framework governing the grant and management of patents in South Africa, and how it has been interpreted and applied by South African courts.

In doing so, we show that the domestic patent landscape is characterised by the seemingly easy grant to South African individuals and bodies of patents of dubious quality and value, as well as the enforcement of a legal framework that appears to be heavily skewed in favour of patentees. If anything, the data strongly suggest that the existing patent system in South Africa plays a key role in stifling – rather than stimulating – innovation.

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# 2.

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## Consideration and Analysis of South African Patents

## 2. Considerations and Analysis of South African Patents

In the first part of this paper, we analyse a dataset of patents currently in force in South Africa. We begin by giving a brief overview of the patenting process in South Africa. We then set out the methodology adopted to obtain and analyse the data. This is followed by a consideration of the nature and quality of South African data available publicly, and thereafter, an analysis of the data. We conclude this part by reflecting briefly on our key findings.

There are two overarching questions to be considered that provide the context for the analysis:

- First, what – if anything – can be learned from the currently available data?
- Second, is there anything in the current data to suggest that key reforms contemplated in the IP Policy – such as the examination of patents, and the use of public health safeguards – would inhibit South African innovators?

### *2.1. Overview of the Patent Application Process*

Patent applications may originate in South Africa or from outside South Africa. A patent application that originates in South Africa may begin with a provisional application, with the applicant subsequently filing a complete patent application. Alternatively, an applicant may simply make a complete patent application.

Patents which originate outside of South Africa usually rely on the Patent Cooperation Treaty (“the PCT”). An applicant from a PCT jurisdiction may file an international application with a designated receiving office. This does not grant a patent, since patents are only granted by national or regional patent offices. The applicant must then proceed with what is known as a national phase application under the PCT.

Both provisional and PCT applications are used to establish priority, so that if there is a dispute about who is entitled to a patent, the prior claim will usually succeed.<sup>5</sup> A person who has made a patent application in a country aligned to the Paris Convention<sup>6</sup> could also use that filing as the basis to establish priority in a patent application made in South Africa. In such a case, patent records will include the number of the foreign patent application, to establish priority.

South Africans may also file PCT applications via CIPC. The PCT application will show the country of origin as South Africa. But a South African who has made a PCT application will still have to make an application in South Africa, or some other national or regional office, in order to obtain a patent.

Each patent application usually contains multiple claims or statements by the applicant setting out the scope of the patent sought. A patent application in South Africa is not examined for compliance with the substantial requirements of the Patent Act. Instead, CIPC checks to see whether the application complies with certain formalities. Other jurisdictions, such as China, India and Brazil, examine patents for substantive compliance.

Patents granted in other jurisdictions are not likely to have claims as wide as those in South Africa. Patent examination often results in the rejection and/or modification of some claims. As a result, the final outcome of a PCT application may differ from one jurisdiction to another; a patent may be refused in one jurisdiction, a narrow patent may be granted in another, and a patent with the widest set of claims is likely to be issued in South Africa.

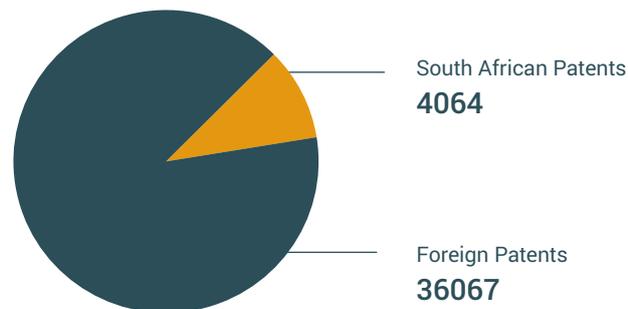
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## 2.2. Methodology

South African patent data is gathered and stored by CIPC, established in terms of section 185(1) of the Companies Act 71 of 2008 (“the Companies Act”) “as a juristic person to function as an organ of state within the public administration, but as an institution outside the public service.” The CIPC is one of “a group of specialised, regulatory and financial development agencies and institutions” in the dti’s portfolio.

While the CIPC patent database permits an online search of individual records,<sup>7</sup> either “basic” or “advanced”, it has no application programming interface to enable large scale analysis. We therefore worked with a static dataset supplied by the dti,<sup>8</sup> which included 40,131 patents originating from all over the world which were registered in South Africa between January 2005 and July 2015.

Figure 1: All patents registered in South Africa between 2005 and 2015



To identify patents of South African origin, we produced a list of patents which met these three criteria:

- The applicant had a South African address
- The patent did not have a priority code from a different country<sup>9</sup>
- If a patent had a PCT code, this was not registered from a country other than South Africa.<sup>10</sup>

After this list was produced, a researcher went through the records to confirm that the patents are indeed of South African origin. This process resulted in the elimination of over 100 patents, including those where the patent holder in South Africa is a subsidiary of a foreign holding company, or the inventor is not located in South Africa.<sup>11</sup>

At the same time, a researcher tagged patents that were in more common areas such as mining, pharmaceuticals, security, explosives and business methods, and for which patent inventors were apparently women. The result is a list of 4,064 South African patents granted over the time period in question, which only accounts for ±10% of all patents granted by South Africa’s CIPC during this period.<sup>12</sup>

## 2.3. Nature and Quality of the Publicly Available Data

The data that we were able to obtain concerned only final patents granted during the ten-and-a-half year period in question,<sup>13</sup> regardless of when any application for a patent was made. For example, the data includes two patents granted in 2008 for which applications were made as far back as 1988. The data therefore does not include provisional patents, or patents for which applications were made during the period in question, but which were still pending as of July 2015.

Of the patents we were able to consider, the average time from date of application to date of grant was 13 and a half months. This unfortunately makes the data less useful for the years 2014 and 2015. Thus, while we have a record of how many patents were granted in 2014, we do not have any data regarding patent applications that were made in 2014 but still pending by July 2015.

The dataset we analysed does not contain any abstracts, diagrams or descriptions of the patents, and does not have the patent subtypes. This appears to be the case for all South African patent data available to the public online.

As an example of the nature of the publicly-available data, consider patent number 2014/04072.<sup>14</sup> Having done an advanced search for that patent on the CIPC's online database,<sup>15</sup> we were only able to obtain basic information regarding –

- the complete lodging date, the acceptance date, and the date upon which the patent was granted
- the identity of the patentee: the Centre for Scientific and Industrial Research (“the CSIR”)
- the full name of the inventor
- the “*address for service*” field, containing the details of a firm of attorneys
- whether the patentee has paid for its renewal fees annually<sup>16</sup>
- key dates in the application history<sup>17</sup>
- the subject of the patent, under the heading “*Title of Invention*”: in this case, the rather cryptic “*Transducer*” and
- the international classification number: B06B.<sup>1</sup>

Although there is a field/tab available for abstract, it states “*No Documents*”. Similarly, the fields/tabs for claims and diagrams state “*No Documents*”. Very little can be determined about the patent, such as what it is or what it does, let alone the patent claims or prior art cited by the patent applicant.

The reference to the international classification number is a reference to the number assigned to a particular class of inventions by the International Patent Classification (“the IPC”) scheme.<sup>19</sup> While IPC numbers can be useful and informative, those used in the publicly-available South African patent records are too broad to be particularly helpful, as they exclude any information regarding sub-categories of classification.

For example, the most common South African patent classification is E21D,<sup>20</sup> which is described in the IPC scheme as “*Shafts; Tunnels; Galleries; Large Underground Chambers.*”<sup>21</sup> From this code, we are unable to determine what kind of invention for a shaft (or a gallery or a large underground chamber) the patent might protect, or even whether it is for a shaft (which is usually vertical), or for a gallery (which is horizontal).

Two further layers of classification are available for this code (as for every code), so that the full classification code indicates if the patent covers an invention for a mining shaft itself, supports for a shaft (such as an anchoring bolt), and the material from which it is made.<sup>22</sup> For example, the code E21D 1/06 covers inventions for sinking shafts mechanically using shaft-boring cutters (drilling machines). Failure to use the full code in the South African data exacerbates the problem of the lack of information.

This is illustrated further by the use of the A61K classification, which covers “*Preparations for Medical, Dental, or Toilet Purposes*”. Not only does this broad classification include many prescription medicines, but it also includes many other compositions, as evident in these examples from the A61K classification:

- Patent 006/09792: “*a herbal composition for the treatment of infections, of disorders of the immune system and infections that arise as symptoms of disorders of the immune system, the composition including plant material obtained from one or more of the rhizome, the roots, the stem and the leaves of a plant of the genus Gunnera*”; and
- Patent 2009/03347: a “*body appearance enhancing lotion*”.

We took the data supplied to us by the dti, and combined it with data from a commercial patent data service used by patent attorneys across the world. Using the South African patent identification numbers, we matched the records supplied by the dti with the records from this commercial database. The combined data gave abstracts for many of the South African patents, and for patent IDs for other countries where the patent has been registered.

However, patents registered only in South Africa don't appear in the commercial database. In the result, no more information was obtained in respect of patents registered only in South Africa. This gives a clearer idea of what is absent in the available South African patent data, which would be present in a comparable national or regional database.

To continue with the example of the “*transducer*” patent, it turns out that this particular invention has also been patented in Australia, Brazil, China, Japan, and

the Russian Federation. Using the Australian online patent system,<sup>23</sup> which is in English, the following additional information may be obtained:

- an abstract, which begins as follows: *"THIS invention relates to a transducer for use in a system for monitoring the condition of elongate structural elements, and more particularly but not exclusively to a transducer for use in a system for monitoring and detecting cracks and breaks in railway rails."*
- the patent claims; and
- a detailed seven page description with diagrams.

None of this useful information is available on the South African online patent system, or in the data we received.

What is of particular concern is that the transducer patent granted in Australia is an innovation patent, and not a standard patent. According to IP Australia,<sup>24</sup> an innovation patent *"is designed to protect inventions that do not meet the inventive threshold required for standard patents."* Thus the applicant(s) for the Australian innovation patent either knew that the invention did not meet the standard required for a full standard patent, or it was deemed insufficiently innovative by the Australian patent office.

