**CALL FOR MINI-GRANT PROPOSALS**

**Development of Emerging Digital Technology-based Applications for Socio-Economic Development**

# Extended Submission Deadline for South African Applicants ONLY: March 15, 2023

## 1. Background and Purpose

The University of Nairobi (Kenya) and the University of Johannesburg (South Africa), with funding from the Research and Innovation Systems in Africa (RISA) Fund, will award short-term mini-grants for teams in Kenya and South Africa from eligible higher education, research and innovation institutions to develop Emerging Digital Technology-based (EDT-based) applications that are driven by big data analytics for socio-economic development.

The generic term “big data” can be unpacked into four overlapping categories namely: big data, open data, user-generated data and real-time data, which for the purpose of the mini-grant, are collectively referred to as “X-Data”. Further, the mini-grant takes EDTs to include Artificial Intelligence, Blockchain, Geographic Information System, Internet of Things, and data analytics. Data generation is growing exponentially, driven by the rapid increase in devices (mobile phones, computers, sensors, etc) connected to the Internet (and thus to databases). These new data sources and technologies (e.g. machine learning algorithms), “can identify patterns in observed data, build explanatory models, and make predictions quicker and with more accuracy than humans” (GIZ,2014). EDT/X-Data-based applications, for example, have been used to develop mitigation measures against Malaria, Zika, and Dengue Fever (Wesolowskiet al, 2013), identify lower-priced generic drugs in South Africa (openup.org.za), and tackle flooding in Indonesia (petajakarta.org). However, these algorithms are mainly created in the developed countries and often lack transparency arising from Intellectual Property Rights, thus hindering realisation of the enormous potential.

EDT/X-Data-based applications have been used in addressing socio-economic challenges faced by developing countries, where data literacy levels are often insufficient to fully leverage on data-

driven approaches (Joubert et al,2021). In addition, where applications do exist, they are often not broadly accessible, especially for persons with disabilities, slow Internet connections or members of underrepresented groups. Reaping full benefits, therefore, requires development of supportive systems for X-Data, including more approaches to collect, aggregate, analyse, and visualise data; and building the capacity of communities involved in data generation, governance, and usage (GIZ, 2014). These gaps have created new digital divides between developing and developed countries. Whereas the gap in access to technology is narrowing, gaps in social integration and impact of technology are increasing (Kshetri,2014). Further, barriers persist in the use and uptake of X-Data by decision-makers, occasioned by competing data sources, low quality of data, limited awareness of data existence, and inadequate transformation of data into useful information or tailoring to match the decision-makers' needs (GIZ, 2014).

## 2. Objectives of the Mini-Grants

The project seeks to competitively identify, through this call, multi-disciplinary teams from South Africa to develop emerging digital technology-based applications that address national or regional challenges using existing South Africa X-Data sets. The applications are expected to have a catalytic effect on the agriculture, health and governance sectors by addressing challenges confronting these sectors using data-driven strategies for decision-making. It is anticipated that four teams from each country shall be awarded mini grants to co-develop data-driven applications to contribute to solutions that address poverty and improve the well-being of the people.

A cloud-based digital innovation hub has been developed to provide a supportive and collaborative online environment, tools and technical assistance for the teams to co-develop and test their applications. At the end of the grant period, teams shall be required to present their prototype applications at a grantee's showcase where policy-makers, decision-makers, and potential funders shall be in attendance.

## 3. Eligible Organisations

- Universities, colleges, and research institutions based in South Africa.
- Private sector players as part of a team led by a university, college, or research institution all based in South Africa.

## 4. Assessment

Applications will be assessed by a panel of experts put together by the University of Nairobi and University of Johannesburg.

### 4.1 Mandatory Requirements

*If any of the following requirements are not met, the proposal shall not qualify for further review.*

1. Scope: Fit within one or more of the thematic areas:

   (a) Agriculture

   (b) Governance

   (c) Health

2. Lead institution is a recognised university, college or research institution in South Africa.

### 4.2 Evaluation Criteria

Proposals shall be evaluated on the five criteria as shown below. Each criterion shall be scored on a five-point Likert scale:

1- Poor 2-Fair 3-Good 4-Very Good 5- Excellent

A proposal must achieve a score of at least 3 (Good) in each criteria to be eligible for the award of a mini-grant. The specific criteria are:

(a) *Intellectual merit* (40%): The intellectual significance of the proposed EDT/X-Data-based application and the appropriateness of the proposed activities; methods and planned activities to accomplish the stated aims of the proposed project.

(b) *Potential for long-term impact* (20%): the potential impact of the application on the selected thematic area(s) and the extent to which gender equity and social inclusion matters are addressed.

(c) *Strength and capacity of the team members* (20%): Qualifications and track record of the team; and ability to deliver within the prescribed timelines based on work plan presented.

(d) *Commercialisation and uptake (10%):* Potential of the developed application for commercialisation and/or uptake by government; potential of scalability of application; and plans for sustainability.

(e) *Budget* (10%): Items requested in the budget are reasonable and directly meet the activities in the work plan; budget is within the limits provided; no-ineligible budget items.

It is anticipated that decisions will be communicated by March 31, 2023, to all applicants.

### 5. Proposal Structure

A proposal MUST NOT exceed 10 pages, single spaced text with 12-point minimum font size. It should have the following sections:

(a) Title

(b) Abstract (Max 50 words)

(c) Thematic Area – Indicate which thematic area the proposed application shall address (agriculture, health or governance)

(d) Project Aims and Description – should form the bulk of the proposal

(e) Work plan – Should clearly show planned activities and expected outputs

(f) Pathways to Impact – Focus should be on how the developed application shall lead to commercialisation or uptake for implementation by government or others, and the potential impact it can have at scale.

(g) Budget and Budget Justification – (Max 1 page) Each budget item should have a clear link to the proposed activities.

(h) Collaborators – Provide a table of all key personnel including their organizations, job titles, highest qualifications and their roles in the project. Note that the team may include personnel from the private sector, so long as the project is led by a principal investigator from a recognised university, college or research institution. All collaborators must be from organisations based in South Africa.

**Budget**

Budget requests should be between $5-$8,000.

**Timelines:**

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| February 1 | Application Opens |
| March 15 | Application Closes |
| March 31 | Awards announced |
| April 1 – November 30 | Project duration (Development and validation of the EDT/X-Data-based Applications) |
| December 1-15 | Grantees Showcases in South Africa |

All proposals should be submitted as a single pdf file to madaraogot@uonbi.ac.ke

UKaid
from the British people

RISA
Research and Innovation Systems for Africa