Digital Transformation Center Rwanda

QUARTERLY REPORT

JANUARY - MARCH 2025

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REPORT

1. INTRODUCTION

Welcome to the latest edition of our quarterly report, where we present a comprehensive overview of the Digital Transformation Center Rwanda's recent endeavors and achievements. This report showcases our initiatives focused on driving innovation, empowerment, and progress within Rwanda's digital landscape.

In this edition, we highlight impactful projects spanning various focus areas, designed to address critical challenges and foster positive change in our communities. From empowering women through digital literacy and capacity-building initiatives to harnessing Artificial Intelligence (AI) for climate action, our commitment to leveraging technology for social good and sustainable development is clear.

Inside, you'll find insights into our work across key areas, including ecosystem-building activities, public sector innovation, and efforts to foster digital inclusion. From the National Robotics Program to the Innovate Africa Challenge on AI for Climate Action, each initiative marks a step forward on our collective journey toward a digitally empowered and inclusive Rwanda.

We extend our gratitude to our partners, stakeholders, and collaborators, whose support and dedication have been crucial to our success. Together, we are committed to advancing Rwanda's digital transformation agenda and shaping a brighter, more inclusive future for all.

1. POLICY DEVELOPMENT AND DIALOGUE

1.1 Startup implementation orders

Two working packages has been implemented 1 detailing the fund of fund structure for the startup act and the second one detailing the modus operandi for labelling endorsement and functional mechanism of the startup processes in Rwanda once the startup act is passed. Pending is the preparation of the implementation orders for parliament to be passed this year 2025.

1.2 ICT Sector Strategic Plan (2024-2029)

The Ministry of ICT alongside all other government ministries were working on sector strategic planning for 2025-2029 to be added as part of the larger government of Rwanda sector strategic planning to achieve NST2 targets. The public sector Innovation team assisted the Minict team in the exercises for creation of the ICT sector strategic plan 2025-2029.

1.3 Government of Rwanda National Emergency telecommunications plan (NETP)

The Ministry of ICT was in the process of creating a national emergency telecommunications plan for Rwanda for 2024-2029 to handle all scenarios for the telecommunications failover mechanisms and business continuity. This plan is ready and has been reviewed by the Ministry team.

2. PUBLIC SECTOR INNOVATION

2.1 ICT infrastructure Challenge

In line with Rwanda's Vision 2050 and the National Strategy for Transformation (NST1 & NST2), which prioritize ICT and innovation as catalysts for socio-economic development and the shift toward a knowledge-based economy, our current work at the Policy Lab focuses on enhancing broadband connectivity as a foundational enabler. Reliable and affordable broadband is essential for achieving the Sustainable Development Goals (SDGs), driving innovation, and reducing socio-economic disparities.

This initiative is centered on analyzing the key cost drivers of fixed broadband for both businesses and public sector institutions in Rwanda. Our goal is to promote affordability, encourage a competitive market, and create a sustainable broadband ecosystem. By examining the entire broadband value chain, along with the competitive and regulatory environment, we aim to develop actionable policy recommendations that balance the interests of service providers and users—ultimately fostering inclusive and innovation-driven growth.

We're nearing the completion of data collection and have already begun analysis. We expect to have preliminary recommendations within a month.

2.2 One Health Data Alliance – AMR national surveillance systems analysis

A collaborative effort to strengthen disease and antimicrobial resistance surveillance using Intelligent tools.

The Anti-Microbial resistance (AMR) is currently one of the main health concerns in Rwanda.The lack of integration between sentinel sites health systems and the national disease surveillance system limits RBC's capacity to detect, monitor, and respond to AMR.

Current activities lay the groundwork for the integration by assessing existing surveillance processes, identifying gaps in data collection and analysis, and evaluating the interoperability of health information systems. These efforts will facilitate seamless data flow, improve robustness of the AMR detection and response.