Unlike standard patents, which are granted for 20 years,<sup>25</sup> innovation patents are only granted for eight years. Thus the Australian patent will expire on 18 June 2022, in contrast to the South African patent, which will only expire on 3 April 2034.

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## 2.4. Analysis of the Data

In this section of the paper, we consider the following questions in turn:

- Who are South African patentees?
- What type of inventions are securing patent protection, and by whom?
- Are South African patentees obtaining protection abroad? If so, who is doing this?

But before doing so, it is important to remember that of the 40,131 patents granted over the time period examined, only  $\pm 10\%$  were South African patents. With the total number of South African patents granted over the period being 4,064, this translates into an average of less than 400 South African patents granted each year.

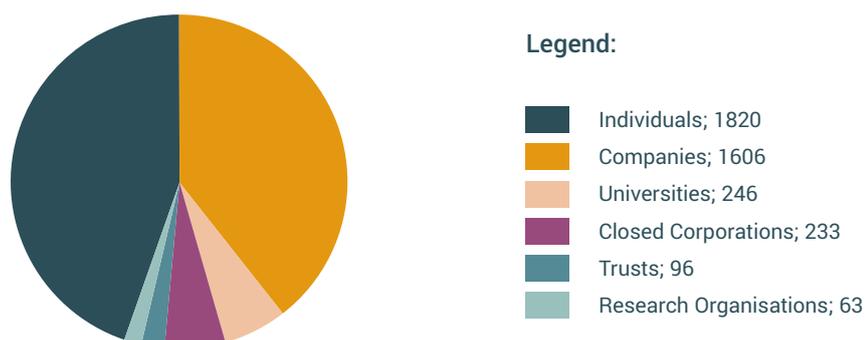
Although we have ranked patents in the South African dataset according to the IPC scheme, it must be noted that there was no classification code for 119 records, representing 2.9% of all South African patents. The code was either simply unassigned or unrecorded for these patents.<sup>26</sup>

### 2.4.1. Who are South African patentees?

Surprisingly, the single largest category of South African patentees is made up of individuals, accounting for 44.8% of all patentees. This is closely followed by privately and publicly held companies, accounting for a further 39.5%. This number does not include closed corporations, a vestigial corporate form in which only natural persons may be members, and who account for a further 5.7%.<sup>27</sup>

In addition to trusts, accounting for 2.4%, the remaining patentees are South African Universities (6.1%), and research organisations such as the CSIR and Mintek, a state-owned science council which reports to the Minister of Mineral Resources (1.6%). Yet despite accounting for less than 8% of all South African patentees, South African universities and research organisations appear to be responsible for a disproportionate number of valuable patents.<sup>28</sup>

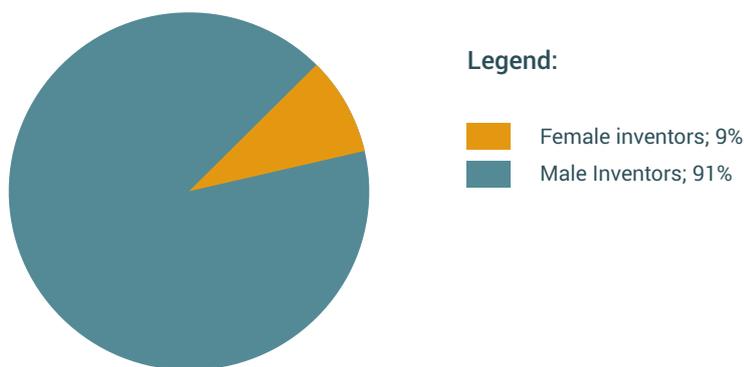
Figure 2: Who are South African patentees?



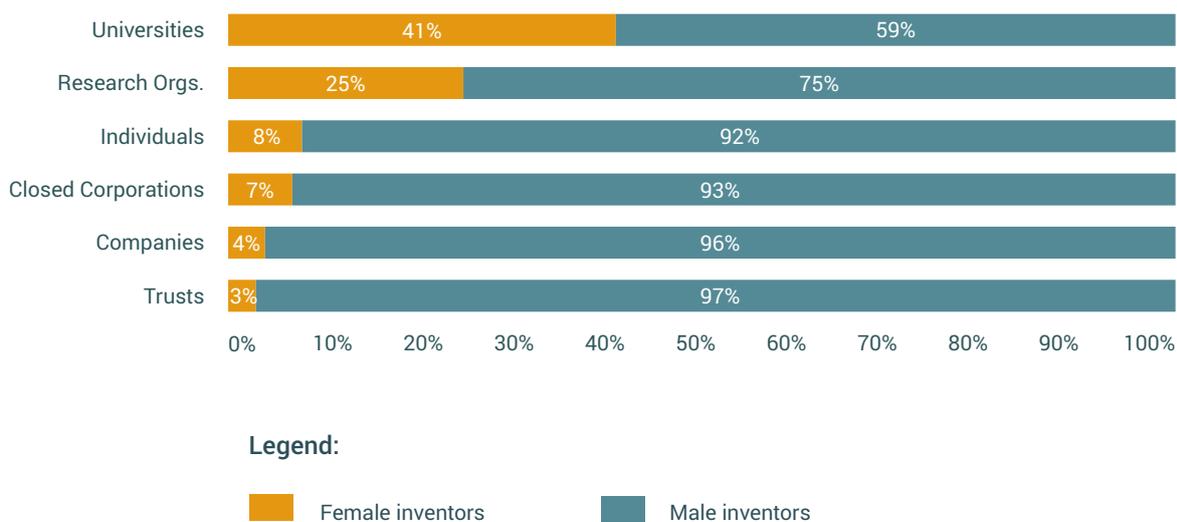
Only 9% of the South African patents had an identified female inventor. The highest rate of female inventors was amongst the university patentees (at 41%), with the second highest rate amongst research organisations (at 25%). The table below shows the percentage of women inventors across categories.

Figure 3: South African patents with identified female inventors

### Gender breakdown of all South African patentees



### Gender breakdown of South African patentees by category



## 2.4.2. What type of inventions are securing patent protection, and by whom?

The data shows that there is no single typical category of South African patents. The largest category – E21D<sup>29</sup> – constitutes only 4.7% of all such patents. The next three largest categories – B65D,<sup>30</sup> G06F,<sup>31</sup> and A61K<sup>32</sup> – range from a high of only 3.20%, to a low of 2.19%. Collectively, the top 15 categories account for only ±28% of all South African patents.<sup>33</sup>

Chart 1: Top classification codes for South African patents (for 2005 – 2015)

Code	Number of patents	Percentage	Description
E 21 D	193	4.70%	Shafts; tunnels; galleries; large underground chambers
B 65 D	133	3.20%	Containers for storage or transport of articles or materials
G 06 F	124	3.03%	Electrical digital data processing
A 61 K	91	2.19%	Preparations for medical, dental, or toilet purposes
E 04 H	73	1.80%	Buildings or like structures for particular purposes; swimming or splash baths or pools; masts; fencing; tents or canopies, in general
G 06 Q	70	1.72%	Data processing systems or methods, specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes
E 04 B	59	1.45%	General building constructions; walls, e.g. Partitions; roofs; floors; ceilings; insulation or other protection of buildings
F 16 K	59	1.43%	Valves; taps; cocks; actuating-floats; devices for venting or aerating

Code	Number of patents	Percentage	Description
C 02 F	57	1.40%	Treatment of water, waste water, sewage, or sludge
B 01 D	55	1.35%	Separation
A 47 J	51	1.25%	Kitchen equipment; coffee mills; spice mills; apparatus for making beverages
E 21 B	49	1.21%	Earth drilling, e.g. Deep drilling; obtaining oil, gas, water, soluble or meltable materials or a slurry of minerals from wells
G 09 F	47	1.16%	Displaying; advertising; signs; labels or name-plates; seals
B 65 G	45	1.11%	Transport or storage devices, e.g. Conveyors for loading or tipping; shop conveyor systems; pneumatic tube conveyors
F 16 L	43	1.03%	Pipes; joints or fittings for pipes; supports for pipes, cables or protective tubing; means for thermal insulation in general
A 61 B	42	1.03%	Diagnosis; surgery; identification

This is in stark contrast to non-South African patents, which comprise 90% of all patents granted in the country. These patents, which were identified by a foreign priority number, or a foreign applicant address, are characterised by a single category: A61K. Dealing with patents related to preparations for medical, dental, or toilet purposes, the category accounts for over 17% of all such patents.

The second largest category is C07D, dealing with heterocyclic compounds, and accounting for 4.83% of all non-South African patents. Such compounds are of crucial importance in a modern economy, particularly to drug development:<sup>34</sup>

*“Heterocyclic compounds include many of the biochemical material essential to life. For example, nucleic acids, the chemical substances that carry the genetic information controlling inheritance, consist of long chains of*

*heterocyclic units held together by other types of materials. Many naturally occurring pigments, vitamins, and antibiotics are heterocyclic compounds, as are most hallucinogens. Modern society is dependent on synthetic heterocycles for use as drugs, pesticides, dyes, and plastics.*

Collectively, the top 15 categories account for 47% of all non-South African patents granted in the country.

