5 Years of AI Regulation in Africa

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1st Ngong Avenue, Nairobi
ACK Garden House-Block D, 6th Floor
Email: info@lawyershub.ke
Tel: +254 784 840 228 /+254 111 215 675
www.lawyershub.org

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Editorial Team: Linda Bonyo, Risper Onyango, Dickson Ogugu
Design and Layout by: Michael Ogutu

Executive Summary

Often times, when we are asked to close our eyes and imagine what AI is, it is not surprising that we conjure up a futuristic notion of some robotic image from a Hollywood blockbuster like The Terminator, or closer to home, Wakanda from Black Panther, which might be considered as an accurate representation of AI.

Like any other buzzword; such as the metaverse, cryptocurrency and blockchain, artificial intelligence lacks a universally accepted definition. Some famous definitions of AI include; “The automation of activities that we associate with human thinking, activities such as decision-making, problem-solving, learning …” (Bellman, 1978), “The exciting new effort to make computers think … machines with minds, in the full and literal sense” (Haugeland 1985) “The study of mental faculties through the use of computational models” (Chamiak and McDermott, 1985), Professor John McCarthy in 1955 coined the term Artificial Intelligence (AI) and defined it as the science and engineering of making intelligent machines.

Though AI seems like a highly imaginative technology, Artificial Intelligence (AI) is the most transformational technology of our time. There is no doubt that AI is changing the way we live, work, interact with each other, and solve the world’s most pressing problems. Indeed, this technology has taken the world by storm, and making strides towards its adoption would be almost inevitable. Accordingly, the African continent has not been left behind in this wave and in fact, a significant number of African states have made tremendous efforts in the adoption and regulation of AI.

Nonetheless, while AI is quickly proliferating on the African continent, policies and regulatory framework responses are still at the very premature stages. That is just one of the several hurdles that have to be crossed with regard to the integration of AI into African societies. In addition, African countries are yet to heavily invest in the research and development of AI and there is also a pressing need to develop AI skills and talent within the continent as Africa greatly suffers from a dearth of AI researchers and developers. Lack of access to digital infrastructures such as internet connectivity, data, and electricity further depicts AI as a pursuit only accessible to the elites. These are just some of the glaring impediments to AI adoption in Africa.

The weaker governance structures, ethnic, tribal, and religious divisions within the continent will maximise the damage associated with AI. Questions of bias in AI systems will continue to reinforce existing patterns of social and economic inequalities and the lack of diversity or the existence of an African voice in the development of most of these AI systems, further driving the discrimination agenda.

Luckily, African countries are at a vantaged position to adequately prepare themselves for the great magnitude of risks that AI poses while maximising its wide array of benefits, especially because AI development is still in its budding stages in the continent. The most effective tool for this is policy. Africa needs strong and enlightened policy interventions that reflect African ethical values.

This report strives to highlight the state of Artificial Intelligence in Africa whilst reinforcing the need for an AI that depicts a contextual relevance for Africa. The report starts by interrogating the need for AI and Africa: whether Africa truly needs Artificial Intelligence. It will then enumerate the stages of AI development, and trends in AI policy on the continent by focusing on the years between 2019 and 2024. In seeking to provide policy priorities for AI through an African lens, it briefly provides for the justification of AI regulation in Africa and subsequently delves into the existing AI policy initiatives and practices of 3 regional blocs: East African Community (EAC), Southern African Development Community (SADC) and The Economic Community of West African States (ECOWAS). In conclusion, the report looks at some of the challenges facing the development of AI and finally provides policy priorities for the growth and development of AI.

Introduction

1.0 The Need For AI in Africa

Africa is home to over 1.5 billion people, representing 18.3% of the global population. Of this, 44.5% live in urban areas, and the median age on the continent is just 19.2 years. This makes Africa the youngest population in the world, with more than 400 million young people aged 15 to 35.

This large and youthful population brings both immense potential and significant challenges. One major challenge is unemployment, which is expected to be at 7% in 2024. The youth unemployment rate in Africa is projected to reach around 11% in 2024. Women in Africa also face this challenge. According to the World Population Prospects 2022, there were an estimated 583.2 million women living in Africa in 2021. Constituting 50.14% of the region's total population. In 2023, the female unemployment rate in Africa stood at approximately 8%, compared to 6.6% among men.

Another challenge experienced in Africa is poverty. In 2020, an estimated 55 million Africans were pushed into poverty, due to the pandemic. By 2022, Africa accounted for more than half (54.8%) of the world's poor. The percentage of the population living below the national poverty line rose from 33.3% in 2013 to 38% in 2023, far from the 23% target set by Agenda 2063. In addition, Africa's unemployed poor population stands at 31.09%, significantly higher than the global average of 6.38%.

Access to financial services is another critical challenge. In many developing countries, less than half of the population has access to formal financial services, and in most of Africa, fewer than one in five households have such access. This lack of financial inclusion perpetuates income inequality and hampers economic growth. Expanding access to financial services remains a key challenge for governments across the continent and the world.

Given these challenges, the need for AI in Africa is clear. AI has the potential to address some of the region's most pervasive problems, from reducing poverty and improving education to delivering healthcare and eradicating diseases. It can also tackle sustainability challenges, such as meeting the growing demand for food in a rapidly expanding population and advancing societal inclusion. AI will transform how work is done, enabling more efficient resource allocation, increasing productivity, and, in the case of the government, improving the delivery of services to citizens.

In terms of job creation and reduction of unemployment rate in the region. AI will generate new, high-value jobs that require technical skills, such as network engineers in the banking sector or web developers in retail. The demand for data scientists, robotics experts, and AI engineers will rise significantly.

AI will fuel new economic growth on the continent. According to a recent study on the long-term economic impact of AI, the technology has the potential to double a country's GDP growth rate by 2035. Even harnessing a fraction of this potential could be a powerful tool for development and poverty reduction. This impact will be especially strong in key sectors for Africa, including agriculture, healthcare, public services, and financial services.

> Agriculture is crucial to Sub-Saharan Africa's growth, employing over 65% of the continent's labor force and contributing 32% of its GDP. A 1% increase in crop productivity is estimated to reduce the number of poor people by 0.72% in Africa. However, the sector faces significant challenges. AI, combined with machine learning, satellite imagery, and advanced analytics, has the potential to improve productivity and efficiency across the agricultural value chain. These technologies can empower smallholder farmers to increase their income through higher crop yields and greater price control.
>
> For instance, drone technology can plant and fertilise seeds at a speed beyond human capabilities. AI-powered crop data analytics can help identify diseases, enable soil health monitoring without laboratory testing, and facilitate the creation of virtual cooperatives to aggregate crop yields and negotiate better prices with suppliers.
>
> In the financial sector, AI can play a pivotal role in achieving the goal of financially including the next 100 million Africans within the next decade. AI has the potential to revolutionise how Africans access financial services, save money, invest, and obtain insurance. AI can assist financial service providers by automating processes, reducing costs, and increasing efficiency.

If African countries can successfully develop, implement, and integrate AI across various sectors, the continent will experience exponential growth. The youthful population, leveraging these technological advances, can play a significant role in bridging gaps and driving progress.

Ultimately, Africa needs to curve out its own path in the AI space. The motivations for development of AI systems and the impact of the AI ecosystem on the continent are best analysed and framed through a unique African lens. The applications, regulatory frameworks and policies of AI from the Global North should only serve to provide a structure for AI adoption in the African perspective. Given that AI is still in its nascent stages in Africa, we have a chance to learn from the mistakes of the West with regards to the potential harms and risks that this technology poses, we have a chance to borrow only the aspects of AI that will favour our continent and the African people. We have the chance to begin differently.

