



### Terms of References (ToRs)

#### Technical Expert for Research and Innovation Fund Mobilization

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<b>Position Title:</b>	Technical Expert
<b>Program Name:</b>	NRIF
<b>Institution:</b>	National Council for Science and Technology (NCST)
<b>Duty Station:</b>	Kigali, Rwanda
<b>Duration of Appointment:</b>	Three (3) Years
<b>Expected Starting Date:</b>	As soon as Available

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## 1. Introduction

The Government of Rwanda through the National Council for Science and Technology (NCST) is seeking full-time services of a Technical Expert for Research and Innovation Fund Mobilization. The Government of Rwanda's National Strategy for Transformation-1 (NST-1) and the National Vision 2050 underscores the need for promoting research and experimental development (R&D) and innovation as key drivers of science, technology and industrial development for economic transformation.

Rwanda's vision is to strengthen the capacity for research and innovation funding as an avenue to boost national programs towards achieving a globally competitive knowledge-based and innovation-led economy. Thus, the Government of Rwanda through the NCST established and operationalized the National Research and Innovation Fund (NRIF) since June 2018. The goal is to support scientists, researchers and innovators to develop and accelerate research output and productivity under key priority areas delineated in the National Research and Innovation Agenda (NRIA). These key priority areas include ***Sustainable Energy, Food Security and Modern Agriculture, Life and Health Sciences, Local Production and Value Addition, Digital Services products and lifestyle, and Resilient Environment and Natural resources***.

The NRIF research schemes provide competitive merit-based funding opportunities towards fostering research uptake in Rwanda, and to support research activities that address societal and industry needs. Through collaboration between academia and industry and other stakeholders, the NCST continues to ensure that these grants fuel R&D and innovation for the national development. The NRIF funding supports public and private sector/industry linkage, and promotes basic and applied research programs aligned with the national priority areas in the National Research and Innovation Agenda.

To facilitate coordination of R&D, NCST established national Research Coordination Committee (RCC) on 12<sup>th</sup> June 2020 in order to support and strengthen coordination of R&D and innovation research programs in Rwanda. The RCC guides R&D interventions by various research institutions and actors, coordinate activities and interactions; and also ensure support to the implementation of NCST Council's resolutions. The RCC members comprise of 12 members from

national research institutions, namely NCST, University of Rwanda, Carnegie Mellon University Africa (CMU-A), Rwanda Agriculture Board (RAB), Rwanda Biomedical Center (RBC), National Industrial Research and Development Agency (NIRDA), Rwanda Environment Management Authority (REMA), Rwanda Information Society Authority (RISA), Rwanda Mining, Gas and Petroleum Board (RMB), Ministry of Infrastructure and Ministry of Finance and Economic Planning.

There has been a considerable progress for the operationalization of NRIF through different funding schemes where since 2019 four (4) billion RWFs have been invested in research and innovation. However, there is a need to leverage more resources for research and innovation projects funding to boost national research and innovation systems. This is in alignment with approved STI policy (June 2020) under *objective 3: Increased R&D and Innovation Financing*, and recommendations from different stakeholders to increase R&D and innovation investment. One of the major areas of prioritization identified by many stakeholders is the need for technical expert to support increased investment in R&D. Therefore, there is a need for a technical expert to support in R&D and innovation resources mobilization. **The goal is to optimize output in research productivity through increased publications, increased R&D funding, increased international partnerships, increased intellectual property such as patents, trademarks, copyrights, trade secrets, and focusing on high quality Technology Readiness Level (TRL) 4-8 prior actual commercialization.**

## 2. Background and Context

The Government of Rwanda has embraced significant scientific and technology transformative changes in the last decade or so, both in terms of policy and institution setup and advancement. As a result, multiple sector policies and strategies have been adopted to accommodate Rwanda's rapid socio-economic dynamics, including the National Strategy for Transformation 1 (NST-1), Vision 2050 Blueprint, Broadband Policy, the Smart Rwanda Master Plan, the Green Growth Strategy, the Energy Sector Strategy and the Made in Rwanda Policy among others.