Chart 2: Top classification codes for non-South African patents (for 2005 – 2015)

Code	Number of patents	Percentage	Description
A 61 K	6101	17.27%	Preparations for medical, dental, or toilet purposes
C 07 D	1706	4.83%	Heterocyclic compounds
A 01 N	1245	3.52%	Preservation of bodies of humans or animals or plants or parts thereof; biocides, e.g. As disinfectants, as pesticides, as herbicides
C 12 N	791	2.24%	Microorganisms or enzymes; compositions thereof, propagating, preserving or maintaining microorganisms, mutation or genetic engineering; culture media
C 07 C	755	2.14%	Acyclic or carbocyclic compounds
C 07 K	719	2.04%	Peptides
B 01 D	690	1.95%	Separation
G 06 F	688	1.95%	Electrical digital data processing
B 65 D	676	1.91%	Containers for storage or transport of articles or materials, e.g. Bags, barrels, bottles, boxes, cans, cartons, crates, drums, jars, tanks, hoppers, forwarding containers; accessories, closures, or fittings therefor; packaging elements; packages

Code	Number of patents	Percentage	Description
<b>B 01 J</b>	658	1.86%	Chemical or physical processes, e.g. Catalysis or colloid chemistry; their relevant apparatus
<b>A 61 F</b>	568	1.61%	Filters implantable into blood vessels; prostheses; devices providing patency to, or preventing collapsing of, tubular structures of the body, e.g. Stents; orthopaedic, nursing or contraceptive devices; fomentation; treatment or protection of eyes or ears; bandages, dressings or absorbent pads; first-aid kits
<b>A 63 F</b>	567	1.61%	Card, board, or roulette games; indoor games using small moving playing bodies; video games; games not otherwise provided for
<b>A 61 M</b>	538	1.52%	Devices for introducing media into, or onto, the body, devices for transducing body media or for taking media from the body, devices for producing or ending sleep or stupor
<b>H 04 L</b>	429	1.21%	Transmission of digital information, e.g. Telegraphic communication
<b>G 01 N</b>	409	1.16%	Investigating or analysing materials by determining their chemical or physical properties
<b>A 61 B</b>	391	1.11%	Diagnosis; surgery; identification

The breakdown, by type of patentee, for the top 15 classification codes of South African patents is also interesting, for example A61K (preparations for medical, dental, or toilet purposes). Of a total of only 91 patents,<sup>35</sup> 34 – or just over 37% – were granted to universities.<sup>36</sup> In contrast, only 25 – or about 27% – were granted to companies.

Here are the observations we have of the total number of South African patents granted in any particular top 15 category:

- companies did best in G06F (electrical digital data processing), accounting for 82 of 124 (or 66% of South African patents); and in E21D

- (shafts; tunnels; galleries; large underground chambers), accounting for 126 of 193 (or 65% of South African patents)
- individuals did best in A47J (kitchen equipment; coffee mills; spice mills; and apparatus for making beverages), accounting for 44 of 51 (or 86%)
- trusts did best in F16K (valves; taps; cocks; actuating floats; devices for venting or aerating), accounting for 10 of 59 (or ±17%); and
- research organisations did best in C02F (treatment of water; waste water; sewage; or sludge), accounting for 8 of 57 (or 14%).

We also considered the patentee-specific data from another angle: field of industry. In particular, our researcher tagged patent records where the patents apparently related to the potentially innovation-rich fields of mining, business methods, security, explosives, and pharmaceutical products. By necessity, this involved a judgment call; Given the limited data the tagging could be subjective. For example, from a title of a patent, it appeared to be related to both mining and explosives.

One of the reasons we considered specific industries is because of the perception that South Africa may be a world leader in key industries such as mining. For example, in critiquing a predecessor to the draft IP Policy, Anthea Jeffrey – writing as head of policy research at the Institute of Race Relations – states that *“South Africa also has a proud history of local innovation in deep-level mining, the making of petrol from coal, medical technology (the CAT scan), encryption for Internet banking, and a host of other spheres.”*<sup>37</sup>

However, of the 4064 patents identified as South African patents, only 290 – or 7.13% – were identified as mining patents. Research on mining in other countries, such as Australia, suggests that mining patents cover a range of technologies, and do not all fall into a single category of patent.<sup>38</sup> Despite this, 37.9% of South African mining patents are in a single category (E21D – “shafts, tunnels and underground chambers”). Together with an associated code (E21B – “earth drilling”), these constitute 46% of all mining patents. The remainder are widely scattered over other codes. Identifiable mining patents are concerned with extraction rather than either exploration or benefits.

This may be a limitation of the patent data captured by the current system, or it may indicate that the mining industry is focused on reducing operating margins on existing operations rather than exploration or moving up the value chain. Although South Africa is a regional hub for mining equipment supplies and training, there is no evidence that it is either a favoured patenting venue for other southern African countries, or that patents are sought for South African mining technologies in other southern African countries.<sup>39</sup>

Of course, while there is innovation in South Africa, it does not mean that there is direct connection between the nature and extent of patent protection in South Africa, and extent of South African innovation. Given the relatively small South African market for such innovation, one would expect patentees to be focused on

securing patent protection in more lucrative markets, such as the United States and Europe. But as we explain in the following part of this paper, the data show that this is simply not the case.

In the table below, we break down the South African patents granted in the five key industrial fields into the six categories of patentees previously identified. Collectively, these five fields account for only 767 out of a total of 4,064 South African patents, or 18.9%.

Chart 3: Patenting across key industrial fields in South Africa, by category

	CCs	(Pty) Ltd / Ltd	Individuals	Research orgs.	Trusts	Universities	Total
<b>Mining</b>	6 (2%)	242 (81.8%)	38 (12.8%)	1 (0.3%)	5 (1.7%)	4 (1.4%)	296 (100%)
<b>Business methods</b>	8 (4.8%)	112 (66.7%)	45 (26.8%)	0 (0%)	3 (1.8%)	0 (0%)	168 (100%)
<b>Security</b>	16 (8.8%)	88 (48.6%)	73 (40.3%)	1 (0.6%)	1 (0.6%)	2 (1.1%)	181 (100%)
<b>Explosives</b>	1 (1.4%)	58 (79.5%)	13 (17.8%)	0 (0%)	1 (1.4%)	0 (0%)	73 (100%)
<b>Pharma products</b>	0 (0%)	18 (36.7%)	6 (12.2%)	3 (6.1%)	0 (0%)	22 (44.9%)	49 (100%)

**Legend:**  Highest category in a key industrial field  Second highest category in a key industrial field

Despite their strong performance overall in terms of securing patent protection in South Africa, individuals did not fare so well with respect to the five innovation-rich industries identified in the table above. It is significant that they did particularly poorly in two key fields: mining, and pharmaceutical products.

In the pharmaceutical sector, which appears to account for a large number of patents overall,<sup>40</sup> South African innovators fared badly on the whole. That said, of the 49 patents obtained, almost 45% were granted to universities, which outperformed all other categories of innovators.

### 2.4.3. Are South African patentees obtaining protection abroad? If so, which ones?

Given the depository system and the general lack of publicly-available information, we were left with few options in our attempts to assess the quality of South African patents. For this reason, we considered whether South African patentees were also seeking patent protection abroad. We were mindful of the fact that such information, on its own, does not indicate whether such patents have value.<sup>41</sup> That said, a failure to seek patent protection abroad does provide a strong indication that a patent has relatively little value.

Experience in other jurisdictions has shown a tendency for publicly-funded researchers to obtain patents for reasons other than the likelihood of royalties or the commercial value of the patent. In India, for example, the Council of Scientific and Industrial Research was forced to restructure its operations after admitting that enhancing the prestige of researchers – and not earning royalties – was the driving force behind obtaining the majority of patents.<sup>42</sup>

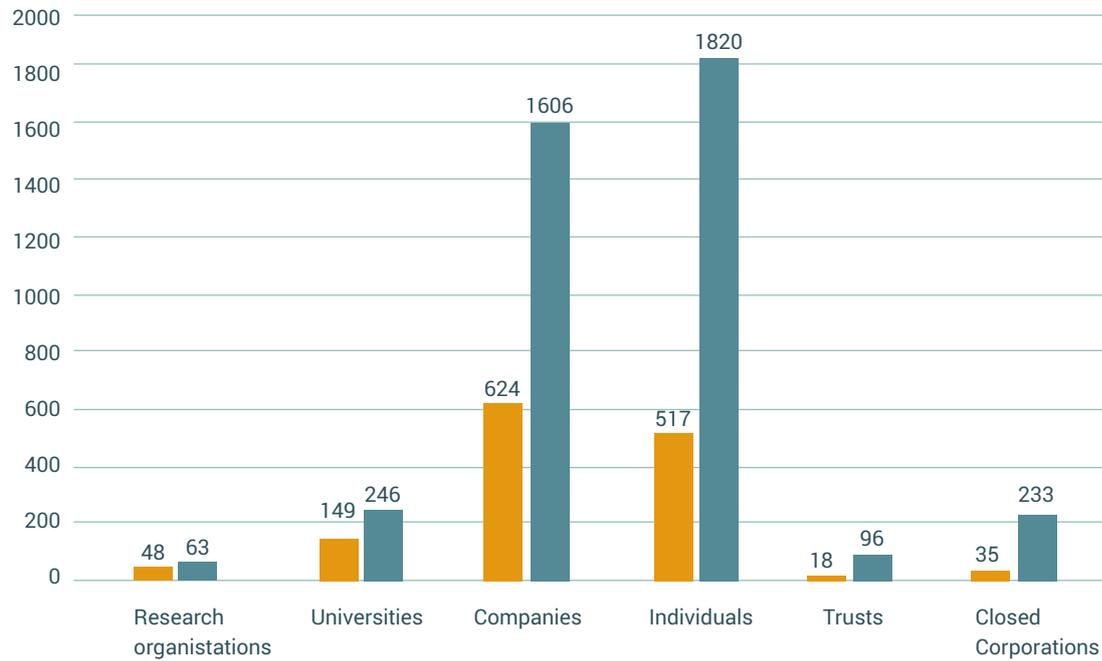
Similar perverse incentives *may* be operating in South Africa. The Intellectual Property Rights from Publicly Financed Research and Development Act 51 of 2008 requires research institutions such as universities to obtain patents wherever in the world they may be obtained, regardless of whether there is a likely prospect of generating revenue. If a university chooses not to pursue patenting, it risks having any rights that it would acquire being reassigned to a state agency.<sup>43</sup>

Just over a third of the South African inventions in the dataset have been patented in examining jurisdictions abroad.<sup>44</sup> While companies hold the largest number of South African patents that are registered in other countries, research organisations and universities – which are all publicly funded – are the most likely to patent abroad:

- Of the 63 inventions protected by patent in South Africa, local research organisations obtained 48 patents abroad (a 76.2% success rate)
- Of the 246 inventions protected by patent in South Africa, local universities obtained 149 patents abroad (a 60.6% success rate).

