

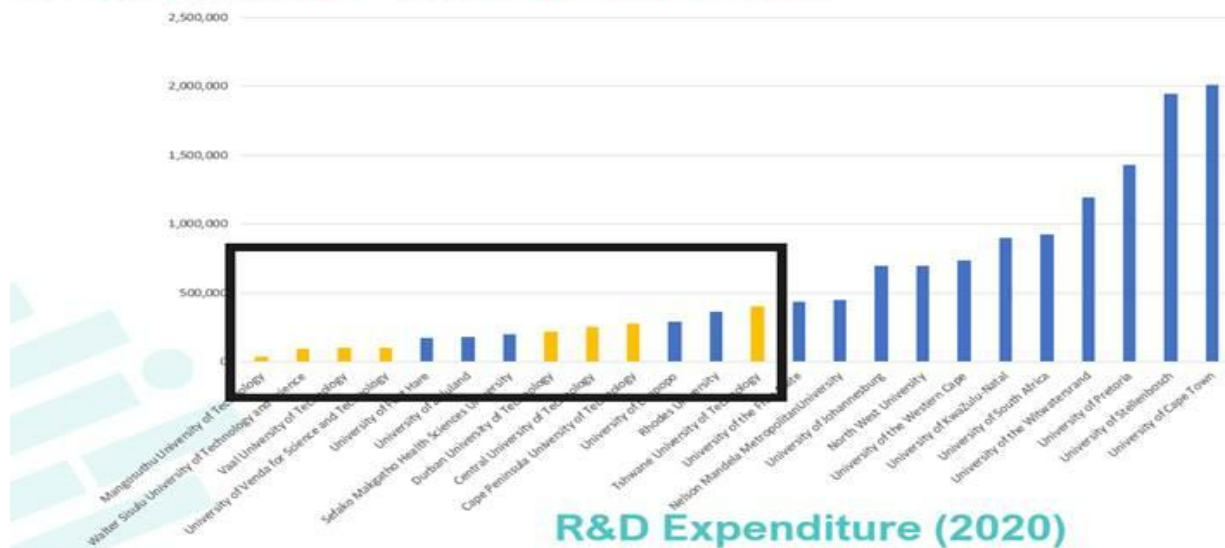
“The Deep Tech Venture Builder will revolutionise the National System of Innovation (NSI)”

Led by the Cape Peninsula University of Technology (CPUT), in partnership with the Technological Higher Education Network South Africa (THENSA), the Deep Tech Venture Builder will bring together universities of technology, investors, technopreneurs and government to build a dynamic tech ecosystem.

By Khanya Mtshali

South Africa is a country whose inequalities spread across all spheres of life. From housing to healthcare, education to employment, economic freedom has yet to become a reality for the majority of the nation. While the government has called for the higher education sector to provide solutions to issues like poverty, unemployment and inequality, this legacy of disparity is evident amongst South Africa’s 26 public universities. Historically, universities of technology have lacked the kind of infrastructure, research and development, funding, resources and capacity enjoyed by so-called traditional universities, leaving the playing field deeply unequal.

UNEQUAL PLAYING FIELD



(Source: [R&D Statistical Report 2020-2021](#), Department of Science and Innovation)

For Technology Transfer Offices (TTOs) at universities of technology, these inequities have inhibited them from becoming major contributors to the South African National System of Innovation (NSI). Since its establishment in 1996, the NSI [has offered](#) a framework through which government, industry, civil society

and academia can “contribute from a research, development and innovation perspective towards socio-economic growth and development”. And while notable investments have been made towards different initiatives across the NSI, it has yet to leverage the full talents of all its stakeholders and participants, revealing a science system that is battling to live up to its full potential. More specifically, if universities of technology fail to bring innovative technologies to commercialisation, it will prevent them from being competitive and relevant, especially as it concerns providing solutions to the country’s most urgent needs.

An intervention for change

These were the challenges that propelled Dr Revel Iyer, Director: Technology Transfer & Industry Linkages at CPUT, to develop the idea for the Deep Tech Venture Builder (Deep Tech VB). “The [concept] for this intervention arrived following years of frustration due to the shortcomings of the NSI”, he says, over a conversation via email. Having played a pivotal role in transgenic maize research during his time at the University of Cape Town (UCT), where he also participated in experiments aimed at testing drought tolerance in plants, Iyer was particularly concerned about the science system’s ability to “successfully commercialise deep tech innovations in the country”.

After a host of discussions with Warren Le Fleur of Koya Capital, a learning transformation consultancy firm, he was convinced that the Deep Tech VB could become a viable concept. “I [then] approached THENSA with the opportunity [to partner with us], indicating that this concept could be adapted to allow for a collaborative approach where a multitude of universities jointly inform and feed into a single intervention”, Iyer explains. Both parties responded to an advertisement from the Research and Innovation Systems for Africa (RISA), which provided the funding that will be used to cover the first year of activity, where identified universities and partners will come together to design the Deep Tech VB.

Venture Builder v. Deep Tech Venture Builder

According to Growth Capital Ventures, a British private investor network, a venture builder is a [“business that builds businesses”](#) by pooling together the resources, networks and support structures of those who founded it. Unlike High or Low Technology, Iyer states that Deep Technology “refers to technologies that are based on scientific or engineering innovations, characterised by long development cycles, high technical complexity and intellectual property”. Consequently, deep tech venture builders are concerned with “breakthrough scientific or engineering research rather than on business model innovation or incremental improvements”, Iyer says, adding that deep tech startups can range from fields such as biotechnology, nanotechnology, artificial intelligence, robotics and advanced materials.

