

Technical University of Kenya

Working together to increase the number of qualified
and registered engineers

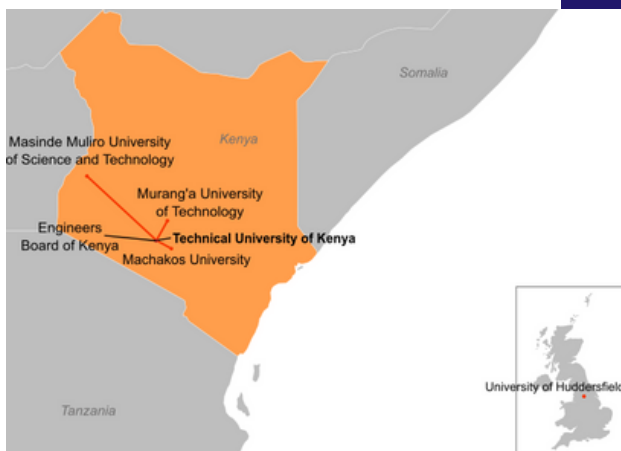


Programme objective | **To improve engineering capacity in sub-Saharan Africa through improving the knowledge, skills and employability of African engineering graduates**

Region | **East Africa**

Introduction

The HEP SSA project led by the Technical University of Kenya (TUK) addressed the need to increase the number of qualified and registered engineers working as lecturers in Kenya. Together with three Kenyan spoke universities, TUK faced the problem of low levels of highly qualified registered engineers among their academic staff. Having a critical number of qualified engineers as lecturers is a criterion for the accreditation of engineering curricula by professional bodies. For the project, it was essential to partner with the Engineers Board of Kenya (EBK) as the professional body that registers engineers in Kenya. This turned out to be the key enabler and success factor of the project implementation. The HEP SSA project ran between 2018-2021 (original end date was extended due to the Covid-19 pandemic) with total funding of £139,870.



Spoke universities

- Machakos University, Kenya
- Murang'a University of Technology, Kenya
- Masinde Muliro University of Science and Technology, Kenya

Industry partners

- Engineers Board of Kenya

UK partners

- University of Huddersfield

Main activities

In addition to the overarching objective of enabling lecturers of engineering in participating universities to obtain professional registration with the Engineers Board of Kenya, the project also set out to:

- foster academia-business relations through engaging senior engineers from industry to give career guidance and motivational talks to staff and students,
- carry out industrial placements of lecturers in a way that the applied research conducted by the lecturers during the placements is of sufficient complexity to use as evidence of professional competence towards the EBK as well,
- revise the curriculum at TUK to better align with the needs of industry.

Results and impact

Industrial engagement is at the core of project activities, and the EBK's liaison was needed to create such linkages. The EBK connected the graduate lecturers with industry mentors who provided guidance for the examinations required to become registered professional engineers. Initial reluctance to engage with the project and the lack of understanding of the benefits on the industry partners' side was overcome by the EBK acting as a facilitator and matchmaker among the universities and suitable companies. All the activities in the project were carried out in collaboration with the HEI partners and EBK in a transparent manner. The open communication was coupled with efficient and solution-oriented project management from Dr Odera, the project manager from TUK. As a result, every lecturer who participated in the programme put in an application for registration to the EBK.

The approach set out by the project team ensured industrial exposure of lecturers. This facilitated both their registration with EBK, and enabled them to encompass real problem-based projects and reflect on current industrial needs in the curricula.

The project also bridged the skills gap in the existing curricula by enabling industry to have a say in how the engineers of the future are trained.

The collaboration was a new experience for the industry partners as well. It is common for them to mentor engineers who will end up working in the industry, however it is less common to mentor registered engineers who intend to continue with their academic career. This new type of collaboration helped strengthen academia-industry relations.



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Sustainability of the results

The HEP SSA project provided input to the framing of the acceptable research and innovation projects for the new engineering registration model in Kenya that was introduced mid 2021. This incorporation of the project's learning into the national registration processes is a significant achievement and will ensure the long-term sustainability of the project results.

An important unintended outcome of the project is the appreciation for what can be achieved when universities work together with professional bodies and industry. Several non-participating universities expressed interest in joining the HEP SSA project activities and the EBK has also recorded a higher number of applications for professional registration of engineers. The HEP SSA project helped establish new relations between academia, industry and the regulatory body. Such collaboration has been traditionally weak but has started to further develop due to the positive impetus of the HEP SSA activities. The EBK is trying to foster relations with industry and academia using a sectoral approach, currently focusing on the road sector. Due to the top-down approach involving the government, both HEIs and industry partners have started to engage in the discussions. Though there is still a long way to go, HEP SSA-type projects are instrumental in prompting these collaborations.