1.2 Overview of AI Development in Africa

According to the AI Media report (2022), AI in Africa is a transformative technology with the potential to significantly impact various industry sectors, society, and the future of work across the continent. Globally, the AI market was valued at $328 billion in 2021, with projections indicating growth from $387 billion in 2022 to an estimated $1,394 billion by 2029.[1] This advancement in AI as a technology has created a breeding storm and necessitates that each sovereign country take a deep look at its propensity, impact and pitfalls towards its citizens and needed governance systems.[2]

2019 Pre: Covid

Before the COVID-19 pandemic, that affected nations on a global scale, there was growing interest around AI. Africa saw a rise in tech hubs and AI-focused startups, especially in countries like Nigeria, Kenya, South Africa, and Ghana. These hubs served as incubators for innovation, providing resources and support to local entrepreneurs working on solutions using intelligent digital resources.

Startups were leveraging AI to solve local challenges, such as improving crop yields, diagnosing diseases, and enhancing financial inclusion. Companies, and global tech giants like Google, IBM, and Microsoft became increasingly involved in Africa's AI ecosystem. Google, for instance, opened its AI research lab in Accra, Ghana, in 2018, showing a commitment to the region.

While AI policy was still in its infancy in most African countries, there was growing awareness of the need for frameworks to guide AI development. This included considerations around data privacy, ethical AI, and the socio-economic impacts of automation.

At this time, there was already a recognition of the need to ensure AI development in Africa was inclusive and beneficial to all segments of society.

2020 Covid

The emergence of the Covid-19 pandemic fuelled digital transformation (DT) exercises in both the private and public sectors. The need to improve customer service delivery, increase effectiveness and efficiency, reduce operational costs, increase organisational productivity, and enhance accountability and transparency forced governments to undergo Business Process Reengineering (BPR) through the adoption of digital innovations, such as artificial intelligence (AI) technology.[3]

Due to the pandemic, organisations invested in AI to expedite remote working, enhance the custom-

1 *South Africa's Artificial Intelligence (AI) Planning Discussion Document*. Available at: https://www.dcdt.gov.za/images/phocadownload/AI_Government_Summit/National_AI_Government_Summit_Discussion_Document.pdf (Accessed: 11 August 2024).

2 *South Africa's Artificial Intelligence (AI) Planning Discussion Document*. Available at: https://www.dcdt.gov.za/images/phocadownload/AI_Government_Summit/National_AI_Government_Summit_Discussion_Document.pdf (Accessed: 11 August 2024).

3 R, M. (2024) *South Africa's Artificial Intelligence (AI) Planning Discussion Document*, *Seychelles' Thriving Artificial Intelligence Ecosystem*. Available at: https://www.capmad.com/technology-en/seychelles-thriving-artificial-intelligence-ecosystem/#:~:text=The%20Seychelles%20government%20is%20actively,of%20an%20appropriate%20regulatory%20framework. (Accessed: 11 August 2024).

er experience and decrease costs. According to Appen State of AI 2020 Report, 41% of companies accelerated their AI strategies during COVID-19.[4]

AI developments during the pandemic benefited various sectors, and more particularly retail, education and healthcare.[5]

Retail: Saw the rise of no-contact pick-up and delivery of meals, reservation systems to make appointments at local retail stores, and the development of more autonomous stores. Initiatives such as mobile money payments and trying on clothes virtually, as well as scan-and-go applications, became more prominent across Africa.[6] Retailers such as Woolworths in South Africa launched contactless drive-through services, allowing shoppers to order online and collect without leaving the car. Almost 90% of South Africans used contactless methods to pay for groceries, according to a Mastercard survey, while 70% of respondents across the Middle East and Africa indicated they had been using some form of contactless payment since the onset of the pandemic.[7]

Education: The rapid shift to online programs in many schools, driven by time constraints, had AI-powered smart-learning technology advance at a remarkable pace. AI was capable of generating digital content, such as study guides for students ranging from nursery to secondary levels, that was virtually indistinguishable from human-created materials. Virtual tutors and learning software supporting dozens of languages were no longer just futuristic concepts in education. However, many teachers took time to integrate AI into their curricula.[8]

Healthcare: Social distancing created the need for a contact-free patient experience. In response, companies launched contactless check-in options powered by AI for patients requiring in-person visits.[9] Meanwhile, a growing number of patients turned to fully virtual options, and companies responded by enhancing telehealth services.[10] For instance, more healthcare organisations leveraged chatbots to answer basic patient questions, schedule appointments, and triage visits. Additionally, AI played a particularly critical role in the fight against COVID-19, helping doctors detect and diagnose the virus through the rapid analysis of MRI scans and other imaging systems.[11]

4 *COVID-19 increased the use of AI. Here's why it's here to stay* (2021) *weforum.org*. Available at: https://www.weforum.org/agenda/2021/02/covid-19-increased-use-of-ai-here-s-why-its-here-to-stay/ (Accessed: 11 August 2024).

5 Ibid

6 *Covid-19 has encouraged Innovation in Africa's retail industry* (2021) *knightfrank.com*. Available at: https://www.knightfrank.com/research/article/2021-04-07-covid19-has-encouraged-innovation-in-africas-retail-industry (Accessed: 11 August 2024).

7 *Covid-19 has encouraged Innovation in Africa's retail industry* (2021) *knightfrank.com*. Available at: https://www.knightfrank.com/research/article/2021-04-07-covid19-has-encouraged-innovation-in-africas-retail-industry (Accessed: 11 August 2024).

8 *COVID-19 increased the use of AI. Here's why it's here to stay* (2021) *weforum.org*. Available at: https://www.weforum.org/agenda/2021/02/covid-19-increased-use-of-ai-here-s-why-its-here-to-stay/ (Accessed: 11 August 2024).

9 Ibid

10 Ibid

11 Ibid

2021 Build Back Better

The Build Back Better initiative of 2021, while primarily focused on economic recovery, social safety net expansion, and climate change, also included provisions and considerations that touched on technology, including artificial intelligence (AI)[12]. These AI aspects were more implicit than explicit, often aimed at innovation, workforce development, and infrastructure modernization.

The initiative recognized the importance of ensuring that AI and other digital technologies do not exacerbate existing inequalities.

While not a major focus, there were underlying concerns about the ethical implications of AI, such as algorithmic bias and the impact of automation on jobs[13]. The initiative's focus on education, workforce development, and social safety nets indirectly addressed these concerns by preparing workers for new opportunities in a more automated economy.

While the Build Back Better Act itself did not heavily focus on AI regulation, its approach included developing policy frameworks to ensure AI was deployed responsibly and ethically.[14] This would likely have been supported by the initiative's emphasis on R&D and technological innovation.

In 2021, The Government AI Readiness Index indicates significant differences among African countries when it comes to how prepared governments are to use AI.

Within the region, Mauritius (52.71), Egypt (49.75), and South Africa (48.24) have the highest scores, consistent with the fact that they are also among the most developed African economies. At the opposite end are the Democratic Republic of the Congo (23.32), Angola (22.87), and the Central African Republic (20.73).[15]

Overall, AI is discussed in African countries in the context of public sector reform, education and research, national competitiveness, and partnerships with tech companies. Countries with the relevant capacities focus on skills, talent, and capacity development to build local and regional expertise.

2022

In 2022, the development of AI in Africa continued to gain momentum, building on the foundations laid in previous years. Several key trends and developments shaped the AI landscape on the continent during this period.