The educational, technological, and industrial progress in Rwanda has resulted in a growing number of technological institutions. For example, Carnegie Mellon University Africa (CMU-A), University of Global Health Equity (UGHE), African Institute of Mathematical Sciences (AIMS), African Leadership University (ALU), and several centers of excellences (COEs) at University of Rwanda. These include but not limited to the East African Institute for Fundamental Research (ICTP) a regional branch of the International Center for Theoretical Physics under the auspices of UNESCO. Additionally, there are several regional centers of excellence funded by the World Bank such as COEs in Internet of Things; COE in Data Science; COE in Energy for Sustainable Development; and COE Innovative Teaching and Learning in Mathematics and Science. These institutions, together with Kigali Innovation City (KIC) that supports the financing of academia and industrial network, and linkage have created an environment that is conducive for scientists to broaden collaborations with global partners to engage in scientific investigations.

The Rwanda National Council for Science and Technology identifies research priority areas of science, technology and innovation, promotes funding of priority areas, and more importantly, promotes use of research findings through community outreach programs and context-specific Dissemination & Implementation (D&I) sciences approaches for the Rwandan society to engage with and for science. In this growing scientific environment, the need for increased research productivity and investment in R&D is imperative. The Government of Rwanda has also promoted and instituted national fiber-optic cable nationwide and the 4G network covering a large proportion of the country. The policy and implementation groundwork done support evidence-based data generation and science revolution. The global technology development is driving directly and indirectly every aspect of life. The meagre investment in R&D to support vibrancy of Rwanda

scientific research productivity leading to innovation breakthroughs, is a challenge.

In addition, the Government of Rwanda's regional and international commitments have seen changes that require more proactive investment in R&D to grow innovations. Some of the national regional and international commitments include adoption of the United Nations (UN) Sustainable Development Goals (SDGs), the African Union (AU) 10-year Science, Technology and Innovation Strategy for Africa (STISA 2014-2024), the Transform Africa Agenda, the Smart Africa, the establishment of the East African Science and Technology Commission (EASTECO), and the recent adoption of the African Continental Free Trade Area (Af-CFTA).

Furthermore, in assessing performance and progress of science, technology and innovation (STI) in Rwanda, multiple independent studies highlighted gaps within Rwanda's Innovation System. More recently, NCST carried Rwanda National R&D survey and published a report reference to 2018/19. The R&D survey report indicate that although overall Gross domestic expenditure on R&D (GERD) increased with 3 years from 2015/16 to 2018/19 from over Frw 44 billion to Frw 70 billion, and GERD as a percentage of GDP increased from 0.66 to 0.69, there are a number of challenges. First, the rate of GERD change from 0.66 to 0.69 is low. Second, the proportion of experimental research that leads more to innovation decreased from about 55.6% to 24.7% as opposed to increase in proportion of basic research (from 18% to 40%) and increase in applied research (25.5% to 35.1%). Third, the government of Rwanda still has the largest proportion of funding to R&D with over 85% funding of R&D compared to private sector (2.8%). The Technical Expert for NRIF Mobilization and Financing will work with all sectors specifically support NCST to coordinate efforts and expertise from Higher Learning Institutions (HLIs) which according to the Rwanda National R&D survey report (for 2018/19), HLIs generated about of 11% of R&D funding.

There are other reports such as the 2015 Go-Spin report that highlight the need for improved R&D capacity and investment, technology transfer, entrepreneurship, and the overall application of STI in priority sectors of Sustainable Energy, Food Security and Modern Agriculture, Life and Health Sciences, Local Production and Value Addition, Digital Services products and lifestyle, and Resilient Environment and Natural resources. Besides the 2017 report on "Rwanda STI Policy Review" by UNCTAD comprised of important recommendations towards of structuring the innovation ecosystem, generating demand for technology in industry, and use of technology to build competitive and comparative economic advantages.

