



Innovation needs business buy-in

SA NEEDS to innovate to compete on the international stage. But the cards seem stacked against SA's innovation system, from its comparatively minuscule science and research budget to the lack of venture capital to help commercialise knowledge.

About 85% of new knowledge in SA is generated by universities. But while their research output has increased significantly in the past decade, thanks largely to incentives from the Department of Higher Education, this is not translating into patentable innovations and spin-off companies, which might make the country more competitive and create new jobs.

In an attempt to boost commercialisation, in 2008 the government passed the Intellectual Property Rights from Publicly Financed Research and Development Act, which mandates universities to patent their research. But the reality is that not every researcher wants to be an entrepreneur, patents are expensive and it takes even more money to bridge the gap between idea and viable product, sometimes called the "valley of death" because most ideas do not come out the other side as live commercial opportunities.

So, while most South African universities have technology transfer offices to identify innovations, they have struggled to take things further. People often point to the US as an example of the importance of commercialising knowledge, emphasising how innovative products and processes lead to economic development. But the US has plenty of venture capitalists with deep pockets, which makes the playing field very different.

SA's venture capitalists are more like banks: prepared to lend money only if there is little risk. But innovation is, by its nature, risky. For every venture that succeeds there are several that disappear. The "Big Hit" patents — those whose royalties feed a university's technology transfer office — are used to

subsidise the development of other, less successful, ventures.

This was the point of the Technology Innovation Agency, which was created by an act of Parliament in 2008. The agency is meant to fund and develop ideas, which can then be handed over to the Industrial Development Corporation for commercialisation. But innovation is not generally synonymous with government — it does not work office hours and public servants should not be playing fast and loose with taxpayers' money.

This should be the private sector's natural habitat but, possibly due to ignorance of the work being done at SA's universities, business is not taking advantage of their vast bank of knowledge. At the same time, many universities are not making it easy for business. And the Intellectual Property Rights from Publicly Financed Research and Development Act has scared away many industry collaborators because they do not want to lose their intellectual property rights on co-developed ideas.

Some institutions are on the right track: the universities of Stellenbosch, Johannesburg and the Witwatersrand have, for example, created companies to develop spin-off businesses and commercialise knowledge. Earlier this month, Stellenbosch University opened its intellectual property vault, allowing businesses free access to its researchers' ideas. Entrepreneurs sign a full licensing agreement but have to pay for the technology, product or process only when it starts making money. That is one way to do it. At the University of Johannesburg, companies collaborate with the researchers who patented the idea and develop the technology together: the business gets new technology and the university gets real-world experience for students.

The bottom line is that SA needs to innovate. Innovation leads to more competitive processes, new products, spin-off companies and economic development. But innovation needs business buy-in.