12 President Biden Issues Executive Order on Safe, Secure, and Trustworthy Artificial Intelligence. Available at: https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/30/fact-sheet-president-biden-issues-executive-order-on-safe-secure-and-trustworthy-artificial-intelligence/

13 President Biden Signs Executive Order to Strengthen Racial Equity. Available at:https://www.whitehouse.gov/briefing-room/statements-releases/2023/02/16/fact-sheet-president-biden-signs-executive-order-to-strengthen-racial-equity-and-support-for-underserved-communities-across-the-federal-government/

14 Blueprint for an AI Bill of Rights . Available at: https://www.whitehouse.gov/ostp/ai-bill-of-rights/

15 https://oxfordinsights.com/ai-readiness/ai-readiness-index/

- Africa's tech ecosystems continued to expand , with an increasing number of AI startups emerging across the continent. Countries like Nigeria, Kenya, South Africa, and Egypt remained at the forefront, but there was also notable growth in other regions such as Rwanda, Ghana, and Ethiopia.
- Many African AI startups focused on developing solutions tailored to local challenges. This included AI applications in agriculture (e.g., precision farming, pest detection), healthcare (e.g., diagnostics, telemedicine), financial services (e.g., credit scoring, fraud detection), and logistics (e.g., supply chain optimization). For instance, AI was increasingly applied to improve agricultural productivity. Startups like Aerobotics in South Africa and Hello Tractor in Nigeria used AI and machine learning to support smallholder farmers.
- The fintech sector remained a hotbed for AI innovation, with startups using AI to enhance financial inclusion. Mobile money platforms and digital lenders were key areas where AI played a significant role.
- More African governments recognized the importance of AI and began developing national AI strategies. For example, countries like Kenya and South Africa worked on policies to foster AI innovation while addressing regulatory and ethical concerns.

2023 The Year of Chat GPT

Generative AI (GenAI) is a branch of artificial intelligence that automates the production and analysis of content, including text, images, videos, and music. This is achieved through models like Large Language Models (LLMs), such as OpenAI's ChatGPT, which are trained on vast datasets sourced from the internet and other information repositories.[16]

> Open Artificial Intelligence published an AI chatbot tool called ChatGPT at the end of November 2022. This chatbot enables users to discuss with the AI by inputting prompts, and it is based on OpenAI's language model.

GenAI swept into the world's collective consciousness and made us all sit up and take notice. The commercial roll-out of large language model (LLM) chatbots such as ChatGPT since the end of 2022 amplified the promise of bridging the global development divide, with the technology now poised to help catalyse solutions to some of development's most intractable challenges including lack of access to finance, low education and skills levels and high rates of childhood mortality.[17] It is estimated that by 2025, Generative AI will reach a market value of $60 billion and constitute 30% of the overall addressable market for AI.[18]

16 UNDP (2024) *Africa Development Insights*, *undp_africa*. Available at: https://www.undp.org/sites/g/files/zskgke326/files/2024-07/undp_africa_africa_devt_insights-_ai_q2-2024_0.pdf (Accessed: 13 August 2024).
17 UNDP (2024) *Africa Development Insights*, *undp_africa*. Available at: https://www.undp.org/sites/g/files/zskgke326/files/2024-07/undp_africa_africa_devt_insights-_ai_q2-2024_0.pdf (Accessed: 13 August 2024).
18 UNDP (2024) *Africa Development Insights*, *undp_africa*. Available at: https://www.undp.org/sites/g/files/zskgke326/files/2024-07/undp_africa_africa_devt_insights-_ai_q2-2024_0.pdf (Accessed: 13 August 2024).

ChatGPT in Cameroon

Agrix Tech (Cameroon) allows farmers to upload photos of their ailing fruit and in about 10 seconds it will diagnose the malady and suggest a course of treatment, reading it aloud in the local language, given the high illiteracy rates in the area.

The ChatGPT application reached 100 million monthly active users just two months after launch and swiftly earned the honour of being the fastest-growing consumer application in history.[19] The paradigm changes in information access that is brought about by ChatGPT may benefit industries, including education, research, journalism, mass communication, Information Technology (IT), retail, and many others.[20] Similarly, in understanding the technology's limitations many have faced challenges in maintaining the integrity of the information produced, as evidenced by instances of generated material containing inaccuracies.

Harms in Kenya

In its quest to make ChatGPT less toxic, OpenAI used outsourced Kenyan laborers earning less than $2 per hour. OpenAI sent tens of thousands of snippets of text to an outsourcing firm in Kenya, beginning in November 2021.[21] Much of that text seemed to have originated from the most disturbing corners of the internet. It included graphic descriptions of child sexual abuse, bestiality, murder, suicide, torture, self-harm, and incest. The data labelers hired by Sama to work on behalf of OpenAI earned a take-home wage ranging from approximately $1.32 to $2 per hour, depending on their seniority and performance.[22]

1.2.6 2024 Current State of AI Technologies

The projected benefit of AI adoption on Africa's economy is tantalising. Presently, AI's potential to revolutionise data analytics for businesses, empower Africa's young and growing population with personalised education tools, and accelerate progress across sectors like agriculture and healthcare could transform Africa's future. AI is facilitating solutions in the primary pressing needs of the continent:

19 *CHATGPT reaches 100 million users two months after launch* (2023) *The Guardian*. Available at: https://www.theguardian.com/technology/2023/feb/02/chatgpt-100-million-users-open-ai-fastest-growing-app (Accessed: 11 August 2024).

20 Abid Haleem, Mohd Javaid, Ravi Pratap Singh, An era of ChatGPT as a significant futuristic support tool: A study on features, abilities, and challenges, Bench Council Transactions on Benchmarks, Standards and Evaluations, Volume 2, Issue 4, 2022, 100089, ISSN 2772-4859, https://doi.org/10.1016/j.tbench.2023.100089.

21 Perrigo, B. (2023) *OpenAI Used Kenyan Workers on Less Than $2 Per Hour to Make ChatGPT Less Toxic*, *time.com*. Available at: https://time.com/6247678/openai-chatgpt-kenya-workers/ (Accessed: 13 August 2024).

22 Perrigo, B. (2023) *OpenAI Used Kenyan Workers on Less Than $2 Per Hour to Make ChatGPT Less Toxic*, *time.com*. Available at: https://time.com/6247678/openai-chatgpt-kenya-workers/ (Accessed: 13 August 2024).

SDG 2: Zero Hunger • Enhanced crop yields • Maximise Resource usage
SDG 3: Good Health and Wellbeing • New treatments and medication • Enhanced patient care and access • Simplified clinical procedures and improved overall outcomes
SDG 4: Quality Education • Makes learning more accessible • Personalised learning • Improved learning effectiveness
SDG 9: Industry, Innovation, and Infrastructure • Fostering innovation • Building resilient business solutions

However, the harms and limitations of AI use and adoption on the continent are also being enumerated:

- Estimates suggest that four African countries alone—Nigeria, Ghana, Kenya, and South Africa—could rake in up to $136 billion worth of economic benefits by 2030 if businesses there begin using more AI tools.[23]

- In the broader global context Melody Musoni, a policy and digital governance expert at ECDPM, an independent-policy think tank in Brussels, posits that Africa's voices and perspectives have largely been absent from global discussions on AI governance and regulation.[24]

- Digital colonisation is becoming more pronounced as a threat - colonization. According to Seydina NDiaye[25] Africa may end up with large multinationals in AI that will impose their solutions throughout the continent, leaving no room for creating local solutions. Additionally, most of the data currently generated in Africa is owned by multinationals whose infrastructure is developed outside the continent, where most African AI experts also operate which is a loss of African talent.

