

Executive Summary: SmartBots Governance Framework Final Report

"ICT IS UNDOUBTEDLY ONE OF THE LADDERS THROUGH WHICH SOME OF THE QUICK WINS IN ADDRESSING DEVELOPMENTAL CHALLENGES CAN BE ACHIEVED. IT IS AGAINST THIS BACKGROUND THAT GOVERNMENT DEEMS IT NECESSARY THAT ALL CITIZENS SHOULD HAVE ACCESS TO THE INTERNET SO THAT THE IDEAL OF "LEAVING NO ONE BEHIND" AS ENVISIONED BY THE SUSTAINABLE DEVELOPMENT GOALS, IS REALIZED."

— HIS EXCELLENCY PRESIDENT DR. ERIC KEABETSWE MASISI

"WE CAN DO THINGS DIFFERENTLY, AND WE CAN DO DIFFERENT THINGS ... INNOVATION IS NOT ONLY THE MOST SOPHISTICATED TECHNOLOGIES, SOMETIMES IT'S THE SIMPLEST OF THINGS. BE BOLD, BE REVOLUTIONARY ... AND DISRUPT ... BECAUSE WITHOUT INNOVATION, THERE IS NO WAY WE CAN OVERCOME THE CHALLENGES OF OUR TIME."

- UN SECRETARY-GENERAL ANTÓNIO GUTERRES

The world economy is undergoing a shift to a global digital economy, the Fourth Industrial Revolution or 4IR, which has prompted Botswana to setup the SmartBots Lab Centre of Excellence to support its competitiveness and social economic development. The recent WIPO Global Innovation Index (2022)¹ lists Botswana as the fourth most innovative economy in Africa based on Business Sophistication, Human Capital & Research, Institutions, Infrastructure, Market Sophistication, Knowledge and Technology Outputs and Creative Outputs. This presents a unique opportunity for Botswana because the digital revolution is global and ubiquitous.

The 4IR requires the digital transformation of everything - from the way we live, work, and learn to how we interact. To support this, and move the country towards a Knowledge Based Economy focused on leaving no one behind, Botswana has developed a 4IR Digital Transformation Strategy (SmartBots) to drive digital transformation across the economy, government, and society. SmartBots is an action plan that delivers a smart sustainable society aligned with the 2036 National Vision of transforming the nation from an upper-middle-income to high-income country while supporting the development of a digital economy in line with the UN SDGs.

Botswana has taken the bold step to claim its place in this future in order to enable and empower Botswana Youth, and spark economic development through the creation of new Botswana enterprises. Botswana-based digital enterprises will offer digital products and services to the region and globally. This will increase both Botswana's gross domestic

¹ <https://www.visualcapitalist.com/most-innovative-countries-2022/>

24/11/2023
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product and its tax base while reducing the need and desire for Africa's talented youth to seek opportunities elsewhere should they hold an interest in lucrative and entrepreneurial digital work. It is a historical opportunity for Botswana.

The conceptualization of the SmartBots Lab within the Botswana Digital Innovation Hub has been driven by Botswana with the goal of devising novel ideas that drive the development of new innovations that either disrupt or complement the overall entrepreneurial ecosystem. This process has leveraged the knowledge of experts from UNECA, Botswana government, academia, private sector, and the entrepreneurial ecosystem. The Botswana government has undertaken the support of UNECA with crafting the following SmartBots Lab Governance Framework which outlines the required people, processes, activities, timeline, venue/space, hardware and software that will ensure a successful lab operationalization.

The proposed Botswana SmartBots Lab Governance Framework has been developed and customised according to Botswana's specific requirements. It is **defined** as a tool which will be used to guide the operationalization of the lab from both a technical and business perspective. It is a system of proposed mechanisms to align the lab's goals, allocate resources and assign decision-making authority for innovation, across the BDIH and with external parties. Its main aim is to ensure the successful establishment of a SmartBots Centre of Excellence for Botswana and Africa with the expectation the SmartBots Lab will enable it to provide transformative and visionary outputs aligned to Botswana's national priorities. The framework also includes a critical governance component which focuses specifically on the ICT systems, their management, performance, and risk management.