Current status: The consultants have completed visits and reviews of all human sentinel sites and are currently consolidating the findings into the first draft of the final report

2.3 One Health Data Alliance – Wildlife case definition in e-idsr

E-idsr is a DHIS2 based surveillance tool used by the One Health Unit of government Rwanda. For the last 3 years the E-idsr has improved tremendously through collaboration from development partners like Clinton Health Access Initiative. E-idsr has clinical data, veterinary data from livestock and environmental data.

With the collaboration of the OHDAA Rwanda e-idsr will soon be populated with Wildlife data from National parks, Gorilla doctors, Rwanda wildlife conservation experts etc. To provide real-time information on zoonotic diseases to prevent incidents like Marburg or M-pox that recently happened.

2.4 Rwanda launches a Public Service Portal (MIFOTRA)

The Government of Rwanda employs around 150,000 public servants, and the Ministry of Public Service and Labor (MIFOTRA) receives numerous service requests from various government institutions. Previously, the request handling process at MIFOTRA faced challenges such as limited status visibility, mislabelling, and delayed dispatch.

To address these issues, a digital platform was developed to manage, monitor, and dispatch service requests. The platform enables both the MIFOTRA secretariat and requesters alike to track requests in real-time across departments, ensuring efficient processing and improved communication with requesters.

By linking all MIFOTRA departments, the platform automates data collection, reporting, and processing, reducing manual workloads. This enhances efficiency, transparency, resource allocation, and overall service delivery.

The MIFOTRA PSRP was launched on the 31st of January 2025 at the MIFOTRA headquarters in Kigali.

2.5 smart city Hub

The Smart City Hub Rwanda is a consortium under the Ministry of ICT and Innovation intended to harmonize all smart city players/ partners/ implementers under one roof. The current structure of the Hub is broken down into 3 components:

- Smart City "Connect" Component:

This component is marketing and creating awareness around any and all smart city initiatives from the members of the consortium.
Under connect the hub is running a campaign on awareness of the dangers and proper disposal of e-waste. This campaign will target up to 2 million people through digital marketing on e-waste (what is e-waste and what isn't e-waste)

- Implementation and Innovation Component

This component is the heart of the hub's operationalization for most of its activities around smart city solution development, strategy, and delivery of answers and outcomes to most of the problems/ challenges faced by the beneficiaries of the projects from the consortium.

One of the flagships under this component is the annual smart city innovation challenge where 2024 had satellite cities Musanze, Kayonza, Bugesera and Rubavu. From this came out a few challenges that need solutions and some of them include: Tools for illegal construction detection and One unified CMS for all districts to showcase their economic affairs which all are to be delivered by 3rd quarter 2025.

- Smart City Capacity Development Component:

This is a component dedicated to uplifting the compacities and knowledge of city operators to better implement smart city initiatives in their cities .

Recently in November 2024, city operators and government representative participated in 2024 Africa Smart Cities Investment Summit an occasion of learning from other cities and Forsten collaboration.

3. SOLUTIONS & INNOVATION

3.1 Data and Artificial Intelligence for Crop-type Mapping and Crop Yield Prediction

The project's objective is to develop and pilot a remote-sensing-based crop-type mapping AI tool to identify agriculturally used areas and classify different types of crops in Rwanda. The tool is expected to provide information on crop type areas available at the latest until midseason to inform decisions around food sufficiency, planning, market linkages and post-harvest management. Furthermore, crop area and type are critical inputs for the estimation of agricultural production and the optimization of weather-based index insurance which GoR is currently working on.

In the last three months, the project implementation with CIAT & Bioversity Alliance, Rwanda Space Agency and Ministry of Agriculture and Animal Resources successfully started with a technical inception workshop and a high-level meeting to kick off the development of the AI-based crop-type mapping tool. In addition, a joint project steering structure is established to ensure all ongoing agricultural monitoring initiatives complement each other. **Agriculture Chatbot for farmers**.

The project to develop an IVR chatbot to serve as an extension service for MINAGRI's call center providing advisory to farmers is running as planned.