Despite being granted the largest number of South African patents, individuals are significantly less likely to obtain patent protection in the examining jurisdictions abroad. Of the 1820 inventions protected by patent in South Africa, individuals have managed to obtain only 517 patents abroad, a modest success rate of 28.4%.

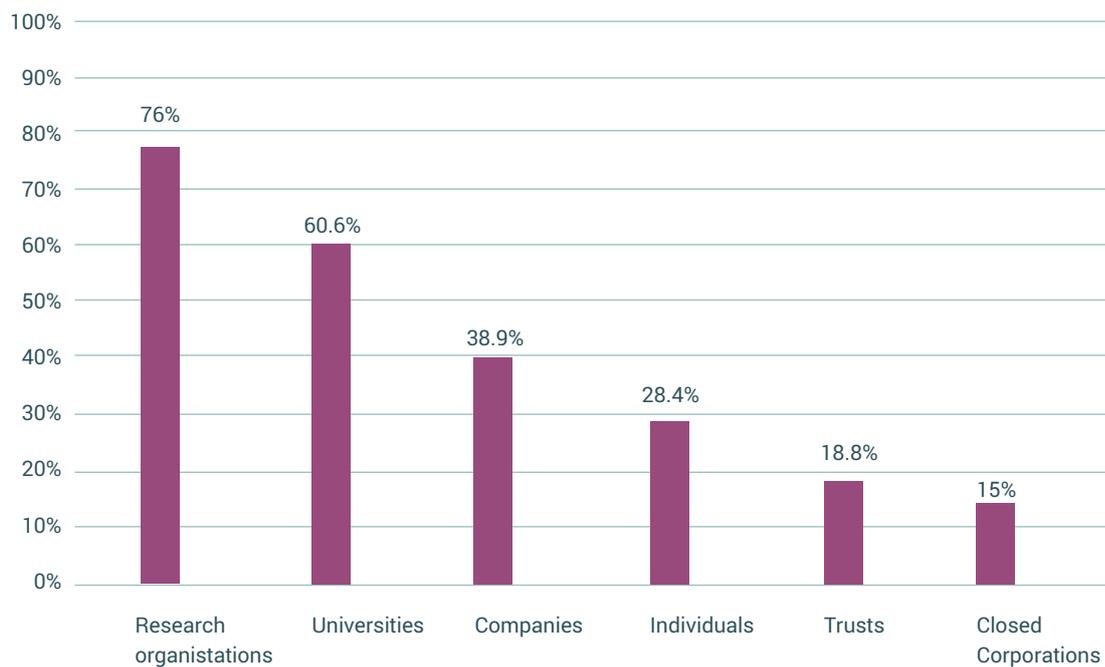
Figure 4: South African patenting, at home and abroad



**Legend:**



Figure 5: Success rate of foreign patenting by South African entities



Given the paucity of available data, it is difficult – if not impossible – to establish why those who are most likely to obtain patents in South Africa appear unwilling and/or unable to secure patent protection abroad. Some of the possible reasons could be:

- The quality of patents granted in South Africa without examination, including – in particular – the patentability of such inventions
- The cost of securing (and maintaining) patent protection abroad, which appears more likely to be a concern for individuals, trusts and closed corporations than companies
- The purpose for which patent protection was originally sought, and obtained, in South Africa.

We examined this issue from another angle, looking at the best performers amongst the top 15 categories of South African patents. At the top of this list are A61K patents (preparations for medical, dental, or toilet purposes), with a success rate of 54.9% (50 out of 91). This is followed by –

- G06F (electrical digital data processing) at 49.2% (61/124);
- C02F (treatment of water, water waste, sewage, or sludge) at 45.6% (26/57);
- G06Q (data processing systems or methods, specially adapted for administrative, commercial, financial, managerial, supervisory or forecasting purposes) at 41.4% (29/70); and
- B01D (separation) at 38.2% (21/55).

In terms of the absolute number of patents granted abroad, the list is headed by G06F (61), followed by A61K (50), and B65D<sup>45</sup> (39). Interestingly, the top category of South African patents – E21D (shafts; tunnels; galleries; large underground chambers – has a success rate of only 16.6%.<sup>46</sup> As discussed above, companies hold 65% of the 193 South African patents in this classification.

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## 2.5. Key Findings

The data suggests that the majority of patents being granted to South African applicants may not be valuable outside of South Africa, where examination would assess whether they meet patentability criteria. If this is so, then it becomes impossible to defend the status quo on the basis that it is needed to create incentives for local innovation. Importantly, it is this status quo which limits access domestically to the products of international innovation, such as lifesaving medicines and other essential products.

Publicly-funded research conducted by South African universities and research organisations (such as the CSIR and Mintek) that results in the grant of South African patents is more likely to result in innovations also securing patent protection outside of the country. What this strongly suggests is that a primary driver of quality local innovation is the availability of public funding for research and development, and not the existence of a permissive IP regime.

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# 3.

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## The Legal Framework

### 3. The Legal Framework

The legal framework, which includes the Patents Act and its regulations, as well as judgments of the Court of the Commissioner of Patents (“the CCP”) and the Supreme Court of Appeal (“the SCA”),<sup>47</sup> is heavily skewed in favour of patentees. Not only does it not take full advantage of public health safeguards and flexibilities permitted under the World Trade Organisation’s Agreement on Trade-related Aspects of Intellectual Property Rights (“TRIPS”),<sup>48</sup> but it also appears to entrench the position of patentees unjustifiably.

Significantly, South Africa does not conduct substantive examinations before granting patent protection. This is despite the fact that section 34 of the Patents Act appears to contemplate the establishment of a substantive patent examination system:<sup>49</sup>

*“The registrar shall examine in the prescribed manner every application for a patent and every complete specification accompanying such application or lodged at the patent office in pursuance of such application and if it complies with the requirements of this Act, he shall accept it.”*

At present, the registrar – defined as the CIPC Commissioner<sup>50</sup> – does not conduct substantive patent applications. Instead, CIPC makes use of a depository system in which applicants merely have to complete the relevant forms, pay the prescribed fee, and meet other formal requirements. This is made clear by the following two provisions of the Patent Regulations Act, 1978 (“the Patent Regulations”):<sup>51</sup>

- Regulation 40, which sets out the extent to which applications will be examined by the CIPC:

*“Any application accompanied by a provisional specification shall be examined to ensure that the documents lodged are legible and capable of reproduction.”*

- Regulation 41, which clarifies the purpose of the examination:<sup>52</sup>

*“The registrar shall examine the application accompanied by a complete specification in order to ensure that it complies with the prescribed formalities.”*

The result of substantive examination is that far fewer patents are granted. Pouris and Pouris found that in Australia and Canada, which both examine patents, only 20% of applications result in a patent grant, while in New Zealand, only 10% of applications are granted, and in China, only 5%.<sup>53</sup>

Section 7 of the draft IP Policy sets out a range of proposals relating to key aspects of patent law that have an impact on public health. In addition to substantive search and examination, which we have already considered, the draft IP Policy addresses the following issues (amongst others) - patent oppositions, patentability criteria, parallel importation, exceptions and compulsory licences.

We do not intend to comment on the draft policy proposals made about each of these issues. Instead, we now consider how these issues are currently addressed in the Patents Act. Thereafter, we show how key aspects of South African patent law work to a patentee’s advantage.

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### 3.1. Patent Oppositions

The Patents Act makes provisions for interested third parties to oppose only the following four types of proceedings:

- An application for the restoration of the patent<sup>54</sup>
- An application for *“the correction of any clerical error or error in translation in any patent, application for a patent or document lodged in pursuance of such an application, or in the register”*<sup>55</sup>
- An application for the amendment of a patent specification<sup>56</sup>
- An application for a compulsory licence.<sup>57</sup>

As the Patents Act currently reads, no provision is made for any form of third party opposition to the grant of a patent, whether pre or post-grant.

## 3.2. Patentability Criteria

Section 25(1) of the Patents Act states that, subject to the provisions of the full section, “[a] patent may be granted for any new invention which involves an inventive step and which is capable of being used or applied in trade or industry or agriculture.” In other words, it recognises the standard patentability criteria: novelty, inventive step, and commercial application.

Subsection (2) provides a list of what the Patents Act does not consider to be inventions, including – but not limited to – discoveries, scientific theories, mathematical methods, and computer programs. Subsection (4) identifies certain inventions that are not patentable in South Africa.

After providing that “[a]n invention shall be deemed to be new if it does not form part of the state of the art immediately before the priority date of any claim to that invention”,<sup>58</sup> section 25 provides further detail on what is considered to be “the state of the art”.<sup>59</sup> While subsection (10) deals with inventive step, subsections (11) and (12) address commercial application.

While these patentability criteria are clearly in line with South Africa’s international law obligations, there is nothing particularly ground-breaking about them. They exhibit none of the features of the types of stricter patentability criteria that are also permitted under international law and that are increasingly being enacted in many developing countries.

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## 3.3. Parallel Importation

Parallel imports are products legitimately placed on the market in one country and brought in to another without the consent of the patent holder. The Patents Act currently makes no provision for parallel importation. Instead, section 15C(b) of the Medicines and Related Substances Act 101 of 1965 (“the Medicines Act”)<sup>60</sup> expressly permits the parallel importation of patented medicines. Further detail in this regard is provided in regulation 5 of the General Regulations made in terms of section 35 of the Medicines Act.<sup>61</sup>

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### 3.4. Exceptions

Section 69A(1) of the Patents Act,<sup>62</sup> entitled “Acts of non-infringement”, expressly permits any person –

*“to make, use, exercise, offer to dispose of, dispose of or import the patented invention on a non-commercial scale and solely for the purposes reasonably related to the obtaining, development and submission of information required under any law that regulates the manufacture, production, distribution, use or sale of any product.”*

This so-called Bolar exception, which would permit a manufacturer of generic medicines to seek regulatory approval while the relevant patent is still in force, is the only exception recognised by the Patents Act. Significantly, no provision is made for exceptions with respect to research and experimental use.

