

**Background Note 7 for
UN Workshop on Building Capacity and Scaling up STI Actions and adoption of
Countries' STI4SDGs Roadmaps in Africa**

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Key Recommendations for Actions to Support the STI4SDGs Roadmap Implementation

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Input/Suggestions

University-led innovations can be used to support critical sectors, such as agriculture, energy, and health, while strengthening the quality of the innovation infrastructure in these institutions. Let us use the manufacturing industry as an example. The government has designated this sector as a focal area due to its capacity to generate jobs that can improve livelihoods, particularly for the youth.

To support this sector, universities need to initiate valuable collaborations with manufacturers. Universities should not only provide talent but also an innovation pipeline. Universities can leverage invention education to transform how the engineering curriculum is delivered. Universities can implement key aspects of the model, such as project-based learning, to make the existing curriculum practical.

Universities could also expand their offerings to include specialty programmes such as precision, industrial design, and value engineering to enhance the competitiveness of local engineering talent.

Manufacturers can leverage the university infrastructure, including graduate and postgraduate students, faculty, and labs, to cost-effectively prototype ideas.

The strategic opportunity for such a collaboration is for universities to prioritise designing the Minimum Viable Product (MVP). At the same time, the manufacturer provides input on value engineering to make the production of the MVP at scale feasible.

Such linkages will not only help fund university students and faculty to further their education but also provide the skill sets needed to advance the local manufacturing capacity. Universities must create an enabling environment for engagement with manufacturers and other private sector partners.

Universities should strengthen their innovation policies, including intellectual property and commercialisation policies. They should also designate focal points to build and manage partnerships with manufacturers. Such liaison personnel should have the expertise to bridge the cultural gaps between the public and private sectors.

In early 2020, a team of student and faculty innovators from the Schools of Engineering & Architecture and Health Sciences at Kenyatta University developed a mechanical ventilator to address the clinical challenges during the COVID-19 pandemic dubbed TIBA-Vent. This innovation was projected to be cheaper than existing ventilators on the market at the time. Similarly, engineering students from the University of Nairobi developed a ventilator to respond to the COVID-19 pandemic.

How can student and faculty innovators successfully transition their MVPs to products? A strategic pathway for such innovators could be to enroll in an accelerator programme such as Villgro Africa that can provide much-needed technical assistance, access to capital, and connections with other partners in the technology development value chain, such as financiers, manufacturers, and distributors.

An alternative pathway could be partnerships with a venture studio to help onboard the right expertise.