The dynamic context of increasing educational, technological and industrial progress in Rwanda aims at responding to national STI gaps to advance and utilize science and technology, and to strengthen Rwanda's R&D and technology innovation system by adopting novel approaches and strategies in order to adapt to the ever changing regional and global environment. For example, there is strong potential for Rwanda to continue to improve her Global Innovation Index (GII) ranking that ranks world economies according to their innovation capabilities. Rwanda performed better on innovation scale in 2020, ranking 79th in innovation inputs, a position that is higher than the 2018 GII ranking. Also, Rwanda ranks 2<sup>nd</sup> among the 16 low-income group economies, and ranks 6th among the 26 economies in Sub-Saharan Africa.

### 3. Rationale

The Science, Technology and Innovation (STI) Policy that was adopted by the Cabinet in June 2020 under objective 3, underscores the need for R&D and innovation financing. It is critically important to bridge the gaps between basic research and technology development and commercialization of new products as part of "**Made in Rwanda**" policy. Thus, it is essential to grow the volume and quality of funding R&D and diversify opportunities. Besides, the technical expert will strengthen opportunities for increased financing and investment in R&D and innovation research through expanding public and private sector collaboration for increased investment in

identified priority areas.

The NCST has various mandates and among them is to advise the Government on setting national priorities in the fields of science, innovation, technology, research and development as well as modalities for financing such activities. In addition, NCST has the mandate to mobilize funding to leverage National Research and Innovation Fund in order to support increase investment in R&D. There are several opportunities in terms of a) enabling STI and research environment; b) increased investment in national research funding and c) for increasing focus on technological development and its application to improve the well-being of Rwandan citizens. These opportunities support the need for R&D investment to further support growing academic and industrial ecosystem and vitality that aims at promoting the quality of life for Rwandans. There is need for services for full-time Technical Expert for NRIF Mobilization and Financing required, as described in the job description.

### **3.1. Goal and objectives:**

The overarching goal is to expand investment in research and experimental development (R&D) funding, accelerating technology development and innovation based on scientific evidence, thereby diversifying NRIF opportunities through generation of funding from national and international partners funding opportunities.

#### **Objectives:**

1. To foster development of R&D investment to increase sustainability of NRIF
2. To diversify funding opportunities from various national and international research institutions/ Development partners
3. To promote institutional progress of accessing grant funding from international partners
4. To support institutional and investigators capacity for grant tracking from announcement, grant application, follow up on reviewer comments, implementation and overall monitoring and evaluation (M&E) and reporting
5. To develop and expand training and capacity building of national scientists, while collaborating and networking with global partners to unlock the potential for acquiring successful grant funding
6. To conduct and participate in joint research and knowledge sharing in relevant areas based on increased research and technology productivity and funding
7. To mobilize national and international private sector or industry partners to understand better how adoption of technology and use of evidence-based data/information leverages business profitability, and therefore engage them into funding R&D and technology

### **3.2. Job description**

The Technical Expert on Research and Innovation Fund Mobilization is expected to carry out the following activities:

1. Support and strengthen NCST capacity for fund mobilization to increase R&D investment through setting up funding priorities in the fields of science, innovation, technology, research and development, measured by grant funding amount and proportion of funds mobilized from development partners;
2. Establish and forge partnerships with development partners for resources mobilization through forging partnerships built on trust and mutual accountability so as to attract adequate and more predictable R&D funding; the future goal is to ensure sustainability;
3. Establish resources partnership agreements aligned to obligations of implementing

- agreements that increase research productivity and investment such as publication, patents, intellectual property, increased partnerships and grant funding opportunities;
4. Prioritize sector areas and collaborate with partners at national, regional and international levels in specific priorities to support, enhance and opportunities to obtain collective or matching research funding to address regional or global challenges;
  5. Ensure that funding mobilization approaches are consonant with the potential of partners and ensure that development partners are supported to ensure matching funding from Government of Rwanda NRIF resources;
  6. Ensure that the partners agreements are well monitored to evaluate partnership importance and output and to stay on target, i.e., support mechanisms for having staff support, evaluation of the progress of activities, outputs and milestones and reporting in time as required.