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### 3.5. Compulsory Licences

The Patents Act recognises that a patent may be used without the patentee’s consent in two key ways: as part of what is ordinarily referred to as government use (in terms of section 4), and where compulsory licences have been granted (in terms of section 56).<sup>63</sup> While a patent may be used in terms of section 4 for any public purpose, without the need to make any application to court,<sup>64</sup> a compulsory licence may only be granted in terms of section 56 upon application to the Court of the Commissioner of Patents, and only in circumstances where the patent has been abused.

We are unaware of any government use in terms of section 4 and are similarly unaware of any litigation in which the scope of the provision was examined or tested. In addition, we understand that a compulsory licence in terms of section 56 has never been issued, and that the provisions of section 56(2) – which lists when “the rights in a patent shall be deemed to be abused” – have historically been interpreted to be exhaustive.

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## 3.6. South African Patent Law is Stacked in a Patentee's Favour

In the following section, we consider the following six aspects of South African patent law that work to a patentee's advantage, often at the expense of competitors and/or the public interest:

- The onus placed to prove that a patent is invalid on the party seeking to invoke its invalidity in infringement proceedings, or applying or counterclaiming for its revocation
- The continued validity of a patent found to be invalid in infringement proceedings where the defendant has not counterclaimed for revocation
- The manner in which a patent's specifications may be amended when its validity is under attack
- The SCA's apparent reluctance to interpret the Patents Act in accordance with the Constitution
- The effective recognition of "contributory infringement"
- Various procedural aspects of patent litigation.

### 3.6.1. Onus to prove that a patent is invalid

A common theme running through the case law is that those who object to the grant and/or exercise of exclusive rights in a patent, bear the onus of establishing that the patentee is not entitled to exercise such rights. This applies, for example, when a party accused of infringing a patent seeks to rely on the patent's invalidity as a defence. In *Gentiruco AG v Firestone SA (Pty) Ltd*,<sup>65</sup> for example, the then Appellate Division of the Supreme Court stated:<sup>66</sup>

*"It can be conveniently added here that the onus of proving that the patent in suit was invalid on any of the alleged grounds rested on [the alleged infringer] ..., and that that onus could be discharged on a balance of probabilities".*

In circumstances where patents are granted in the absence of substantive examination, a requirement that invalidity has to be established by the party alleged to have infringed the relevant patent, appears unjustifiable. It may well be for this reason that some statutes require the exclusive rights holder in a utility model to establish validity before being able to sue for infringement.

In Australia, an innovation patent – which is akin to a utility model – is granted in the absence of any substantive examination. But according to section 120(1A) of the Patents Act 1990, "[i]nfringement proceedings in respect of an innovation patent cannot be started unless the patent has been certified." An innovation patent

can only be certified by the Commissioner of Patents following a substantive examination.

The Irish Patents Act 1992 (as amended in 2006 and 2012)<sup>67</sup> recognises “*short-term patents*”, which – like innovation patents in Australia – are also granted without the applicant having to provide evidence of novelty. But before infringement proceedings can be initiated, a patentee is ordinarily required to have –

- “*made a request to the Controller, accompanied by the prescribed fee, to cause a search to be undertaken in relation to the invention and a report (a ‘search report’) of the results of the search to be prepared*”,<sup>68</sup> and
- “*received from the Controller a copy of the search report and furnished a copy to that person.*”<sup>69</sup>

According to the Irish Patents Office,<sup>70</sup> a search report “*will list published documents considered relevant in assessing whether the claimed invention is new and not an obvious development or adaptation of what is already known.*” Put differently, the purpose of a search report is “*to determine the novelty and non-obviousness of the invention.*”<sup>71</sup>

In Japan, which stopped substantive examinations in respect of utility model applications in 1993, patentees are required to take steps to establish the validity of a utility model before exercising any exclusive rights. The Japan Patent Office explains it as follows:<sup>72</sup>

*“The application you file to register your utility model will be registered without the need to undergo any substantive examination, as long as your utility model application meets the formal and basic requirements. In other words, this means that your utility model will be registered even if it does not meet the particular requirements for your specific utility model to be registered, so you must carefully check the details regarding this point.*

*As a result, the validity of a utility model right is actually uncertain because owners of utility models, who plan to exercise their rights, need to first verify the validity. If they do not, unforeseen conflicts with other persons over rights might arise, as well as the need to pay compensation for damage.*

*To avoid such a situation, anyone can request a ‘Report of Utility Model Technical Opinion’. You can exercise your utility model right only after giving warning to the suspected infringer, presenting the report to him/her. The report contains an expert opinion on aspects such as the novelty and inventive step of the utility model.”*

Collectively, these Australian, Irish and Japanese examples strongly suggest that in systems where exclusive rights in intellectual property are granted without substantive examination, the onus ought to be on the holder of that right to establish – or at the very least take steps aimed at establishing – the validity of such rights.

### 3.6.2. Continued validity of a patent found to be invalid in infringement proceedings

In *Strix Ltd V Nu-World Industries (Pty) Ltd*,<sup>73</sup> the SCA held that “[a] defence based on the invalidity of a patent on the statutorily recognised ground of lack of novelty is competent without a claim for revocation.” The consequence of such a finding, it noted, is that even if a court was to find that a particular invention is not patentable under section 25, the patent in question would remain valid in the absence of a claim for revocation. As Nestadt J had explained in *Thomas Grant v Winkelhaak Mines Limited*:<sup>74</sup>

*‘[A]lthough the Patents Act allows for invalidity to be raised as a defence, it does not require that a counterclaim for revocation be coupled therewith. ... If invalidity is raised only by way of a defence it has no consequence beyond the parties to the action. Even if a defence of invalidity is successful, thereby defeating an infringement action, the patent remains on the register and the proprietor can sue others on the patent.’*

This is a remarkable finding. It means that a patentee may be entitled to continue to benefit from market exclusivity in respect of an invention that has been examined only once – in court – and found to be wanting. But unless and until the patent has been revoked, it remains in force, with significant implications for those without the resources and/or appetite to defend infringement proceedings, or to apply for the patent’s revocation.

On the facts too, *Strix* highlights the extent to which the legal framework favours patentees. The invention in question was an electrical kettle with a thermally sensitive overheat protection switch. As the SCA explained, this was well known in the prior art at the relevant time:<sup>75</sup>

*“At the priority date of the patent in suit it was common to have electrical kettles with a thermally sensitive overheat protection switch in thermal contact with the heating element of the kettle which, when activated, would interrupt the supply of electrical energy to the element. That would happen, for example, when the vessel boiled dry or if it was switched on without any liquid in the vessel. A thermally sensitive switch in the base of the kettle was also in use at the priority date of the patent in suit. The actuator switch could either reset automatically upon the vessel cooling down or it might have consisted of a once-off switch which had to be replaced after serving its purpose, namely, turning off the electrical supply.”*

So what was new about the patented invention?<sup>76</sup> The SCA explained:<sup>77</sup>

*“[T]he novelty claimed is that there are two thermally sensitive switches, spaced apart, on the base of the kettle, which provide an additional safety measure against overheating. The body of the patent specification states that the additional switch is a measure against the danger of overheating that could be caused by the kettle’s base being placed unevenly (at a slope) and the one switch not sensing that a part of the base is uncovered by water, which*

*is potentially hazardous. In short, it was submitted on behalf of Strix that the patent related to an improved kettle with a novel feature of spaced-apart sensors serving the aforesaid purpose."*

In coming to the conclusion that the patent had been infringed, the SCA held that the CCP had erred in finding *"that there was no infringement of the patent in suit because the controls in the allegedly offending kettles were too close together to be effective as a safety feature."*<sup>78</sup> Despite the sensors in two kettles being located only 8 mm apart, with the third kettle having sensors 12 mm apart, the SCA held that the evidence showed that these safety controls were *"relatively effective"*.<sup>79</sup>

*"Despite [the respondent's expert's] report stating that the controls in the Nu-World kettles were ineffective, and despite his protestations when he was testifying that this was indeed so, he conceded, with reference to the tests he conducted, that a Nu-World kettle with an 8 millimetre distance between the sensors, when filled with 120 millilitres of water, would have one of the sensors activated when the kettle was tilted at 19 degrees. The totality of tests conducted and reported on by [the expert] show that in the Nu-World kettles with an 8 millimetre distance between the sensors, one would be activated when filled with volumes of water varying from 40 – 120 millilitres, when tilted at angles ranging from 2 – 19 degrees. The Nu-World kettle with sensors spaced 12 millimetres apart would obviously be even more effective."*

To give an idea of how steep 19 degrees is, consider that this is the slope of the world's steepest street, whose elevation increases by a metre with every 2.86 metres travelled horizontally.<sup>80</sup> But even a two degree angle is something one is highly unlikely to encounter in a kitchen. For every two metres of counter top - the length of a standard eight-seater dining room table - a two degree slope will give rise to an increase in height of about 70 mm, which is slightly more than the diameter of a tennis ball. Why any person would attempt to boil an electric kettle on such a slope is something that the SCA appears not to have considered.