Iyer is hopeful that the Deep Tech VB will “create a portfolio of successful deep tech startups that have the potential to make a significant impact in their respective fields and create value for investors and society as a whole”. As the lead university for this intervention, CPUT will serve as the hub for the Deep Tech VB, but Iyer emphasises the intervention will not be “owned and fed by a single institution [but fed] through eight

universities of technology across South Africa which will jointly feed their technology innovations into the pipeline”, he states. As the Deep Tech VB is a university venture builder, Iyer outlines that “the technology innovations [will not be] developed from scratch like an entrepreneurial type of venture builder”.



Delegates pictured for Workshop 1 of the Deep Tech Venture Builder at CPUT Bellville Campus (Photo credit: Aphiwe Boyce).

Diversity, inclusion and transformation

Globally, the technology and innovation space has a reputation for excluding people who happen to fall into marginalised groups. The social, cultural and economic realities of those who stand to benefit the most from groundbreaking technologies are not always understood by the profitters of them. For the Deep Tech VB to make a meaningful impact in South Africa, it is crucial that it embodies and practises diversity, inclusion and transformation from the design process right through to the piloting of the programme.

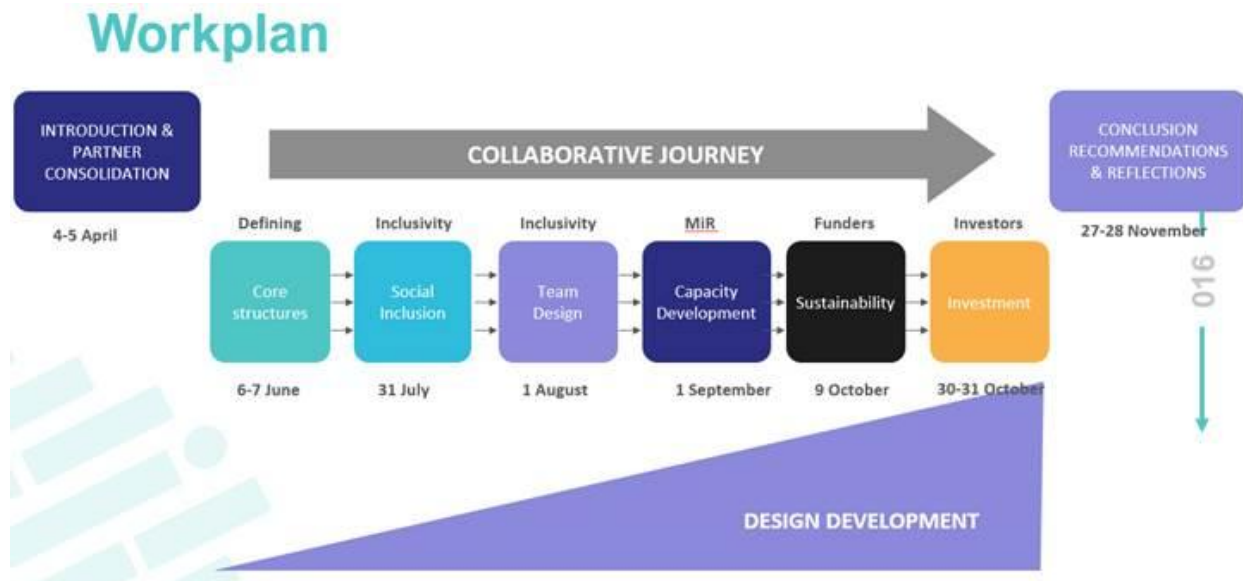
At the first workshop for the Deep Tech Venture Builder, which took place at CPUT’s Bellville Campus earlier this April, there were representatives from all corners of South Africa. From rural to the urban universities, government to private business, the 40 delegates in attendance included the Durban University of Technology, University of Venda, Walter Sisulu University, Central University of Technology, Tshwane University of Technology, Vaal University of Technology, and Mangosuthu University of Technology, as well as the Department of Science and Innovation (DSI), National Intellectual Property Management Office (NIPMO), South African Research and Innovation Management Association (SARIMA), Technology Innovation Agency (TIA), City of Cape Town and the Greater Tygerberg Partnership.

This is what will distinguish the Deep Tech VB from other interventions of its kind. It is a venture that will be created, launched and run by people who have a firsthand understanding of the inequalities in this country. They will be uniquely sensitive to the needs of the technopreneurs who will be part of this programme, while also preparing them for the realities of running a deep tech company. This combination of knowledge,

expertise and lived experience will ensure that the lessons imparted to technopreneurs speak to their realities, providing them with the support to launch and run successful spinoffs.

“The collaborative approach brings together a joint portfolio that makes us attractive as an opportunity to partner with from a support, investment and participation perspective”, Iyer says. “Also, and very importantly, this initiative makes technology innovation accessible to groups [of people] who are currently excluded socially and functionally”.

The second workshop for the Deep Tech VB will take place from June 6 –7 at the SoutheRn Sun OR Tambo International Hotel in Johannesburg.



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