



*National Science and Technology Forum*

*S.E.T. for socio-economic growth*

## **Opinion piece by Dr Mpho Lekgoathi, a member of the NSTF Executive Committee**

### **Innovation management for better lives**

Modern times have shown rapid changes in technological innovation and adoptions, giving rise to capable states that are able to tackle their broader societal needs. The Global innovation index 2022 shows large progress in terms of microchip technology development, and this is tied with the increasing adoption of certain technologies such as electric vehicles and automation robots.

These innovations are often driven from national master plans that generally identify growth and improvement opportunities for specific industries. Resources are then refocused to make these plans a reality. Master plans are high level documents, and their successful implementation needs the ability to assess, acknowledge the current state of affairs and then use the outcomes to eradicate the “incapacity” mantra.

Leading innovation economies are usually countries with strong intellectual property (IP) regimes, able to protect and enforce IP rights. An observation is made that the majority of developing states have lower IP conversion rates to commercially valuable products. These countries also have lower innovation index rankings, and Africa in particular has only three countries out of 54, represented in the top 70 of the global innovation index. Although it can be argued that the continent’s investment into R&D may be lower than that of their global peers, there is still room to improve. Limited resources call for heightened control. This is where strong intellectual property control systems and implementation strategies need emphasis in order to derive maximum value from little available resources.

Let us assume a scenario: here, the state identifies its innovation needs, and is willing to oversee implementation of the developed innovation or technology. They are the uptake institutions. The enterprises are partners in such technology development, and a central agency oversees the entire process from innovation to implementation of the technology. There is no gap in terms of the capacity to innovate because enterprises perform this role. There is also no gap in terms of funding for research because the technology commissioner funds this. Furthermore, there is no gap in project management because an implementing agency is responsible for this work.

The Utopian scenario highlighted here creates an atmosphere of capability. It is fundamentally different from the reality, where enterprises are funded by the enabling division or institution to develop a technology. When this technology reaches higher technology readiness levels (TRL) such as the TRL 5 and above, a sense of direct institutional responsibility starts to fade. If the developing enterprise has no capacity to take up and commercialise such know-how due to funding restrictions, then the net is thrown wide open for anyone to consider taking up this innovation. There is no dedicated technology implementing agency that follows through and ensures that the work is fully taken care of until a stage where the final product is commercially ready.

In Africa, more effort is needed on restructuring the current innovation management approach. While we acknowledge the roles of enterprises, we must acknowledge that they have limits, thus they must be separated according to their competencies and then we need to refine their focus. There are strong innovation institutions, and they should continue to get support to hone their roles in the sector. Then there are application-oriented research institutions, in which increased measures in project application need to be embraced. The innovation transition between these institutions needs to be managed to reduce value losses for the stakeholders, as fortune hunters operate in this arena.

A need consequently arises for the establishment of a guardian. This entity specialises in safeguarding the funded technology's passage from a developing institution into the hands of an implementing enterprise, be it the state or private entity.

In making a case for such an implementation guardian, it is noted that at the enterprise level, expert responsibility systems are already accountable for decision-making. It is further acknowledged that funders play the role of enablers. Good management in innovation adoption and implementation is therefore a missing link and hence should be a strong focus area. In addition, a robust technology development audit capability must be established. If the two approaches are either absent or weak, then the rates of IP losses and redundancy are likely to keep increasing, leading to continued poor performance on the global innovation stage. This is not good news if science and technology are to be adopted as drivers for poverty eradication in low to middle income developing countries.

**Source:**

[Global Innovation Index 2022: What is the future of innovation-driven growth? \(wipo.int\)](https://www.wipo.int/global-innovation-index-2022/en/what-is-the-future-of-innovation-driven-growth/)

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***The opinions expressed above are those of Dr Mpho Lekgoathi, senior scientist at the [Nuclear Energy Corporation of South Africa \(NECSA\)](https://www.necsa.co.za/) writing in his own capacity and do not necessarily reflect the views of the [Executive Committee](https://www.nstf.co.za/) or [members](https://www.nstf.co.za/) of the NSTF.***