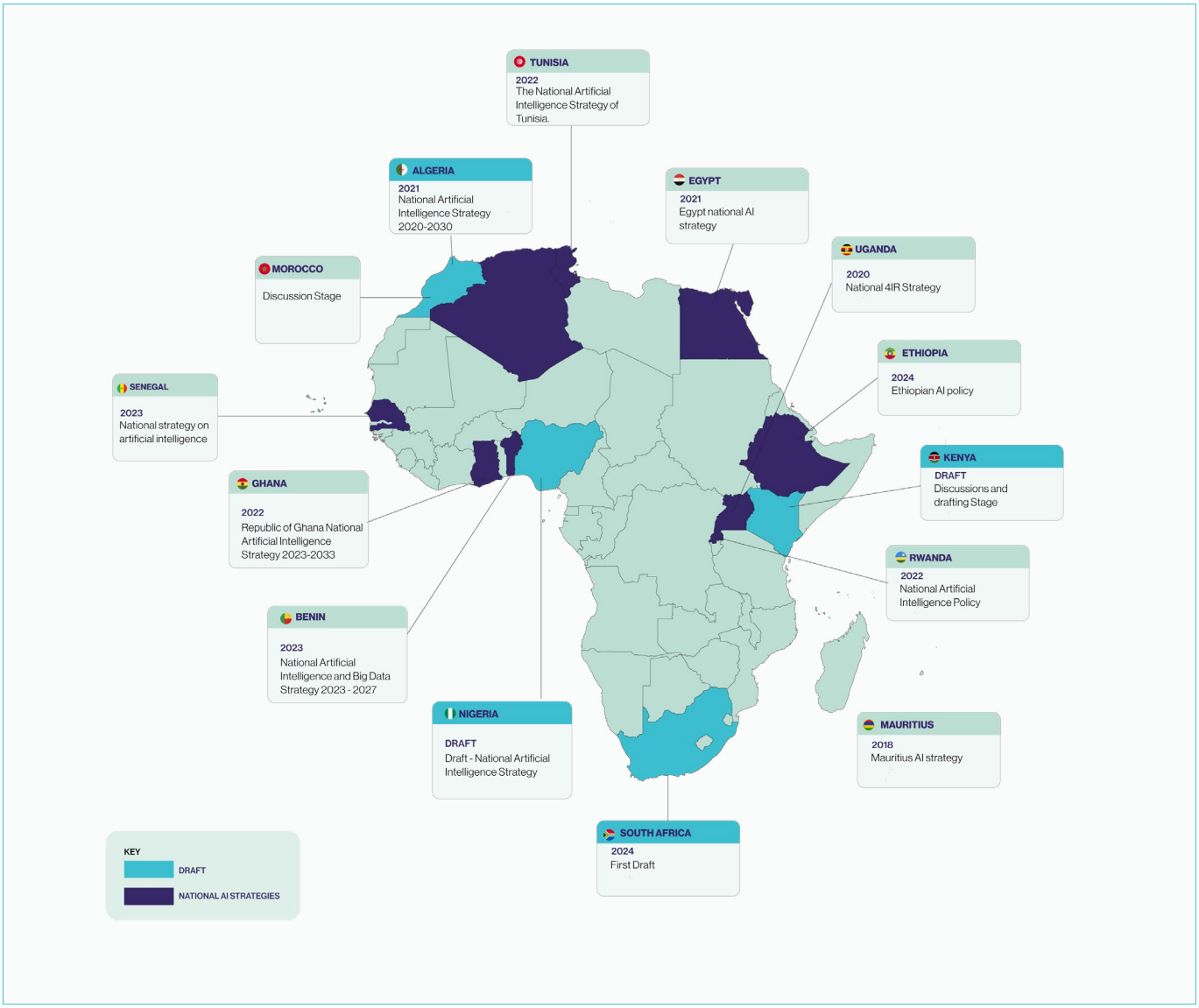
23 Tsanniarchive, A. (2024) *Africa's Push to Regulate AI starts Now* . Available at: https://www.technologyreview.com/2024/03/15/1089844/africa-ai-artificial-intelligence-regulation-au-policy/ (Accessed: 11 August 2024).
24 Tsanniarchive, A. (2024) *Africa's Push to Regulate AI starts Now* . Available at: https://www.technologyreview.com/2024/03/15/1089844/africa-ai-artificial-intelligence-regulation-au-policy/ (Accessed: 11 August 2024).
25 One of the 38 experts of the UN High-Level Advisory Body on Artificial Intelligence.

Policy Trends in Africa

3.1 National AI Strategies

AI regulation in individual African countries is slow, as no country in Africa has developed a dedicated AI law. However, AI governance is on the agenda in Africa, and countries have taken various steps to implement national governance measures. Some African countries have already begun to formulate their own legal and policy frameworks for AI. Nine countries have developed national AI policies and strategies, which are currently at different stages of implementation while Kenya, Morocco and South Africa have started their own discussions on development.

National AI Strategies Map



2.2 Unionisation of Tech Communities

> There has been a rise in the establishment of expert bodies – 13 countries have established some form of taskforce to deal with AI concerns.

South Africa's AI Expert Advisory Council was established in an effort to address the regulatory issues surrounding the use of AI. The Council is to coordinate in collaboration with the Department of Communications and Digital Technologies the formulation of effective and ethical AI governance frameworks in order to guide the development of a national AI policy that would align with both national and continental objectives.

Uganda's AI Taskforce

Uganda established a task force dedicated to artificial intelligence. The task force, a brainchild of the Uganda Communications Commission (UCC), is mandated to develop a comprehensive framework for AI's integration into the country's development agenda. The task force will focus on technical aspects, including investigating the latest AI technologies, assessing infrastructure requirements, and addressing data management practices and cybersecurity measures. They will also review existing laws and regulations related to AI, identify gaps and challenges, and explore ethical considerations and international best practices.[1]

3.2 National Data Protection Laws

Very few countries in Africa have taken steps to directly regulate AI in either general legislation or regulation. Mauritius has legislation directly related to AI, but only to its use in the financial services industry. As a result, data protection legislation is usually the only form of governance currently in effect and heavily relied on for AI regulation.