### **3.6.3. Amending a patent's specifications when its validity is under attack**

In *Bateman Equipment Ltd v Wren Group (Pty) Ltd*,<sup>81</sup> the SCA considered an appeal against a decision of the CCP to grant an application for the amendment of a patent made in terms of section 51(9) of the Patents Act, which provides:

*"Where any proceedings relating to an application for a patent or a patent are pending in any court, an application for the amendment of the relevant specification shall be made to that court, which may deal with such application for amendment as it thinks fit but subject to the provisions of subsections (5), (6) and (7), or may stay such pending proceedings and remit such application for amendment to the registrar to be dealt with in accordance with subsections (2), (3) and (4)."*

The application in terms of section 51(9) appears to have been made with the sole purpose of defeating a counterclaim for revocation. Brought in response to the initiation of infringement proceedings, the counterclaim had alleged that the patent was invalid *“because of a lack of novelty, obviousness and a lack of clarity.”*<sup>82</sup>

In dismissing the appeal, the SCA made a number of troubling findings. For example, in responding to the submission that an application in terms of section 51(9) has to include full reasons, the SCA held that:<sup>83</sup>

*“Section 51(1) deals with applications for amendment directed to the Registrar of Patents and in terms requires ‘full reasons’. ... The same or a similar requirement is not contained in ss (9). There may be a valid reason for the distinction. If during the course of litigation concerning the patent an application for amendment is made, the Court usually is aware of the reasons for the amendment. To require in those circumstances a setting out of full reasons could be unnecessary and formalistic. This does not mean that, depending upon the circumstances of any particular case, the Court should not be informed of the patentee’s reasons or that the reasons should not be full .... Nevertheless, the difference between the two cases has material legal consequences: under ss (1) ‘full reasons’ are jurisdictional facts; under ss (9) reasons are not a jurisdictional requirement and a failure to give sufficient reasons can at most be a factor which a Court may take into account in the exercise of its discretion to refuse an amendment which is otherwise in accordance with ss (9). In this instance, the onus is on the objector to make out a case that the paucity of reasons is such that the Court should exercise its discretion against the patentee.”*

Perhaps even more disturbing is the rationale underpinning this finding:<sup>84</sup>

*“The nature and object of amendment proceedings must be seen in the context of our patent system as a whole. Ours is a non-examining country and an alleged inventor is entitled to a patent for his supposed invention without having to satisfy anyone of its merit or validity. He does not have to give any reasons for his choice of wording. Should he sue for infringement, he has no duty to assist the alleged infringer in establishing whether his monopoly is valid or not. Why should he be saddled with a burden if he wishes to reduce the scope of his protection in an attempt to render the patent valid, while in obtaining or enforcing a monopoly he bears no similar burden? As much as it is in the public interest that persons with inventive minds should be encouraged to give the results of their efforts to the public in exchange for the grant of a patent ... , it is in the public interest that patents should be rectified or validated by way of amendment.”*

At some level, there is some logic to the SCA’s decision. If the patent system in South Africa is ordinarily (and heavily) stacked in favour of a patentee, why should it be any different for amendments made in terms of section 51(9)? That said, there is no basis for invoking the public interest to justify such a finding. In our view, the public interest should work against such a finding. If the onus to establish the invalidity of a patent lies on the party seeking to have the patent revoked, it is only fair that in response, the onus should be on the patentee fully

to justify the grant of the amendment. This cannot be done without providing full reasons.

### 3.6.4. Reluctance to interpret the Patents Act in accordance with the Constitution

In *Cipla Medpro (Pty) Ltd v Aventis Pharma SA and Related Appeal*,<sup>85</sup> the SCA was asked by the amicus curiae to consider the impact of the Constitution on the Patents Act, particularly on two issues: first, the impact of section 39(2) of the Constitution on the interpretation of various provisions of the Patents Act, and second, the impact of public interest considerations in dealing with applications for interim interdictory relief.

The SCA did not appear particularly interested in the submissions dealing with section 39(2), preferring not to tamper with well-settled interpretations in the absence of any clear infringement of an entrenched right.<sup>86</sup>

*“What we are to make of viewing the legislation through the prism of the Constitution was not developed by the TAC. Section 39(2) indeed calls upon a court to ‘promote the spirit, purport and objects of the Bill of Rights’ when interpreting legislation, as pointed out by the TAC, but that does not open the door to changing the clear meaning of a statute. If the clear meaning conflicts with the Bill of Rights then the remedy is to strike it down, but there has been no challenge to the constitutional validity of any of the provisions of the Act that are now material. There is also no suggestion that the meaning of those provisions is not clear. The disputes centre instead on the application of those provisions to the facts of this case. On the assumption that the patent is not revocable for want of an inventive step I cannot see how s 39(2) or the prism of the Constitution comes into play so as to deny Aventis its right to enforce its patent.”*

But in considering the relevance of the public interest when determining whether to grant interim interdictory relief, the SCA appeared more open to persuasion, effectively holding that when determining where the balance of convenience lies, courts are required – in appropriate circumstances – to consider the broader public interest. That said, on the facts of the case before it, the SCA held that *“the balance of convenience does not seem ... to fall substantially on one side or another and the prospects of success or failure in the action become prominent.”*<sup>87</sup>

The following passage in the SCA’s judgment is of particular concern, suggesting a general discomfort with a human rights-based approach to interpretation in the field of intellectual property:<sup>88</sup>

*“The TAC’s opposition to the grant of an interdict really comes down to no more than opposition to the monopoly that the law confers upon a patentee. It submits that those who cannot afford Taxotere, but are able to afford the price of Cipla Docetaxel, will be prejudiced if distribution of the latter were to be prohibited. Where the public is denied access to a generic during the lifetime of a patent that is the ordinary consequence of patent protection and it*

*applies as much in all cases. To refuse an interdict only so as to frustrate the patentee's lawful monopoly seems to me to be an abuse of the discretionary powers of a court."*

### 3.6.5. Effective recognition of contributory infringement

While the decision in *Cipla Medpro* reflects some degree of willingness to engage human rights-based arguments in the field of intellectual property, the SCA's finding on contributory infringement further entrenches the exclusive rights of a patentee, granted in the absence of any substantive examination. The issue in that case was a patent relating to the use of one product to render a second product soluble in water (and therefore usable), with neither of the two products being under patent at the relevant time. Thus, the issue for determination was whether the joint selling of the two separate products, to be used for the purpose contemplated by the patent, was unlawful.

After noting that the Patents Act does not contain any provisions dealing with contributory infringement, unlike legislation in other countries, the SCA held that *"our law would be most deficient if it had no remedy against intentionally aiding and abetting infringement of a patent"*.<sup>89</sup> The remedy is to be found, it held, in the common law, which recognises *"that a person is delictually liable if he aids and abets another to commit a delict."*<sup>90</sup> Justice Nugent explained:<sup>91</sup>

*"I think it is plain ... that, upon ordinary delictual principles, it is unlawful to incite or aid and abet the commission of a civil wrong, and I do not think it matters whether it is a wrong at common law or whether it is a wrong created by statute. Indeed, the decision of this court in Esquire Electronics seems to me to be directly in point. That it concerned a trademark, and this case concerns a patent, does not seem to me to be a material distinction. It is clear that Cipla's product is to be imported and disposed of with the specific and sole intention that it will be used in a manner that will infringe the patent, and its conduct in doing so will be unlawful."*

But the decision in *Esquire Electronics* suggests that what applies in the context of trademark law may not be appropriate for patent law. In that case, Nicholas AJA noted that while *"[t]he modern law of trademark infringement is statutory, its origins are to be found in the common-law rule that it is an actionable wrong, i.e. a delict, to filch the trade of another by imitating the name, mark or device by which that person has acquired a reputation for his goods"*.<sup>92</sup> Patent protection has no origins in the common law.

### 3.6.6. Procedural aspects of patent litigation

A party seeking to revoke a patent, either proactively by making an application in terms of section 61 of the Patents Act, or in defence of an infringement action, may have to overcome at least two procedural hurdles: first, limitations on the choice of legal representatives; and second, the manner in which legal proceedings are to be brought to the CCP. We deal with each obstacle in turn below.

#### 3.6.6.1. Limitations on a litigant's choice of legal representatives

While section 19(3) of the Patents Act allows for “[a] party to any proceedings before the commissioner ... [to] appear in person or be represented” in the CCP itself by any admitted advocate, a patent agent, or an attorney with right of appearance in the High Court, section 22 makes it clear that only a patent attorney may represent a party in its dealings with the Court.

Thus in addition to admission as an attorney, registration as a patent attorney is also required. According to section 20(3), “[a]ny person entitled to practise as an attorney in the Republic may, on passing the prescribed examination and on paying the prescribed fee to the registrar, be registered by him as a patent attorney.”

But as regulation 3 of the Patents Examination Regulations, 2003 makes clear, not any attorney qualifies to take the prescribed examination.<sup>93</sup>

*“Only candidates who qualify in terms of at least one of the following criteria shall be entitled to enrol for the examinations:*

- (a) a candidate in possession of a technical or scientific diploma or degree from a university or technikon, involving at least a three-year course of study;*
- (b) a candidate in possession of any technical or scientific qualification, which in the opinion of the Board, is sufficient to enable the candidate to meet the requirements of the patent examinations; or*
- (c) any candidate who has adequate practical experience in a technical or scientific field, which in the opinion of the Board, is sufficient to enable the candidate to meet the requirements of the patent examinations.”*

Regulation 3 appears to be ultra vires the powers of the Minister, as the Patents Act expressly permits any admitted attorney to be registered as a patent attorney, provided he or she passes “the prescribed examination” and pays “the prescribed fee”. At most, it appears that the regulations may prescribe the subject matter for examination, but not which categories of admitted attorneys may sit for the examination.

An interpretation of the Minister's regulation-making powers that limits which admitted attorneys may sit for the examination would not be in line with a range

of constitutionally-entrenched rights, such as the right in section 22 to choose an occupation or profession freely, and the right in section 34 to have access to courts. Accordingly, such an interpretation is to be avoided.

The requirements of regulation 3 are unlikely to have any negative impact on regular litigants in the CCP, including but not limited to patentees. But for others, including those that act solely in the public interest, the right to have access to courts may well be compromised. So too may the rights of attorneys with undergraduate law degrees, who are more likely to be black.