The platform architecture is under development, in addition to ongoing work to finetune speech models for conversational capabilities and using a RAG-based approach to retrieve information from MINAGRI's provided knowledge repository. A first demo is expected to be running by 15th December.

3.2 AI and Natural Disaster Risk Reduction Management

A new project aiming to scale and improve monitoring in high-risk locations for floods and landslides through research, development, and modern technologies is currently being set up and will start in the coming months.

Separately, to overcome the identified obstacle of availability and accuracy of meteorological now- and forecast data, an assessment study has been conducted in collaboration with Carnegie Mellon University (CMU) Africa. As part of this initiative, the AI Hub facilitated a partnership between CMU and Meteo Rwanda, establishing a foundation for ongoing collaboration between academia and the public sector, grounded in an open innovation approach. The insights gained from the study are expected to inform and support current and future efforts in climate change adaptation, disaster risk reduction, and agriculture.

3.4 Digital Information System for sustainable and modernized Agriculture (DISA)

The DISA project has the objective to improve localized service and information provision to farmers, farm advisors and decision makers. The project has MINAGRI as major political stakeholder. Expected outputs include a piloted information service on the major crop disease "late blight" through a model based on real-time monitoring of temperature and relative air humidity at two locations. The model is validated on farm level by RAB and farmer organizations. Furthermore, the system includes a geospatial application with layers for major agricultural parameters and crops which is hosted by RSA, feeds the crop-specific model and will be integrated in existing systems.

In the past months, the approach has shown to reduce fungicide usage on potatoes in pilot locations between 20-80% while maintaining the same yield. In a project stakeholder workshop sustainability avenues were identified and the technical connection to existing systems of RSA and MINAGRI has begun.

3.5 Drone Usecase identification

The drone usecase ideathon is an iniative aimed at fostering innovative and impactful applications in the drone sector in Rwanda. The program focuses on identifying, refining and advancing usecases in key sectors such Climate, Biodiveristy and agriculture.

The drone use case identification launch attracted 130 applications from innovators with 40% in Agriculture, 10% environmental conservation, 10% in film and photography, 8% in logistics and delivery and others in cross-cutting themes.

The team selected 20 teams that will be participating in a 2-week ideathon program from 16th – 25th April 2025. The teams will undergo a user centric approach refinement of their usecases paired with stakeholder meetings and sector-specific workshops designed to encourage participation and engagement of the innovators with public sector representatives.

3.6 Drone Pilot Training Program

This training program is designed equip 20 participants with both technical expertise and a broader understanding of drone applications, the initiative also aims to create a network of skilled professionals who can support local projects and contribute to Rwanda's growing technological ecosystem.

The first phase of the drone pilot training program has been successfully conducted, focusing on theoretical training to provide participants with foundational knowledge of drone operations, aviation regulations, safety protocols, and mission planning. This phase was designed to equip trainees with the necessary skills to transition smoothly into the next phase

"A foundational training program for drone pilots was launched in collaboration with Akagera Aviation to boost local capacity in drone operations."

3.7 Training of Trainers for the use of civilian Drone in sustainable development

The German Development Cooperation (GIZ) in collaboration with the Government of Rwanda and the Government of Ivory Coast, organized a seminar and a conference tailored to promote knowledge sharing, capacity building, and networking within the drone ecosystem.

The "Training of Trainers for the Use of Civilian Drones in Sustainable Development" provided participants with comprehensive skills in drone operation and its application for sustainable development. The training aimed to empower participants to become effective trainers, teaching advanced drone operation, safety protocols, regulatory knowledge, and post-processing techniques.

The team participated in the XPONENTIAL Europe 2025 conference which brought together drone industry leaders, the team also engaged with representatives of HHLA Sky Gmbh, ATLAS , FVA, Geisenheim university, Wingcopter, DLR institute of flight guidance, LBA, Nodwig (mb+partner) and agency for economy and innovation of Hamburg.