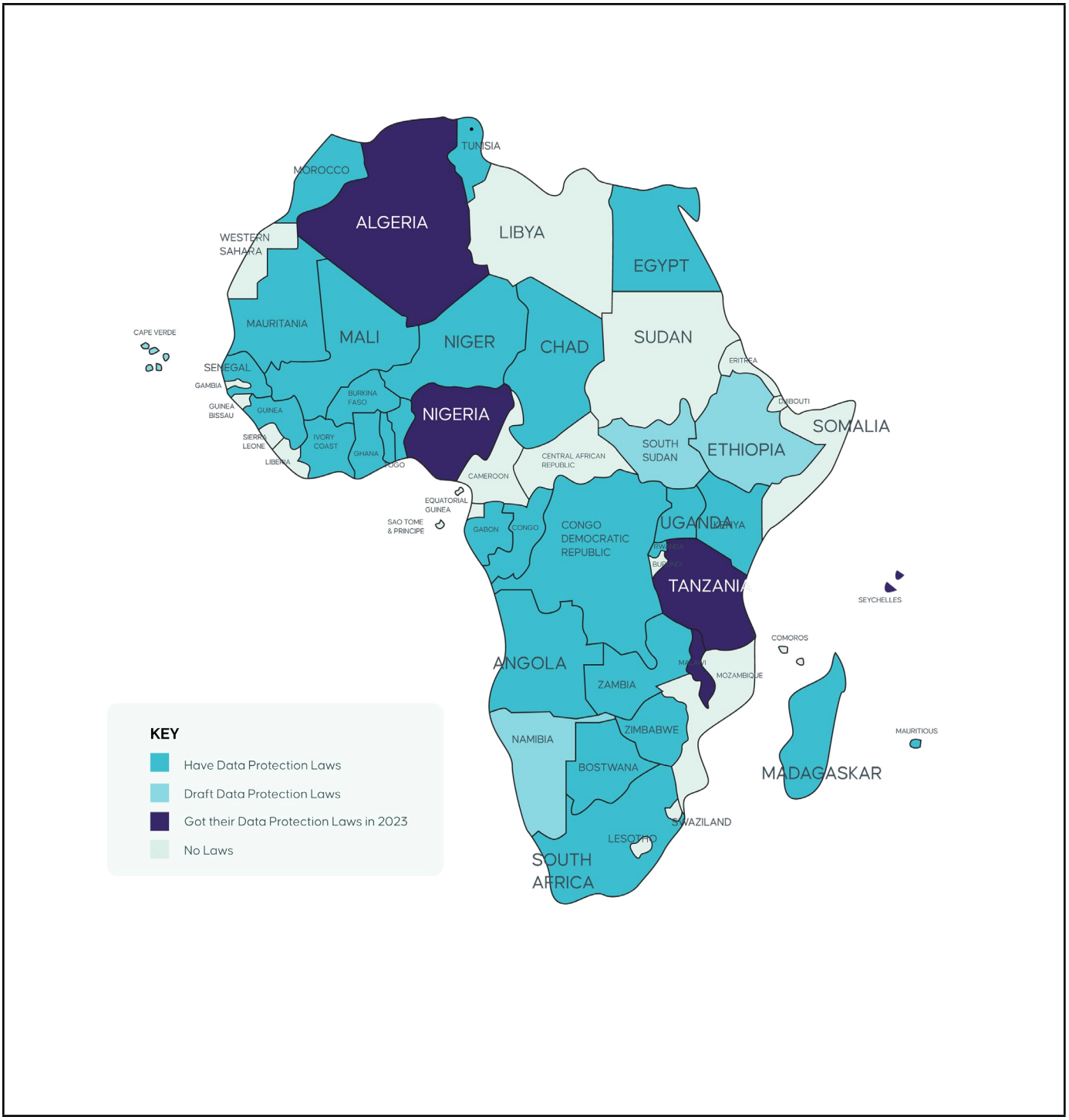
Among the African countries with data protection laws, 25 offer limited protection to data subjects against certain types of automated processing. These protections often pertain to legal decisions aimed at assessing aspects of an individual's personality or decisions with other legal consequences, based solely on automated data processing intended to profile or evaluate a person's character or behaviour.[2] Three African countries—Botswana, Madagascar, and Uganda—have data protection laws that provide only partial safeguards against automated processing. Meanwhile, eight African nations—Chad, Côte d'Ivoire, Egypt, Malawi, Mali, Senegal, Seychelles, and Tunisia—do not appear to regulate automated processing in their data protection frameworks at all.[3]

1 Francisco Adongo. "UCC Unveils Task Force to Drive Adoption of Artificial Intelligence in Communications Sector," July 26, 2024.

2 Data Story (2024) *Which African data protection laws regulate AI?*, *dataprotection.africa*. Available at: https://dataprotection.africa/ai-and-data-protection-regulation/ (Accessed: 13 August 2024).

3 Data Story (2024) *Which African data protection laws regulate AI?*, *dataprotection.africa*. Available at: https://dataprotection.africa/ai-and-data-protection-regulation/ (Accessed: 13 August 2024).

Data Protection Laws in Africa Map



While data protection laws can provide some level of mitigation against the risks posed by AI and continue to play a role in regulating AI developments, they were not originally designed with AI regulation in mind and thus can only partially address the specific challenges posed by AI.

Continental Initiatives

AI poses a serious policy concern for the African continent, and consequently, the African Union (AU) has encouraged the need to determine countries' AI governance measures.

Adopted in 2020, The African Union Digital Transformation Strategy 2020-2030 speaks to the emergence and adoption of digital technologies including AI, and seeks to harness digital technologies and innovation to transform African societies and economies to promote Africa's integration, generate inclusive economic growth, stimulate job creation, break digital divides, and eradicate poverty. As such, the Strategy aims to support the continent's socio-economic development and ensure Africa's ownership of modern tools of digital management.[4]

In 2021 the African Commission on Human and Peoples' Rights (African Commission) adopted Resolution 473 on the need to undertake a study on human and peoples' rights and artificial intelligence (AI), robotics, and other new and emerging technologies in Africa.[5] Unfortunately, the non-binding nature of these guidelines and the African regional human rights law frameworks make them inadequate in addressing the complexities of AI and its potentially profound impact on individual and collective privacy rights.[6]

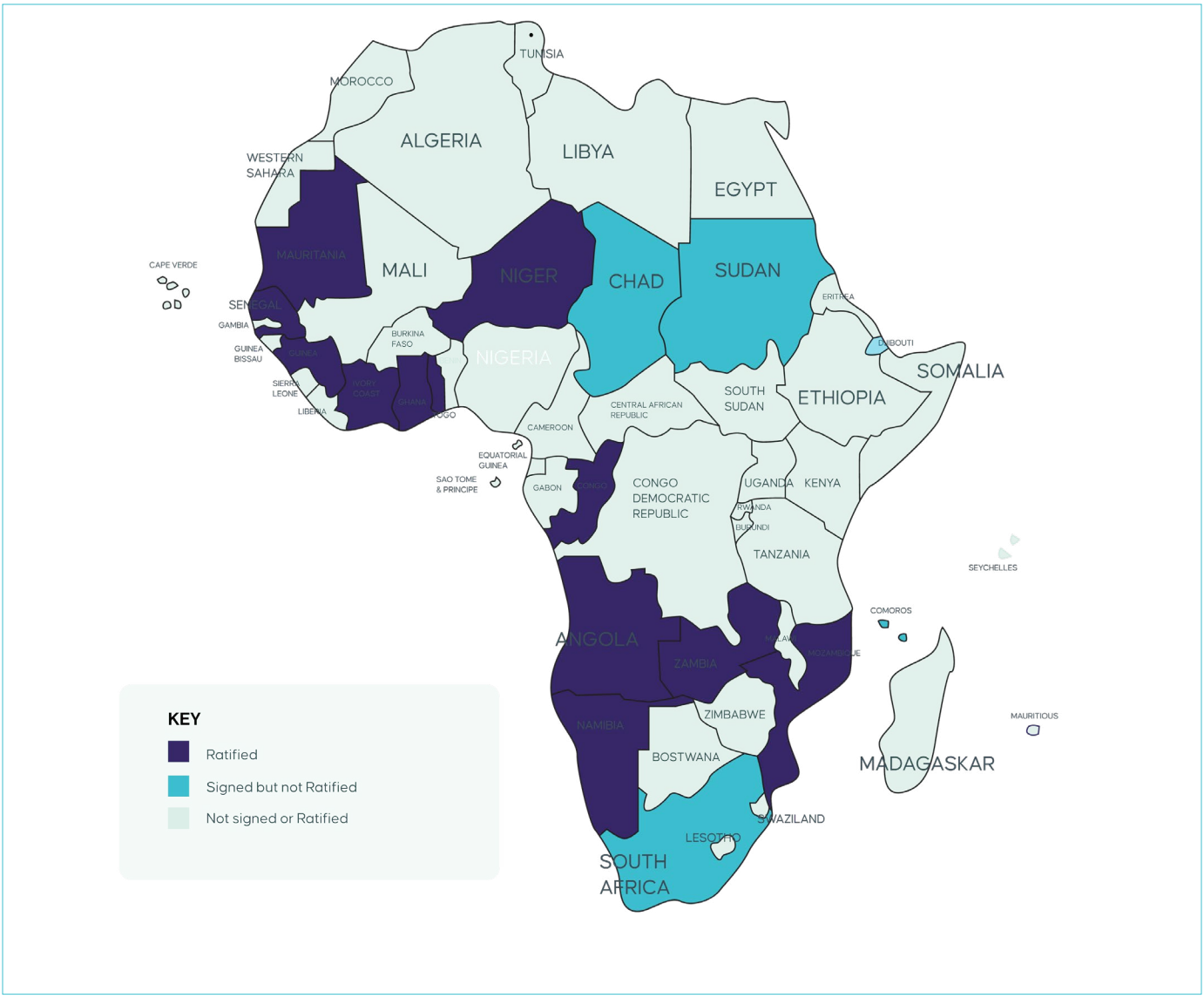
The African Union (Malabo) Convention on Cyber Security and Personal Data Protection, drafted in 2011 and adopted in 2014, portrays Africa's preparedness to tackle cybersecurity with unified action. However, the convention only entered into force in 2023 and has only been ratified by 15 AU countries, limiting its continental credibility.