### **3.3. *Qualifications, experience and competences Required***

The applicant shall have the following qualifications and experience:

1. Must have a Masters level University degree from a recognized University in the fields of Natural Sciences, Technology, Engineering, Life and Health Sciences or Industrial Development
2. Applicants with a doctoral level degree, DPhil and Professional doctoral will have added scores and marks advantage
3. At least 10-15 years of working experience and 8 years of experience in grant writing, development partners fund mobilization and other related work experience that support science, technology and innovative research productivity.
4. Have a good understanding and ready to support the Government of Rwanda Vision
  - denoted through Science Technology and Innovation (STI) Policy to become a globally-competitive knowledge based economy
  - Rwanda strategic orientation to utilize Science and Technology as a premise for social-economic growth, driver of global competitiveness and improved quality of living by Rwanda citizens through technology advancement
5. Have excellent understanding of practical application of evidence-based science and technology as fundamental and indispensable in academic and industrial linkage and transformation to enhance social economic development
6. Applicants with working experience in both academic and private sector or industry will have added scores and marks advantage
7. Demonstrate excellent skills and proven record of research productivity and output through publications, increased international partnerships, having some intellectual property such as patents, trademarks, copyrights, trade secrets
8. Having experience in research productivity focusing on high quality Technology Readiness Level (TRL) 4 (technology development basic validation in a Laboratory environment) to TRL 8 (technology advancement to prototype completed and qualified for test and demonstration) prior actual commercialization will have added scores and marks advantage
9. Applicants should demonstrate proven grant writing excellent skills and competences demonstrated by proportion of grants awarded and obtained to the applicant, and his previous institution
10. Have excellent a) proven English writing skills, b) excellent organizational skills, c) communication skills and d) essential computer skills.
11. Applicants should demonstrate prior capacity to work with minimum supervision, creative and initiator of programs only focused to his/her work
12. Having any other relevant qualifications and experience that support utilization of Science Technology and Innovation and research will be considered as added advantage

13. The applicant is expected to demonstrate core competences such as good aptitude towards work, professionalism, adequate communication skills, research and science and technology development culture and skills.
14. Applicant should demonstrate the competences for appropriate planning, coordination, managerial leadership skills.

### **3.4. Duties and Responsibilities**

- To generate increased grant funding through collaborations with national institutions and utilize well-structured research, academia and industrial infrastructure in Rwanda
- To review NCST as well as other national research and academic/University institutions (University of Rwanda) and other private universities regarding research funding modalities, funding track record and research activities as basis for leveraging opportunities for increased investment in R&D.
- To consult national research and academic/University institutions both private and public researchers and scientists to better understand institutional vision, mission and focus as a means to leverage their R&D investment
- Under the guidance of NCST and national research and academic/University institutions, explore available R&D financing from national and international partners
- To support national research and academic/University institutions to have a dedicated office and staff in charge of research
- To conduct a comprehensive analysis of potential R&D funding partners and access feasibility of securing multi-year and thematic research grants in Rwanda priority areas
- To map strategic areas of **interest for national private sector and industrial institutions**, and explore R&D funding opportunities for partnerships (mobilizing and leveraging resources) from existing and emerging grant organizations
- To develop a strategy for organizing non-for-profit organizations with research goals/grant opportunities with the goal to leverage traditional and non-traditional funding from existing and emerging grant organizations and philanthropies
- To develop objectives for R&D fundraising and mobilization, methods, strategies and focus, including establishing mechanisms for potential funding from bilateral, private sector, public funding and foundations
- To develop and provide recommendable ways to develop and maintain strategic partnerships and engagement with key R&D funding organizations (past, present and future)
- To provide technical support and expertise in preparing funding grant application for proposals emanating international granting institutions
- To develop a strategy for incentives to scientists, researchers and innovators to generate external funding outside Rwanda, and to award the best scientists, researchers and innovators with high funding and high level of R&D output that positively impact/improves Rwandan society.