Consider, for example, a public interest law centre that seeks to represent a non-profit organisation working in the field of access to health care services. Should a decision be taken to apply for the revocation of a patent, the centre's attorneys would most likely be unable to handle the matter themselves. Instead, the centre would be compelled to secure and fund the services of a patent attorney. Cost implications aside, this may not even be possible, given the potential for conflicts of interest.

### 3.6.6.2. Manner in which legal proceedings are to be brought to the CCP

Despite having the appearance of a specialised body, the CCP is in reality the Gauteng Division of the High Court.<sup>94</sup> According to section 8 of the Patents Act, the Judge President of that court *"shall from time to time designate one or more judges or acting judges of that Division as commissioner or commissioners of patents to exercise the powers and perform the duties conferred or imposed upon the commissioner by [the Patents] Act."*

Relevant parts of section 19 of the Patents Act – under the heading *"Procedure in connection with proceedings before commissioner to be in accordance with the [High] Court procedure"* – provide the following information:<sup>95</sup>

- "(1) Save as is otherwise provided in this Act, the procedure in connection with any proceedings before the commissioner shall, as far as is practicable, be in accordance with the law governing procedure in civil cases in the [Gauteng] Division of the [High] Court of South Africa, and in default thereof and where no relevant provision is made in this Act, the commissioner shall act in such manner and on such principles as he may deem best fitted to do substantial justice and to give effect to and carry out the objects and provisions of this Act.*
- (2) Subject to the provisions of section 17(3), any decision or order of the commissioner, including any order as to costs, shall have the same effect and shall for all purposes be deemed to be a decision or order of the [Gauteng] Division of the [High] Court."<sup>96</sup>*

As far as proceedings for infringement are concerned, section 65 of the Patents Act provides that they *"shall be instituted and prosecuted in the manner prescribed."* The Patent Regulations deal expressly with infringement proceedings in regulation 98, which provides:

- “(1) In any proceedings for infringement in which the plaintiff claims relief by way of damages or payment of an amount in lieu of damages, it shall be permissible for him to claim an enquiry as to the damages suffered by him as a result of the infringement and/or as to what is a reasonable royalty and payment of the amount found to be due to him.*
- (2) A plaintiff claiming an enquiry in terms of subregulation (1) hereof need not when so claiming specify in his pleadings the amount of the damages allegedly suffered by him or the manner in which such damages are computed.*
- (3) In the event of an enquiry in terms of subregulation (1) being ordered and the parties being unable to reach agreement as to the further pleadings to be filed, discovery, inspection or other matters of procedure relating to the enquiry either or any party may make application to the commissioner for directions in regard thereto.”*

If invoked by the plaintiff, this procedure will most likely result in significant delay. Given the SCA's decision in *Cipla Medpro*, which appears to pay lip service to the broader public interest, it is unlikely that a defendant in any infringement proceeding will ordinarily be able to resist the grant of interim interdictory relief pending the outcome of such proceedings.

Other than regulation 98, little guidance is provided in the Patent Regulations. This is complicated by regulation 76<sup>97</sup> appearing to contemplate the initiation of infringement proceedings either by way of motion or action proceedings.<sup>98</sup> But given the likelihood of disputes of fact, as well as the *Plascon Evans* rule,<sup>99</sup> infringement claims are likely to be brought by way of action proceedings. This has both time and cost implications and works to the advantage of a patentee with deep pockets.

As far as revocation proceedings are concerned, section 61(1) of the Patents Act states that “[a]ny person may at any time apply in the prescribed manner for the revocation of a patent”,<sup>100</sup> listing the grounds upon which such an application may be made. Amongst others, these include –

- *“that the invention concerned is not patentable under section 25”,<sup>101</sup> and*
- *“that the complete specification concerned does not sufficiently describe, ascertain and, where necessary, illustrate or exemplify the invention and the manner in which it is to be performed in order to enable the invention to be carried out by a person skilled in the art of such invention”.<sup>102</sup>*

The use of the word “apply” in section 61(1) may, at first glance, be read to contemplate motion proceedings. But regulation 89 makes it plain that such “applications” are to be brought by way of action proceedings:

*“An application for revocation shall be made on Form P20 and shall be accompanied by a statement of particulars of the grounds on which the application is based and shall be duly lodged and served.”*

Form P20 only makes provision for the applicant's full name, the patentee's full name, the relevant patent number, and the grounds for revocation. As regulation 89 indicates, Form P20 is to be accompanied by "*a statement of particulars of the grounds on which the application is based*". Significantly, no provision is made for the filing of a founding affidavit. Accordingly, it appears that the application is to be brought by way of action proceedings.

In any event, revocation proceedings are likely to involve disputes of fact regarding the patent's validity. And as Cameron JA noted in *South African Veterinary Council v Szymanski*,<sup>103</sup> "*[i]t is an elementary rule of motion proceedings that an applicant cannot succeed in the face of a genuine dispute of fact that is material to the relief sought.*" Thus, even if possible, it is unlikely that revocation proceedings would be brought by way of motion proceedings.

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# 4.

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## Conclusions

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This paper has not considered a key measure of the quality and value of South African patents: the number of lucrative licensing agreements entered into between patentees and users of their protected innovations. The reason for this is simple: neither CIPC nor any other public database makes such information available. This is despite section 10 of the Patents Act, which appears to require the recording of such information in the register of patents.

One would, however, expect a patentee who is party to such a lucrative licensing agreement to record the income generated from its patented inventions in its annual reports and/or financial statements. We are not aware of any such reporting, at least not on any significant scale, providing further evidence in support of our finding that South African patents are generally of dubious quality and value.

What the draft IP Policy does not (and cannot) address is what, in addition to an appropriate patent system, South Africa needs to do to ensure that there are sufficient incentives for innovation. Our analysis of the data points towards one possible solution: significant investment in public research institutions and universities, as well as in the individuals they employ, or intend to employ.

The South African patent landscape is characterised by the easy grant of patents of dubious quality and value, as well as the enforcement of a legal framework that appears to be heavily skewed in favour of patentees. What this means in practice is that in exchange for very little, market exclusivity is easily granted, and maintained, ordinarily at a high cost to society. Against this landscape, the proposals contained in the draft IP Policy are easily justifiable.

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## End Notes:

<sup>1</sup>See Sadulla Karjiker and Madelein Kleyn, Commentary on the Draft Intellectual Property Policy of the Republic of South Africa Phase I 2017, available at <http://blogs.sun.ac.za/iplaw/files/2017/11/CIP-Comments-RE-Draft-IP-Policy-Phase-1-2017.pdf>. See also, Jasson Urbach, “New patents policy the wrong cure for improving access to medicines”, Business Day (13 September 2017), available at <https://www.businesslive.co.za/bd/opinion/2017-09-13-new-patents-policy-the-wrong-cure-for-improving-access-to-medicines/>

<sup>2</sup>Dean Baker, Arjun Jayadev and Joseph Stiglitz, “Innovation, Intellectual Property, and Development: A Better Set of Approaches for the 21st Century” (Access-IBSA), 69, available at <http://ip-unit.org/wp-content/uploads/2017/07/IP-for-21st-Century-EN.pdf>

<sup>3</sup>And its predecessor, the Companies and Intellectual Property Registration Office (“CIPRO”).

<sup>4</sup>Out of a total of over 40,000 patents granted by CIPC and CIPRO over the same period.

<sup>5</sup>For a detailed discussion, see Owen Dean and Alison Dyer, *Dean & Dyer, Introduction to Intellectual Property Law* (Oxford University Press, 2014) at 254-257

<sup>6</sup>A country that is party to the Paris Convention for the Protection of Industrial Property

<sup>7</sup>See <http://patentsearch.cipc.co.za>

<sup>8</sup>We requested a portion of the database from the dti which kindly provided a dataset entitled “the Bibliographic data for Patents 2005 – 2015”.

<sup>9</sup>Several had South African priority codes, as they had previously been registered provisionally.

<sup>10</sup>The South African patent database has a field application type field which flags a patent as either national or international. In our initial queries, we attempted to use this field to identify South African patents, but found it to be unreliable as over 1,000 genuine South African patents were flagged as international in the application type.

<sup>11</sup>For example, patent number 2005/0336 is listed as being held by ArcelorMittal South Africa, which is a subsidiary of ArcelorMittal.

<sup>12</sup>This percentage is similar to other reports. For example, the World Bank Development Indicators (which reports applications rather than grants) states that in 2015 there were 889 applications by residents in South Africa, and 6,608 from non-residents, giving an application (rather than grant) rate of 13%. See <http://wdi.worldbank.org/table/5.13>.

<sup>13</sup>From January 2005 to July 2015 inclusive.

<sup>14</sup>This is a random example.

<sup>15</sup><http://patentsearch.cipc.co.za>

<sup>16</sup>In this case, renewal fees were paid on 12 January 2017 and 5 February 2018 respectively.

<sup>17</sup>The “*Application History Sheet*” provides information regarding key dates in the application process, and the filing of renewals.

<sup>18</sup>According to the International Patent Classification (“IPC”), “[t]his subclass covers arrangements for generating mechanical vibrations in solids, e.g. for the purpose of performing mechanical work.”

<sup>19</sup>The IPC was established by the Strasbourg Agreement 1971, available online at <http://www.wipo.int/treaties/en/classification/strasbourg/>

<sup>20</sup>Covering 5% of the patents

<sup>21</sup>The IPC states that “[t]his subclass covers methods or apparatus for making or lining tunnels, galleries or large underground chambers, using underground mining methods only, i.e. not involving disturbance of the ground surface.”

<sup>22</sup>These subcategories are available at <http://www.wipo.int/classifications/ip> and <https://www.uspto.gov/web/patents/classification/cpc/html/cpc-E21D.html#E21D>

<sup>23</sup>See <http://pericles.ipaustralia.gov.au/ols/auspat/applicationDetails.do?applicationNo=2014100668>

<sup>24</sup><https://www.ipaustralia.gov.au/patents/understanding-patents/types-patents>

<sup>25</sup>25 years in the case of pharmaceutical products

<sup>26</sup>A few of the records with primary patent classifications also have a secondary classification code. These secondary codes were not considered in the analysis.