4 African Union (2024) *Digital Transformation Strategy*, *African Union*. Available at: https://au.int/en/documents/20240809/continental-artificial-intelligence-strategy#:~:text=The%20Continental%20AI%20Strategy%20calls,inclusive%20and%20responsible%20AI%20development. (Accessed: 11 August 2024).

5 African Commission on Human and Peoples' Rights Resolution on the need to undertake a study on human and peoples' rights and artificial intelligence (AI), robotics and other new and emerging technologies in Africa ACHPR/Res. 473 (EXT.OS/ XXXI) 2021 2021, https:// achpr.au.int/en/adopted-resolutions/473-resolution-need-undertake-study-human-andpeoples-rights-and-art (accessed 13 August 2024).

6 Z Xaba 'Governing artificial intelligence under the African human rights system: Drawing lessons from international best practices' LLM dissertation, University of Pretoria, 2021; L Lane 'Clarifying human rights standards through artificial intelligence initiatives' (2022) 71 ICLQ: British Institute of International and Comparative Law 915-944.

The African Union (Malabo) Convention on Cyber Security and Personal Data Protection Map



On 28 July 2022, the African Union (AU) published the AU Data Policy Framework,[7] a major step towards protecting data across the continent. The Framework aims to protect citizens' data rights while many African countries use data to drive their economies. The Framework also sets out the guidelines and principles for AU members to collect, store, and transfer personal data seamlessly across the African continent.

On February 29, 2024, the African Union Development Agency published a policy draft outlining

7 African Union Data Policy Framework https://au.int/en/documents/20220728/au-data-policy-framework

a blueprint for AI regulations across African nations. The draft recommends the creation of industry-specific codes and practices, the establishment of standards and certification bodies to assess and benchmark AI systems, the use of regulatory sandboxes for safe AI testing, and the formation of national AI councils to oversee and monitor the responsible deployment of AI.[8]

In a landmark decision, the African Union Executive Council endorsed the Continental AI Strategy[9] during its 45th Ordinary Session in Accra, Ghana, on July 18-19, 2024. The African Information and Communications Technology (ICT) and Communications ministers adopted the Continental Artificial Intelligence (AI) Strategy together with an African Digital Compact that is proposed to run from 2025 to 2030.[10]

The Continental AI Strategy includes a proposal for an AI Ethics Board that can review research applications from AI research groups seeking to develop novel, large-scale AI systems with the potential to have a significant impact on African societies.[11] The ministers also mandated the African Union to organise a Continental African AI Summit to foster collaboration, knowledge exchange and strategic planning among stakeholders across the continent.

The African Digital Compact emphasises key priorities and strategic imperatives for Africa to embrace the digital revolution, unleash its positive and transformative potential and collaboratively create the necessary guardrails for a safer and healthier digital environment while positioning Africa at the centre of digital innovation.

Parliamentary responses/ Draft AI Laws

> "Who bears criminal liability for machine error when you take advantage of artificial intelligence? There needs to be more scrutiny on the use of AI, particularly in educational institutions.''- Ghana's Tamale South legislator Haruna Iddrisu

Over the past five years, the legislative branches of various African governments have engaged in discussions and drafted bills aimed at regulating AI within their respective countries. The details are outlined below:

8 Tsanniarchive, A. (2024) *Africa's Push to Regulate AI starts Now* . Available at: https://www.technologyreview.com/2024/03/15/1089844/africa-ai-artificial-intelligence-regulation-au-policy/ (Accessed: 11 August 2024).

9 African Union (2024) *Continental Artificial Intelligence Strategy*, *African Union*. Available at: https://au.int/en/documents/20240809/continental-artificial-intelligence-strategy#:~:text='The%20Continental%20AI%20Strategy%20calls,inclusive%20and%20responsible%20AI%20development. (Accessed: 11 August 2024).

10 Manyukwe, C. (2024) *Ministers adopt a Continental AI strategy for 2025-30*. Available at: https://www.universityworldnews.com/post.php?story=20240806115314603 (Accessed: 11 August 2024).

11 Ibid

Morocco

On 24th April 2024, an opposition parliamentary bloc in the Moroccan House of Advisors submitted a draft law to regulate the use of artificial intelligence.[12] The draft, put forward by the Moroccan Labor Union, outlines the need to address the negative and illegal uses of AI by establishing a national agency responsible for the governance of AI in Morocco.

This agency would implement and update a national AI strategy, raise awareness of AI's importance, and enhance the skills of workers in both public and private sectors. The memorandum warned against the potential misuse of AI for cyberattacks, deepfake videos, and the spread of misinformation and hate speech.

Morocco's Justice Minister, Abdelatif Ouahbi, speaking before Members of Parliament, urged the legislative body to enact legislation regulating AI before the 2026 elections. In his words, this law would "safeguard our democratic path" from AI's influence.[13]

Nigeria

Sponsored by Honourable Sada Soli, the Nigeria's Federal House of Representatives began work on the AI Bill: "Control of Usage of Artificial Intelligence Technology in Nigeria Bill, 2023 (HB.942)." The bill aims to establish a codified legal framework for the adoption and use of AI systems. The bill underwent its first reading on Wednesday, November 22, 2023.[14]

Kenya

The Kenya Robotics and Artificial Intelligence Society Bill 2023, introduced to lawmakers in November 2023, aims to establish the Kenya Robotics and Artificial Intelligence Society (the "Society"), which will promote and develop robotics and AI in Kenya. The bill proposes the Society as a professional platform for robotics and AI practitioners, in line with Article 119 of the Constitution of Kenya, 2010. The bill seeks to impose fines of up to KES 1 million ($6,250) or prison sentences of up to two years, or both, on unlicensed entities operating robotic and AI businesses if they fail to register with the Robotics Society of Kenya (RSK). The bill has yet to be tabled in Parliament.[15]

The Kenyan parliament in a motion, 039/2023, titled "Formulation of a Regulatory Framework on Artificial Intelligence," the National Assembly discussed the need for AI regulation on July 31, 2024. The House urged the Government, through the Ministry of Information, Communication, and the Digital Economy;

- to create a regulatory framework and ethical guidelines for implementation of AI in the country to control its potential misuse and,

12 Ahmad Bentaher. "Morocco.. A Draft Law to Regulate the Use of Artificial Intelligence," April 24, 2024.
13 "Morocco to Consider AI Regulations to Protect Elections from Manipulation." Hespress English, July 9, 2024.
14 ITEdgeNews. "Nigeria Pushes for AI Regulation amidst Global Concerns." Tedge News.Africa, November 29, 2023.
15 Roveen Anyango. "Proposed Legislation for the Establishment of the Kenya Robotics and Artificial Intelligence Society Bill, 2023." Africa Women in Technology, September 23, 2023.

- develop and execute a public awareness programme on Artificial Intelligence to raise understanding of AI, foster transparency and promote responsible use of AI for the benefit of all.

AI Policy Regional Implementation (2019 - 2024)

The continent is witnessing increasing positive advocacy approaches on the future of AI governance, outlining various governance instruments including AI government Strategies, Guidelines and Standards, Policy, Laws and Rules.[16] A strong emphasis remains on AI supporting sustainable development goals (SDGs), with domestic action being undertaken by various countries across the regional blocs.