### **3.5. Expected deliverables**

1. An inception report tracking and taking stock of current international R&D funding organization requirements for proposals and a record of potential request for applications (RFAs)	3 weeks after start
2. Provide a mapping of international R&D funding interests, priorities, funding windows and points of clear actions to be taken to mobilize funds and develop/maintain relationships	1 month after start

3. A comprehensive research funding mobilization strategy elaborated with action plan that includes all national research/academic institutions	2 months from start
4. To development of comprehensive strategy for incentives to scientists, researchers and innovators to generate external funding outside Rwanda, and to award the best scientists, researchers and innovators with high funding and high level of R&D output that positively impact/improves Rwandan society.	2.5 months from start
5. A review of international R&D grant funding mechanisms with proposals to work with specific research and academic/University institutions (public and private) on specific grants in priority areas	3 months from start
6. An account of Rwanda's Centers of excellences at academic/University institutions (public and private) with specific areas for international proposal/grant writing areas	4 months from start
7. At least 1-2 Initial grant proposals written and submitted in collaborations with identified research and academic/University institutions (public and private) in specific grants in priority areas	6-8 months from start
8. Action Plan drafted with clear timelines to collaborate and leverage research funding collaborations for research and academic/University institutions (public and private) in priority areas	10 months from start
9. Concrete partnerships established and maintained and cycle for grant writing and proposal applications continued in Year 2 and onwards	12 months from start
10. Strategy for grant proposals measured by at least 3-4 large-scale national proposals successful	18 months after start
11. Evidence of expansion for building capacity in grant writing through at least 10 large-scale nationwide grant proposals written and successful and professional collaborations with R&D funding agents and national research and academic/University institutions (public and private) maintained	24 months after start
12. Demonstrate the evidence to generate several research grants and funding opportunities from various development partners	30 months after start
13. Demonstrate the evidence to generate several research grants and funding opportunities from various development partners, as well as evidence to support applicant additional contract through increased funding in R&D diversification	36 months after start

#### 4. Reporting, Supervision and Performance Evaluation

The technical expert will report to the Executive Secretary, NCST, with co-oversight by the Heads of Departments of Science Technology Development and Outreach (STDO) and Head of

Department of NRIF at NCST. He/ She will work closely with head of department for STDO and NRIF as well as Analysts at NCST. Importantly, the technical expert will work closely with National Universities, research institutions and Institutions that promote STI in Rwanda. The overall Performance evaluation will be done by NCST Executive based on who will periodically obtain quarterly evaluation reports from designated National Universities and research institutions in Rwanda.

## 5. Salary, Fringe Benefits and Remuneration

An attractive salary and fringe benefits will be based on applicant's level of education, qualification, and relevant experience. The salary and fringe benefits will be increased bi-annually and/or annually as a recognition of employee's achievement of specific indicators i.e. performance-based salary and fringe benefits with incremental financing mobilized from national and international partners.

## 6. Application Process

Interested applicants from Rwanda, Africa and/or elsewhere will send the following:

- a) One page letter of intent to the Executive Secretary of NCST,
- b) A technical proposal on how the applicant will achieve the goals and expected outcomes indicated in the TORs (not >15 pages (single size spacing, Margins 08" or 1") (Font: arial or Times New Roman).
  - a. Provide a technical approach to achieving the goals
  - b. Provide details of evidence that support your application (degrees and experience)
  - c. Provide evidence of successful achievements in the last 5-10 years
  - d. Provide desirable range of monthly financial salary and fringe benefits
- c) Detailed curriculum vitae (CV)
- d) Copy of personal identity Card (ID) (National ID with Passport)
- e) Three (3) support letters from professional referees

## 7. Evaluation

The applications shall undergo evaluation as follows:

### G.1: General Qualification

Sub-Factor	Requirement	Eligibility Criteria
G.1.1 Nationality	Any Nationality	Must meet all other requirements from G.1 to G.3.
G.1.2 Masters' degree in relevant fields	Required	Must meet all other requirements from G.1 to G.3.
G.1.3 Doctor level degree (PhD, DPhil of professional degree) in relevant fields	Added score advantage	Must meet all other requirements from G.1 to G.3.