<sup>27</sup>There are three corporate forms prevalent in South Africa: companies which may be privately held (designated by “(Pty) Ltd”); publicly held companies

(designated by “Ltd”); and close corporations (designated by “CC”). Under the Companies Act 71 of 2008, no new close corporations may be formed; and existing close corporations may be converted to privately-held companies. Other recognised types of companies are state-owned companies (designated as “SOC Ltd”), personal liability companies (designated by “Inc.”), and non-profit companies (designated by “NPC”).

<sup>28</sup>We deal with this issue below, in considering which South African patentees are obtaining protection abroad.

<sup>29</sup>Shafts; tunnels; galleries; large underground chambers

<sup>30</sup>Containers for storage or transport of articles or materials

<sup>31</sup>Electrical digital data processing

<sup>32</sup>Preparations for medical, dental, or toilet purposes

<sup>33</sup>Many patent records had no classification number at all.

<sup>34</sup>See <https://www.britannica.com/science/heterocyclic-compound> (emphasis added)

<sup>35</sup>In comparison, there are 6,101 non-South African patents in the same category.

<sup>36</sup>It must be remembered that South African universities only account for 6.1% of all patents granted to South Africans.

<sup>37</sup>Anthea Jeffrey, “Patents: Another property rights grab by government” (29 October 2014), available at <http://www.politicsweb.co.za/news-and-analysis/patents-another-property-rights-grab-by-govt-irr>

<sup>38</sup>See, for example, Emma Francis, “The Australian Mining Industry: More than Just Shovels and Being the Lucky Country”, IP Australia Economic Research Paper 04, para 2.2.1, p 9, where the author explains:  
*“It is difficult to provide a definition of mining patents in terms of a set of relevant IPC marks ... as typical mining technologies encompass a wide variety of technologies, including: refining of metal ore, forming of alloys, sound protection, conveyers for material handling, specialised vehicles, site building construction, explosives, remote monitoring of operations, exploration techniques, relevant health and safety techniques, the reclamation of sites no longer viable and remote power supplies.”*  
The report is available at [https://www.ipaustralia.gov.au/sites/g/files/net856/f/the\\_australian\\_mining\\_industry\\_more\\_than\\_just\\_shovels\\_and\\_being\\_the\\_lucky\\_country.pdf](https://www.ipaustralia.gov.au/sites/g/files/net856/f/the_australian_mining_industry_more_than_just_shovels_and_being_the_lucky_country.pdf)

<sup>39</sup>See Judith Fessehaie, Zavareh Rustomjee, and Lauralyn Kaziboni, “Mining-related national systems of innovation in southern Africa: National trajectories and regional integration”, WIDER Working Paper 2016/84, available at <http://hdl.handle.net/10419/146278>

<sup>40</sup>Because the classification A61K is particularly broad, we cannot say with any degree of certainty that this is the case.

<sup>41</sup>We do not know, for example, whether securing patent protection abroad resulted in any licensing income for the patentees.

<sup>42</sup>Feroz Ali and Shweta Mohandas, "The Compulsive Patent Hoarding Disorder", *The Hindu* (30 March 2017), available at <http://www.thehindu.com/opinion/op-ed/the-compulsive-patent-hoarding-disorder/article17617888.ece>

<sup>43</sup>See sections 2, 4, 5(1)(b), and 14. Since the Act only came into force in August 2010, the available data is insufficient to indicate whether there has been a resulting increase in patenting by publicly-financed research institutions.

<sup>44</sup>1391 (or 34.2%)

<sup>45</sup>Containers for storage or transport of articles or materials

<sup>46</sup>32 of 193

<sup>47</sup>Formerly the Appellate Division of the Supreme Court. On the rare occasion, appeals from the CCP have been heard by the full court of the High Court.

<sup>48</sup>This is expressly recognised by the draft IP Policy

<sup>49</sup>Emphasis added

<sup>50</sup>Section 2 of the Patents Act, read together with section 189 of the Companies Act, 2008

<sup>51</sup>GN R2470 in GG 6247 of 15 December 1978

<sup>52</sup>Emphasis added

<sup>53</sup>Anthipi Pouris and Anastassios Pouris, 'Patents and Economic Development in South Africa: Managing Intellectual Property Rights' (2011) 107 *South African Journal of Science* 6

<sup>54</sup>Section 47

<sup>55</sup>Section 50

<sup>56</sup>Section 51

<sup>57</sup>Section 56

<sup>58</sup>Section 25(5)

<sup>59</sup>Subsections (6) to (9)

<sup>60</sup>Read together with section 15C(c)

<sup>61</sup>Government Notice 859, Government Gazette No. 41064, 25 August 2017

<sup>62</sup>Subsection (2) states that “[i]t shall not be permitted to possess the patented invention made, used, imported or acquired in terms of subsection (1) for any purpose other than for the obtaining, development or submission of information as contemplated in that subsection.”

<sup>63</sup>Section 55 makes provision for “[c]ompulsory licences in respect of dependent patents”.

<sup>64</sup>An application to the Court of the Commissioner of Patents will be required should the state and the patentee not be able to agree on the conditions of the government use.

<sup>65</sup>1972 (1) SA 589 (A) at 629E-F, cited with approval in *Roman Roller CC and Another v Speedmark Holdings (Pty) Ltd* 1996 (1) SA 405 (A) at 412F-G

<sup>66</sup>The Appellate Division is now the SCA

<sup>67</sup>Collectively, these three statutes are referred to as the Patents Act 1992 to 2012

<sup>68</sup>Section 66(1)(a)

<sup>69</sup>Section 66(1)(b). In the alternative to section 66(1), section 66(3) provides: “In lieu of making the request referred to in subsection (1)(a) the applicant may, if an application for a patent for the same invention has also been filed in a prescribed foreign state or under the provisions of any prescribed convention or treaty, submit to the Controller the evidence referred to in section 30 (1); and proceedings may not be instituted until after the Controller has published any evidence so submitted to him and the proprietor has sent a copy thereof to the person concerned.”

<sup>70</sup>See <https://www.patentsoffice.ie/en/Patents/What-is-a-Patent-/Search-Report-Evidence-of-Novelty/>

<sup>71</sup>Ibid

<sup>72</sup>See <http://www.jpo.go.jp/english/faqs/utility-model.html#anchor7-6>

<sup>73</sup>2016 (1) SA 387 (SCA)

<sup>74</sup>1985 BP 143 (CP) at 152 (emphasis added), cited with approval by the SCA in *Strix Ltd* at para 13

<sup>75</sup>At para 4

<sup>76</sup>How did this involve an inventive step? Unfortunately the issue was not addressed, because it had not been pleaded.

<sup>77</sup>At para 7

<sup>78</sup>At para 19

<sup>79</sup>At paras 19-20

<sup>80</sup>See <http://www.dunedin.nz.com/baldwin-street.aspx>

<sup>81</sup>*Bateman Equipment Ltd and Another v Wren Group (Pty) Ltd* 2000 (1) SA 649 (SCA)

<sup>82</sup>At para 1

<sup>83</sup>At para 3 (emphasis added)

<sup>84</sup>At para 7 (emphasis added)

<sup>85</sup>2013 (4) SA 579 (SCA)

<sup>86</sup>At para 45

<sup>87</sup>At para 61

<sup>88</sup>At para 56 (emphasis added)

<sup>89</sup>At para 33

<sup>90</sup>At para 34

<sup>91</sup>At para 39 (emphasis added)

<sup>92</sup>*Esquire Electronics Ltd V Executive Video* 1986 (2) SA 576 (A) at 590C-E

<sup>93</sup>GenN 25 in GG 24290 of 17 January 2003

<sup>94</sup>The Patents Act still refers to a previous name for this court: the Transvaal Provincial Division of the Supreme Court of South Africa.

<sup>95</sup>Emphasis added

<sup>96</sup>Section 17(3) provides:

*"Any costs awarded by the commissioner shall be taxed by the registrar according to the prescribed tariff and any such taxation shall be subject to review by the commissioner, and payment of such costs as so taxed or, if reviewed, as so reviewed, may be enforced in the same manner as if they were costs allowed by the [Gauteng] Division of the [High] Court of South Africa in civil proceedings."*

<sup>97</sup>Regulation 76 provides:

*“Proceedings before the commissioner of patents may be initiated by way of –*

- (a) a notice of appeal;*
- (b) a notice of opposition;*
- (c) an application for revocation;*
- (d) an application for extension of term;*
- (e) a notice of motion;*
- (f) summons.” (Emphasis added)*

<sup>98</sup>The evidence in motion proceedings is provided in affidavit form. In action proceedings, also known as trials, evidence is given orally.

<sup>99</sup>The *Plascon Evans* rule makes it difficult for an applicant to succeed where there are material disputes of fact. In this regard, see *Ramakatsa and Others v Magashule and Others* [2012] ZACC 31; 2013 (2) BCLR 202 (CC) at para 94: *“According to the Plascon-Evans rule the applicant would succeed if the admitted facts alleged by it, together with the facts alleged by the respondent, justify the relief sought. However, it must be pointed out that where a respondent raises a bare denial to an allegation made by an applicant, the denial is not regarded as raising a genuine dispute of fact. In such a case the allegations made by the applicant may be taken into account in deciding whether the order sought is justified, unless the respondent has requested that the applicant’s deponent be subjected to cross-examination.”*

<sup>100</sup>In contrast, section 56(1) only permits “[a]ny interested person” to make an application for a compulsory licence.

<sup>101</sup>Section 61(1)(c)

<sup>102</sup>Section 61(1)(e)

<sup>103</sup>2003 (4) SA 42 (SCA) at para 23

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## Innovation and Intellectual Property in South Africa:

THE CASE FOR REFORM

Jonathan Berger and Andrew Rens