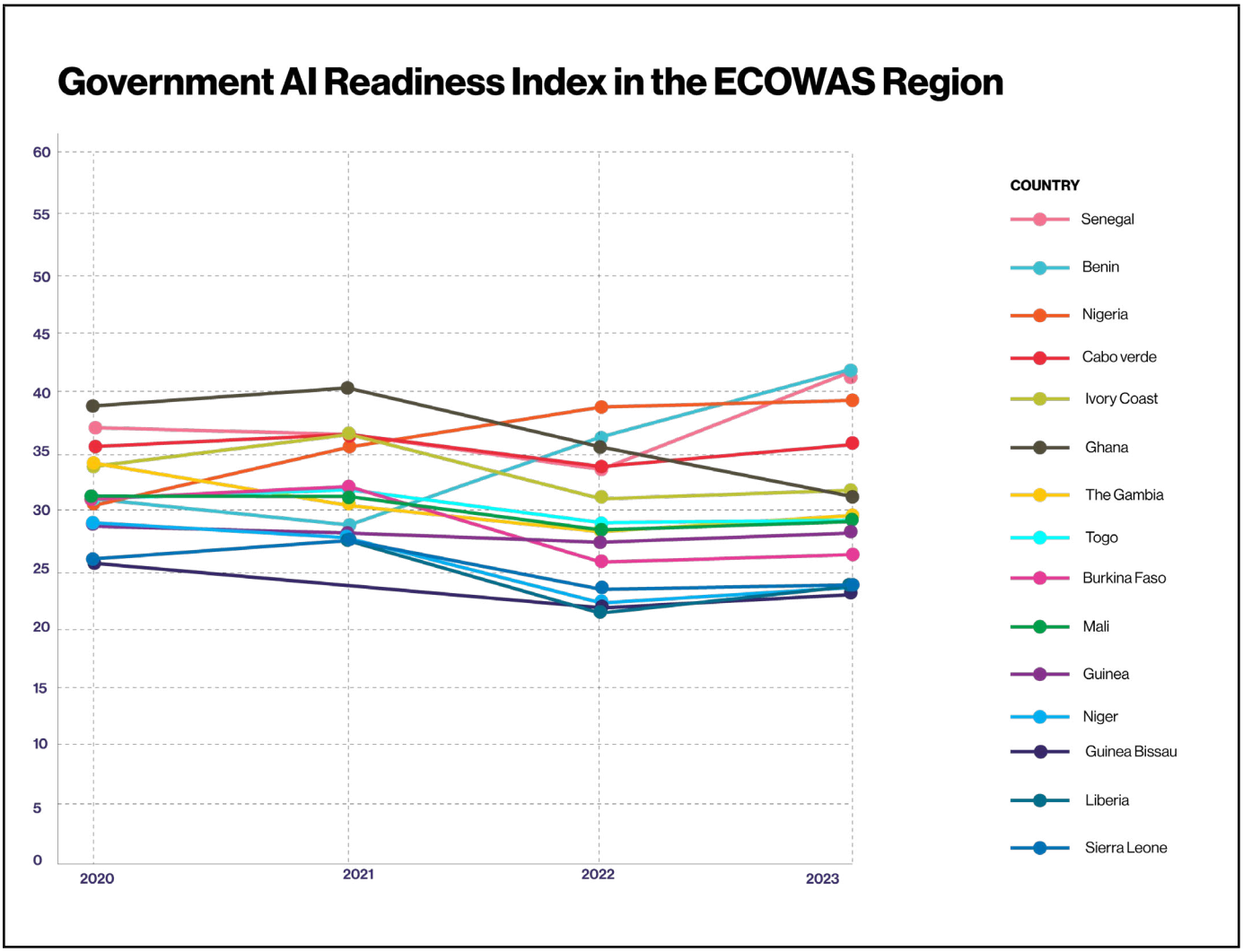
3.1 ECOWAS

West African countries have increasingly recognized the importance of regional collaboration in AI policy development. The Economic Community of West African States (ECOWAS) has played a role in fostering dialogue among member states on AI and digital transformation. Discussions have focused on harmonising data protection laws, promoting digital infrastructure, and encouraging innovation across the region.

The 15 members of the Economic Community of West African States (ECOWAS) are Benin, Burkina Faso, Cabo Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

16 *South Africa's Artificial Intelligence (AI) Planning Discussion Document*. Available at: https://www.dcdt.gov.za/images/phocadownload/AI_Government_Summit/National_AI_Government_Summit_Discussion_Document.pdf (Accessed: 11 August 2024).

Government AI Readiness Index in the ECOWAS Region



Between 2019 and 2024, several West African countries have taken steps to develop and implement policies related to AI's potential to drive economic growth, enhance public services, and address social challenges.

Nigeria

Several laws in Nigeria, while not specifically targeting AI, have a significant impact on its development and usage. Some key examples include:

- Cybercrimes (Prohibition, Prevention, etc.) Act, 2015
- Nigeria Data Protection Act, 2023
- Security and Exchange Commission (SEC) Rules on Robo-Advisory Services
- Federal Competition and Consumer Protection Act, 2018
- Copyright Act, 2022

- Nigerian Communication Commission Act, 2003

At present, Nigeria lacks specific laws or regulations that directly address AI. However, the use of AI may be governed by other relevant laws started above, each with its own jurisdictional reach.

In November 2020, the then-Minister of Information Communication and Digital Economy in Nigeria, commissioned the National Centre for Artificial Intelligence and Robotics (NCAIR).[17] This was Africa's first centre dedicated to AI. The establishment of the NCAIR followed years of discussions on AI and aligned with the technology and innovation roadmap outlined by the Ministry of Science and Technology in 2017, which had recognized AI as a strategic area for foreign direct investment (FDI). The NCAIR's creation was also part of the National Digital Economy Policy and Strategy 2020 – 2030 (NDEPS), which had identified AI as one of the key pillars of Nigeria's digital economy.

The ministry drafted the National AI Policy in March 2023, developed in collaboration with the National Information Technology Development Agency and numerous industry experts.[18] Building on these foundational efforts, the Ministry released a white paper in August 2023 outlining plans to expand upon the draft policy.[19] This includes involving prominent AI researchers of Nigerian descent from around the world to help formulate a comprehensive National AI Strategy. This development came shortly after the enactment of the 2023 Data Protection Act, which replaced the 2019 Data Protection Regulation (DPR) and introduced more detailed legislation.

The role of the 2023 DPA, the earlier DPR, and the 2016 Data Operability Standards in shaping the current AI policy remains uncertain. Notably, the 2023 DPA does not address AI-specific data concepts like 'Data Mining,' 'Anonymization,' or 'Models,' though it does cover important topics such as data security and cross-border data transfer, which are crucial for AI development.

Education and training have been major focuses of the ministry;

- In October 2023, the FMICDE launched the 3 Million Technical Talents (3MTT) program, aimed at training three million young individuals in key digital fields, including AI, over four years.[20]

- In October 2023, the ministry introduced the Nigeria Artificial Intelligence Research Scheme (NAIRS), a N225 million grant program for 45 AI startups and researchers, to enhance Nigeria's position as a global leader in AI innovation. The grant supported projects in health, agriculture, and education.[21]

Nigeria's AI policy efforts also have an international dimension;

17 NAIS available at: https://ncair.nitda.gov.ng/wp-content/uploads/2024/08/National-AI-Strategy_01082024-copy.pd

18 "Nigeria Completes Draft of National Policy on Artificial Intelligence." Tech Digest, March 8, 2023.

19 Dr. 'Bosun Tijani. "Co-Creating a National Artificial Intelligence Strategy for Nigeria." LinkedIn, August 28, 2023.

20 Ganiu Oloruntade. "Nigeria Flags off Plan to Train 3 Million Tech Talents to Curb Youth Unemployment." Techcabal, November 16, 2023.