### G.2. Experience and relevant track record

Sub-Factor	Requirement	Eligibility Criteria
G.2.1 Experience	10-15 years of work and at least 8 years in relevant experience	Must meet all requirements on experience



<b>G.2.2</b> General Experience	Relevant experience in terms of work and accomplishment in the last 10-15 years	Must meet all requirements on experience
<b>G.2.3</b> Evidence of Experience	Provide evidence of relevant experience in terms of work and accomplishment	Must meet all requirements on experience
<b>G.2.3.1</b> Specific Experience ( <i>Grant writing</i> )	At least 8 years' experience on Grant writing and/or 8 years working with private sector to demonstrate achievement in Sciences, Technology and STEM disciplines leading to innovations and having Intellectual property and/or patents	Must meet all requirements on experience
<b>G.2.3.2</b> Specific Experience ( <i>Academia-industry collaborations</i> )	Experience with Management of programs that support Academia-Industry Collaborations and closely working with private sector and/or industry	Must meet all requirements on experience
<b>G.2.3.3</b> Specific Experience ( <i>Research for technology Development</i> )	Experience with <i>Research and Publications and/or intellectual property such as patents</i>	Must meet all requirements on experience
<b>G.2.3.4</b> Specific Experience ( <i>Funding Research &amp; Experiential development</i> )	Experience with Mobilization of funding to support <i>Research &amp; Experiential development (R&amp;D)</i>	Must meet all requirements on experience

### **G.3. Experience with Grant Agencies, Development partners, Bilateral and Private Sector**

<b>Sub-Factor</b>	<b>Requirement</b>	<b>Eligibility Criteria</b>
<b>G.3.1</b> Specific Experience ( <i>Granting Agencies</i> )	Experience with working with International Granting Agencies	Must meet all requirements on experience
<b>G.3.2</b> Specific Experience ( <i>Development Partners</i> )	Experience with working with International <i>Development Partners</i>	Must meet all requirements on experience
<b>G.3.3</b> Specific Experience ( <i>Bilateral and Multilateral Organizations</i> )	Experience with working with <i>Bilateral and Multilateral Organizations</i>	Must meet all requirements on experience
<b>G.3.4</b> Specific Experience ( <i>Private sector and Industry Companies</i> )	Experience with working with <i>Private sector and Industry Companies</i>	Must meet all requirements on experience

## 8. Important Dates

SN	Steps	Details	Timeline	Responsible
1	Call Open	NCST Announces Position	19 <sup>th</sup> April 2022	NCST
2	Submission Deadline dates	Applicants submit their <b>CVs</b> , <b>letter of intent</b> and <b>application package</b> and <b>3 referees</b> (Names and contacts)	<b>25 June 2022</b> at 5.00 pm local time	Applicants, NCST secretariat to note the date
3	Deadline for administrative check	NCST technical team check whether all received applications conform with/fulfil the set requirements in preparation for evaluation and interviews	<b>6<sup>th</sup> July 2022</b> at 5.00 pm local time	Applicants, NCST secretariat
4	Evaluation Process	Qualified Applications will be submitted to the Reviewers for assessment	<b>13<sup>th</sup> July 2022</b>	Applicants, NCST secretariat
5	Evaluation feedback to applicants	Evaluation feedback given to applicants	<b>15<sup>th</sup> August 2022</b> at 5.00 pm local time	Applicants, NCST secretariat
6	Contract negotiations	Successful applicant will be given an opportunity to negotiate the terms of his/her contract	<b>22<sup>nd</sup> August 2022</b>	Applicants, NCST secretariat
7	Expected starting date	Successful applicant to start work after signing contract with NCST	<b>1<sup>st</sup> October 2022</b>	Applicant, NCST

## 9. Important Administrative Information

**Submission:** Online only

**Call opens:** 19<sup>th</sup> April 2022

**Call closes:** 25<sup>th</sup> June 2022

### Contacts:

**Any Question may be directed to**

**National Council for Science and Technology (NCST) via:**

**Email:** [info@ncst.gov.rw](mailto:info@ncst.gov.rw)

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For further information, please visit the NCST website: [www.ncst.gov.rw](http://www.ncst.gov.rw)