4. DIGITAL LITERACY & CAPACITY-BUILDING

4.1 Apple Labs

This is a project to support the establishment of Apple Accredited Training Centers for Education (AATCE) in six institutions in Rwanda (AUCA, Ines, Kepler, UOK, RCA, AIMS).

On February 4th, we successfully launched three AATCEs at AIMS, AUCA, and Kepler. The first cohorts have already begun their training, and we anticipate their graduation by August at the latest. Meanwhile, we are actively supporting RCA, UOK, and INES through the training of trainers and other necessary processes to ensure their accreditation by May 2025. This will bring all six centers to full accreditation by that time.

4.2 Cyber Security Academy

We will be supporting the National Cyber Security Authority to set up the cyber academy. The academy will have the necessary infrastructure to train cyber professionals that will meet Rwanda's cyber skills job requirements and help create a local cyber industry.

We will be supporting NCSA in the renovation of the cyber hub space at the former KIST. Work is expected to begin in the next week or two, as the contractor has already been selected. Renovations of the Cyber Hub are scheduled for completion by the end of April, with an official launch planned for late May 2025. The launch will take place in collaboration with the National Cyber Security Authority and CISCO.

A contractor has been engaged to deliver a Cybersecurity Essential Skills training program for 50 university students and recent graduates. The training sessions are set to start in the first week of May 2025.

5. EVENTS & ECOSYSTEM

5.1 Robotics Community of Practice

The robotics community of practice is an environment where enthusiasts, academia and the professionals in the robotics domain come together for knowledge sharing and community building, supporting one another.

In March we held a dynamic session for the community featuring a training, a topic presentation and a product demo. In the training members learnt to program the Raspberry Pi Pico using Python. This hands-on experience not only deepened our understanding of robotics but also provided an opportunity to collaborate with fellow participants in group activities. The topic of the event was "the future of robotics: education needs and pathways." The solution that was presented enhances the civil works and contract management using a virtual environment and simulations.

5.2 CodeXtreme

CodeXtreme is a hackathon that provided a platform designed to bring together undergraduate and graduate students, self-taught tech enthusiasts, boot camp graduates, and innovators to LEARN, BUILD, and SHARE. This year's theme was to "Build Things People Need: High-Value, High-Impact Solutions to Shape Communities,".

The hackathon took place from February 26 to March 1, 2025, with 250 participants in attendance from the following universities: UR, AUCA, ALU, ULK, and KEPLER. Out of 64 project submissions, we selected the top 10 during the first round of judging. These finalists then presented their projects to a panel of judges, who chose the top three winning teams

5.3 First LEGO League Championship

FLL is a robotics competition which since 2022 is conducted in Rwanda starting from school level to the national level. This year's National Championship was held on the 2nd of March at the Intare conference arena, Kigali. It was paralleled by an AI Hackathon.

More than 105 schools competed nationwide, and the finalist were competing for a championship on this date. Inclusive schools for students with disabilities were represented this year and this was a highlight of the event since it proved "Disability is no inability". This year's winners:

FLL top 3:

1. GS Officiel Butare
2. Agahozo Shalom
3. Ecole St. Filipo Smaldone

AI hackathon top 3:

1. ESC Byimana
2. Kayonza Modern School
3. Lycee de Kigali

5.4 AI Connect Hackathon 2.0

The AI Connect Hackathon 2.0 provides a unique platform for AI developers to create AI-powered solutions that address real-world challenges in sectors such as government services, fintech, healthcare, education, smart cities, and climate change.

The hackathon, was organized by Irembo in partnership with the Centre for the Fourth Industrial Revolution (C4IR) Rwanda, took place from March 28–30, 2025, ahead of the Global AI Summit and had about 20 teams pitch their solutions, each team with 4 members. The winning solution uses AI and computer vision to provide real-time Sign-to-Language and Language-to-Sign translation. Designed for both mobile and web platforms, breaks communication barriers and promotes inclusivity between hearing and non-hearing communities in Rwanda.

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