IPR Act heralds new way for higher education sector to do business

By Andrew Bailey

The newly promulgated Intellectual Property Rights from Publicly Funded Research and Development Act (Act 51 of 2008) came into force on 2 August 2010. Its basic premise is to ensure that taxpayers' investment in research at higher education institutions (HEIs), through Government-funded projects, is protected by patents and other forms of intellectual property protection; that it is commercialised; and that South Africans benefit from these projects in the form of job creation, business creation and access to the new products that are made possible.

The act compels universities to establish technology transfer offices (TTOs). These offices are responsible for screening the invention disclosures made by academic researchers for commercial and/or social benefit, and then deciding on the appropriate form of protection. The act also makes provision for the establishment of regional offices in cases where the deal flow does not warrant individual offices. It is anticipated that the Eastern Cape universities (Rhodes University, Walter Sisulu University, University of Fort Hare and Nelson Mandela Metropolitan University) will form the Eastern Cape Regional TTO, with NNMU (which has already established a TTO) as the anchor institution

The act makes provision for financial support to establish these offices. However, this will be for a limited period, after which the institutions will have to bear all costs. It is not clear yet for how long government will subsidise these offices, nor whether this support will also be available to established offices such as The University of Cape Town's TTO, the Research Contracts and Intellectual Property Services office (www.rcips.uct.ac.za), which has been operational since 1999. History shows that TTOs can be costly. Success stories often stem from one or two blockbuster pharmaceuticals, rather than broad-based commercialisation successes. It can often take decades for TTOs to become really successful – Isis Innovation, the leading TTO of Oxford University, is a case in point. UCT is just beginning, after more than a decade, to see significant licensing deals being signed as technologies come of age.

It is hoped that government will acknowledge this reality in developing its funding model.

A challenge for institutions will be recruiting TTO staff with the requisite knowledge and skills: such people are relatively scarce in South Africa, and institutions may battle to appropriately remunerate them. A technology transfer professional typically needs an engineering or science background; an appreciation of technology development requirements to successfully get the intellectual property into the market; business experience (often bolstered with an MBA, contract negotiation and licensing skills); and a knowledge of the patent prosecution process. TTOs, especially in South Africa, are small, and staff have to provide support across the spectrum of technologies that emanate from different departments. At UCT, for example, we have almost equal rates of disclosure from three faculties: Science, Engineering & the Built Environment, and Health Sciences. The National Intellectual Property Management Office (NIPMO) will have to keep capacity development high on its agenda.

Section 9(2) of the act stipulates: "NIPMO must ensure that it has the capacity to consider all intellectual property referred to it ... and to deal with it in accordance with the Act". Successful implementation of the act will indeed largely depend on the competence and aptitude of NIPMO; other well-intentioned acts, such as the Biodiversity Act, have had serious implementation problems, mainly due to the lack of appropriate coordination structures.

As for academics, they are being stretched in diverse directions. There is already an increasing teaching workload, and now innovation is an increasingly important priority. Although patenting activity now plays a part in the National Research Foundation's rating of researchers (which determines their funding) there is still generally very little recognition for "innovation output". Hopefully the act will change this situation.

Some may argue that inventors are indeed incentivised, since the act, like UCT's IP Policy, makes provision for inventors to share in any potential commercialization income. But there is not necessarily a crock of gold at the end of every innovation rainbow, so other measures, such as recognition become important components.

A potential consequence of the act could be a drop in the activities under THRIP (Technology and Human Resources Programme), a research and development programme of the Department of Trade and Industry and the NRF. THRIP promotes partnerships between business and the public-funded research base and, inter alia, matches investment by industry in projects where experts from science, engineering and technology institutions serve as project leaders and train students through the projects. However, under the act, industry can only claim full rights to the research they fund if it is done under a "full cost model" , meaning there should be no form of government subsidy such as THRIP. UCT has already seen companies opting for the "full cost model" route instead of THRIP support. This has reduced the overall funding to the university.

If a full cost model is not used, the default position is for the university to own the IP. But ownership is not the be all and end all – it's really about access and options for firms to license the IP from universities can be built into the initial research contract, that should be sufficient. Admittedly the act requires these licence agreements to include market-related royalty rates, but this will properly reward the inventors. Meanwhile, the remainder of the money can be ploughed back into research by the universities, growing the IP generation base, to the long-term benefit of South Africa.

The act will effectively force an increase in the GDP spend on R&D, which in our country is way below that of developed countries.

University outputs tend to be very early stage, so there is a need for skills and funding to move them into the market and benefit South Africans. Often these technologies are destined for brand new markets or industries – a difficult juggling

act for a start-up company. In the biotechnology sector, niche service providers do not have a local industry to market into, so they often have to look further afield. Exchange control regulations make it difficult, especially in the IP domain, to attract overseas investment in South African start-ups.

In terms of commercialising the IP, the act requires a preference for South African commercial partners, as well as SMMEs and BBBEE entities. The universities are already posting technologies available for licensing on a shared website, Tektique, (www.tektique.co.za).

South Africa is not the first country to take this approach to IP. The Bayh Dole Act in the USA is 30 years old this year. It has been attributed with unlocking the innovation potential of American universities. There has, however, been significant discussion on whether the Bayh Dole Act is the sole cause for increased patenting, innovation and start-ups flowing from American universities, or whether other US government initiatives in innovation have played a role too. There is still a debate on whether such a law is appropriate for developing countries.

The Philippines passed similar legislation in May 2010 and India is considering an equivalent act, despite heated arguments in the press against its introduction. The Republic of Korea enacted its Technology Transfer Facilitation Law in 2000, and by 2004 the country had significantly outstripped South Africa's patenting rate coming off a fairly similar base in 1999. Korea's growth was exponential against an essentially flat South African rate.

The success of our own act will rest on how it is implemented, the support and capacity development programmes that are initiated and how any wrinkles are ironed out to ensure closer collaboration between industry and the universities.

1250 words