Amongst other things, the governance framework will ensure the establishment of sustainable digital investments enabling:

- The development of Botswana's innovative ecosystem and attraction of innovation funding based on the national priorities sectoral Ministries.
- Botswana derived intellectual property protection.
- Success in the short to long term by having all aspects of innovation, procurement, finance, partnerships, resource mobilisation and others defined and interlinked within the broad BDIH enterprise.
- A steady march to fulfilling the 2036 strategy.
- The Ministry of Communication, Knowledge, and Technology and BDIH alignment to create and produce SDG relevant outcomes; SDG 4 (Quality Education), SDG 7 (Clean Energy), SDG 9 (Industry, Innovation & Infrastructure) SDG 12 (Responsible Consumption & Production) and others.

- Compliance with national, regional, and international regulations, and any other legal and regulatory obligations to which the country may aspire (i.e., SADAC, AU, ITU, etc. regulations).

This report provides the Governance Framework under which the SmartBots Lab should function, leading to its full operationalization. The contents are derived from research, industry knowledge, empirical evidence, consultations with stakeholders and the knowledge, experience and skills of those who crafted it. Importantly, it reflects the vision of the Botswana SmartBots Lab: a world where the benefits of digital innovation are harnessed for sustainable development, to empower people and society, and accessible to all. Its implementation will result in the Lab being a venue to benefit Botswana's population by hosting entrepreneurs who create innovative SDG related products and services, with a particular focus aligned to the BDIH's thematic areas - Mining, Indigenous Knowledge, Biotech, ICT and CleanTech - and in conformity with the Botswana Vision 2036 and strategies of Reset Botswana. It supports the transformation of the public sector, and thus enabling it to efficiently provide services to citizens and businesses by implementing the best innovations in the country, and applying them to accelerate the SDGs.

In alignment with the SmartBots strategy, this governance framework emphasizes the engagement of the entrepreneurial innovation ecosystem. This includes public, private and community partnerships in charting the successful implementation of the SmartBots priorities and initiatives from ideation, incubation, co-creation, acceleration to commercialization. It is expected that the co-creation activities will be:

- Deployed and championed in the Botswana Government.
- Co-developed by young entrepreneurs/innovators and SMEs within established frameworks.
- Sold through newly established companies incubated at BDIH, first in Africa and then globally.

Last, this framework is driven on the principle that the SmartBots Lab is to be utilized for prototyping, development and testing of SDG relevant digital solutions supporting the digital transformation of the public and private sector. It is expected the SmartBots Lab will become a Centre of Excellence (CoE) and the Gateway to Africa for Frontier Technologies addressing the 2030 SDGs and 2036 National Vision.

The report contains the following chapters:

1. Genesis of the SmartBots Lab
2. SmartBots Lab Governance Framework

3. Governance structure
4. Proposed Governance Framework
5. Governance Policies & Standards
6. Stakeholder Analysis
7. Stakeholder Engagement Plan
8. Monitoring & Evaluation
9. IT Organizational Structure
10. SmartBots Lab Study Visits to Malaysia & Singapore
11. Change Management & Enablement
12. Bill of Quantities for ICT Equipment & Professional Services for the SmartBots Lab
13. Software
14. Gaming Lab Framework
15. Project Management
16. High-level Operationalization Roadmap: 2023-2024

This Governance Framework has been developed with a practical implementation in mind. It is expected to guide the envisaged project implementation team operationalize the lab successfully.

Recommendation: Implementation Roadmap.

It is recommended the report should be adopted and implemented within 3 months of receipt due to the rapid changes taking place within the digitalization space. Delays may render this report obsolete by Q3 2023.

An implementation roadmap is proposed, and this report will assist and guide a competent Project Management team toward operationalizing the SmartBots Lab Centre of Excellence over a period of one year.

High-level Operationalization Roadmap: 2023-2024

1. SmartBots Lab Socialization
 - BDIH internal
 - All ministries, with special focus on foreign affairs, ICTs, education, and Local government
 - All Parastatals
 - All Stakeholders
 - Each district
 - SADC
 - Development Partners

2. Bill of Quantities: Procurement
3. Contractor Recruitment Lab Infrastructure Build Out
4. Design Scientist Appointment
5. Formal Appointment of SmartBots Project Manager
6. Implementation of Governance Framework recommendations
7. Monthly Stakeholder Workshops
8. Project Staff Recruitment
9. Marketing and Communications Alignment
10. Engagement of External Stakeholders - Commonwealth etc.
11. Expansion/Decentralization of SmartBots Lab to all districts

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