

**Investment** Anita Nel

# Fund aims to sow and grow new university technologies

**M**OST universities start as teaching institutions, delivering graduates to society. After a number of years, the focus shifts to a more research-oriented approach and, apart from graduates, research papers became an important output of the institution.

At the turn of the past century, innovation became an important strategy globally and patents were added to the list of institutional outputs. This makes universities more attractive to entrepreneurs.

The next step is for universities to become the central players in a knowledge region, as is evident from developments around leading global universities in Leuven, Oxford, Cambridge, Boston, Finland and Silicon Valley, for example.

Here, the boundaries between universities and broader society have become increasingly blurred, especially in relation to the creation of specific technology industries in which the university plays an important role in the establishment of an entrepreneurial ecosystem.

Using Leuven as an example, it appears the first step in the establishment of such a knowledge region is for a critical mass of spin-out companies in a specific industry to emanate from universities in the region.

This rapid start-up creation attracts entrepreneurs from outside the university. Venture capitalists and angel investors soon join the activity. Strong networks develop between the stakeholders in such a region, and soon, large multinational companies set up a presence to acquire new innovations and buy young technology companies.

While SA has a small but growing venture capital (VC) sector, the national innovation system still displays several structural deficiencies. One of the most significant of these, often overlooked, is the lack of early, competent and coherent support for new

ventures in the research-supported high technology sector.

In the four years ended in 2012, according to the South African Venture Capital Association's 2012 VC Survey, only 4% of VC funding was allocated to seed funding of this nature. In the past 10 years, this sector has attracted less than 2% of private VC investment in SA, despite world-class opportunity production and a consistent funding requirement for more than R500m from entrepreneurs, large universities and research councils.

Influenced also by the VC sector's post-dotcom contraction, the government perceived a market failure and implemented public seed-funding instruments in about 2004. In 2008, the state embarked on the

but the government was essentially the only significant early-stage investor. This often produced outcomes that were less than satisfactory, and the absence of private capital in seed-stage technology investment in SA remains a fundamental deviation from international best practice.

Individual universities in SA lack the critical mass to maintain the deal flow to ensure the success of a seed-fund vehicle (by way of illustration, the Oxford University research budget is approximately equal to the entire budget of all South African universities combined). There is thus a need for collaboration, which is the motivation behind the establishment of a proposed University Technology Fund.

To grow a new technology towards suc-

needs in this regard. The unfunded mandate causes the behaviour of technology-transfer offices to become skewed away from optimal: they tend to start companies too early and then seek funding from sources with a mismatched risk profile. As a result, investors are either unwilling to invest, or they compensate for the high risk by taking disproportionately large equity portions, which disincentivises the entrepreneurs.

Ideally, the university offices need to be able to nurture the intellectual property for a longer period.

The ideal funding model should enable the offices to provide incremental or "drip funding" to a new technology as it is developed. This will prevent premature company formation and ensure technologies are market-ready before leaving the university environment. The proposed model for the University Technology Fund will attend to many of these problems.

A number of local universities are working towards establishing the fund and aim to involve leading investors who can add value to the initiative. The proposed fund aims initially to combine the strengths of some of the top local universities to raise a single umbrella fund-of-funds, feeding into independent university funds.

Ultimately, the University Technology Fund will anchor universities as the engine rooms of innovation and the knowledge industry, and create national wealth and jobs in accordance with international developments in the higher education sector.

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implementation of a "second-generation" innovation policy, encapsulated in the Intellectual Property Rights from Publicly Financed Research and Development Act.

Recipients of government research funding are now required by law to discover, report, protect and commercialise intellectual property, and every research institution in the country must have a technology-transfer office to manage the expensive and often onerous legal requirements introduced by the act.

For more than a decade, state institutions such as the Innovation Fund and its successor, the Technology Innovation Agency, have kept entrepreneurs hopeful,

successful commercialisation, funding is required for activities during the different phases of technology development. Typically, university technology-transfer offices do not have the funds to develop technologies to VC funding-readiness (or to the stage where an informed decision to mothball the technology can be made). This results in a large number of top technologies emanating from universities being forgotten in the fast-growing patent cemetery of our public sector-innovation channel.

The Technology Innovation Agency Seed Fund plays an important role across the development and funding gap stages, but it is not nearly sufficient to fulfil the