21 Smart Megwai. "Nigeria Launches 'AI Research Scheme' to Drive Innovation and Digital Progress." Innovation Village, October 13, 2023.

- In November 2023, Nigeria joined 28 other countries, including the UK and France, in signing the Bletchley Declaration on AI, committing to international collaboration for risk mitigation.[22]

- Nigeria was among 18 countries that endorsed a new US-led global coalition to ensure AI security.[23]

In 2024, there has been renewed focus on AI policy, with the Ministry of Communications and Digital Economy organising a National AI Strategy Workshop to develop an updated National AI Strategy. This new strategy is expected to reflect recent advancements, including the generative AI boom.[24]

In August 2024, Nigeria published their draft National Artificial Intelligence Strategy (NAIS), for public participation. The strategy aims to responsibly steer the AI revolution towards achieving national goals around job creation, social inclusion, and sustainable development becomes imperative. With collaborative leadership, Nigeria seeks to pioneer ethical and inclusive AI innovation that improves welfare and expands opportunities for all its citizens.

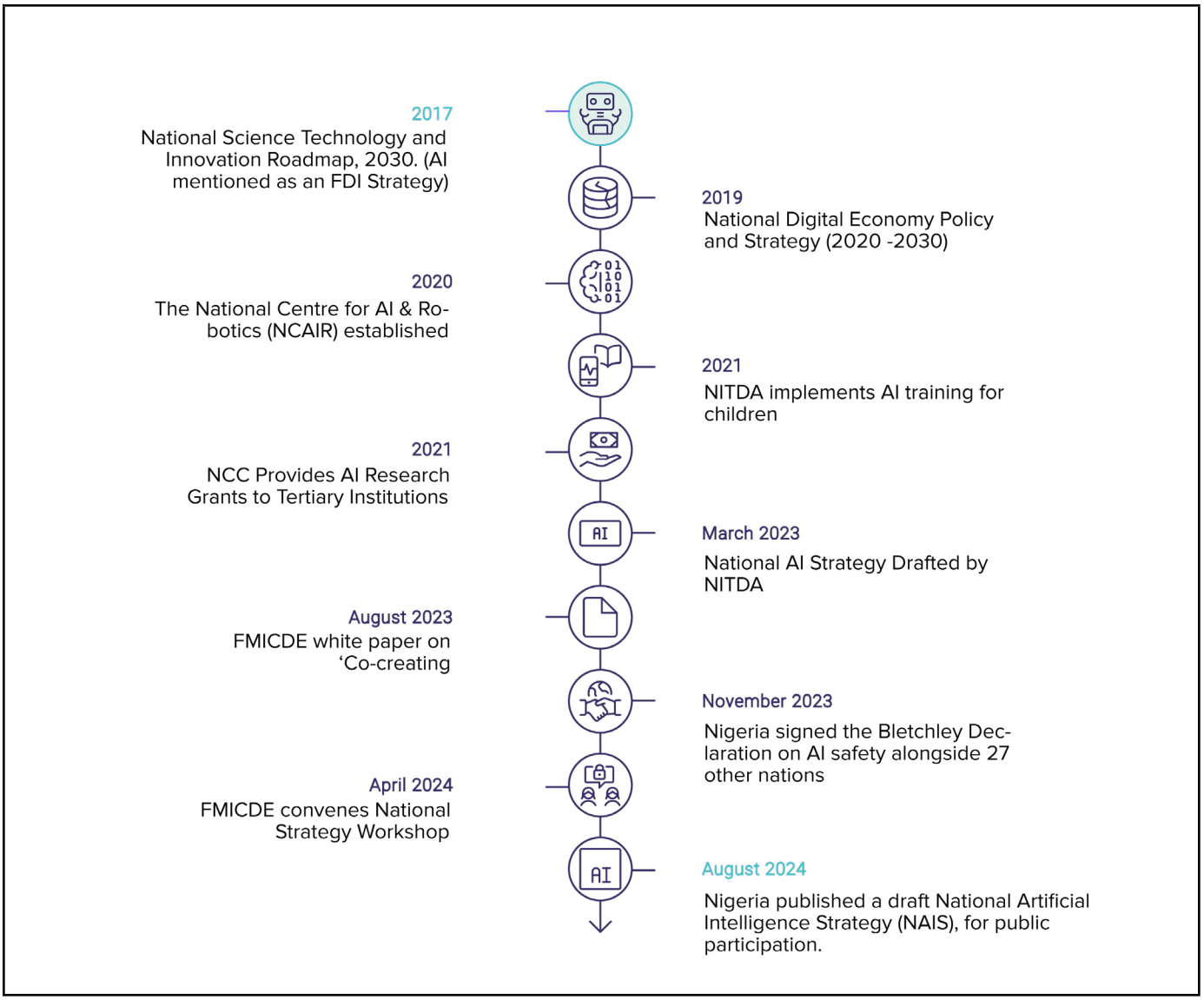
One of the key objectives of the NAIS is to create a regulatory environment that supports innovation while ensuring ethical standards are maintained. This involves developing guidelines for AI research and development, data privacy, and security, as well as establishing mechanisms for monitoring and evaluating the impact of AI initiatives.

22 Samson Akintaro. "Nigeria, 27 Other Countries Sign 'Bletchley Declaration' on AI Safety." Nairametrics, 10 months ago.

23 Newsroom. "Global Coalition Vows to Make AI Systems Safe & Secure." 9 months ago.

24 "Ministry's Artificial Intelligence Strategy Workshop to Attract 120 Experts from Across the World." Federal Ministry of Communication, Innovation and Digital Economy, April 3, 2024.

AI Policy Timelines for Nigeria 2017 - 2024



Benin

Benin has been taking steps to create a regulatory environment that can support the safe and ethical use of AI within the broader context of its digital transformation and governance efforts. Benin's Digital Code, [25]adopted in 2017, is one of the foundational regulatory frameworks that indirectly impacts AI development and deployment. Although the Digital Code does not explicitly mention AI, its provisions on data protection, privacy, and cybersecurity are critical for AI applications, especially those that involve processing large amounts of personal data. For example, any AI system that processes personal data in Benin must comply with the data protection regulations outlined in the Digital Code.

25 Overview of the Digital Code in Benin Republic. Available at : https://www.village-justice.com/articles/overview-the-digital-code-benin-republic,28912.html

Benin's National Cybersecurity Strategy,[26] which is part of the broader digital strategy, focuses on safeguarding the country's digital infrastructure from cyber threats. This is relevant for AI as it involves creating protocols for the secure deployment of AI technologies in sectors like finance, health, and public administration.

Benin's National Strategy for Artificial Intelligence and Big Data (SNIAM) was officially adopted by the Council of Ministers on January 18, 2023. Led by the Ministry of Digital and Digitalization, this strategy aims to position Benin as a key player in the AI and big data sectors by 2027. It is organised into four programs, implemented in three phases over five years, with a total of 123 actions affecting both public and private sectors.

The initiative is designed to capitalise on current and future opportunities in AI and big data, enhancing Benin's appeal for investments, especially from the private sector and development partners. The estimated cost of implementing the strategy over five years is about 4.68 billion FCFA. The successful execution of the strategy depends on creating effective consultative structures and strategic financial planning to attract substantial support from development partners.[27]

The strategy aligns with Benin's National Development Plan 2018-2025 (PND) and the Government Action Program (PAG) 2021-2026, which view the digital economy as a vital factor in driving economic transformation, with AI and big data at the core of this process.

Benin is engaged in the African Union's efforts to develop a continental framework for AI governance,[28] which includes guidelines for ethical AI development and data sharing protocols across member states. Through this cooperation, Benin benefits from regional guidelines on AI that emphasises responsible innovation, cross-border data flows, and the harmonisation of AI regulations with global standards.

Ghana

Ghana has also made strides in AI policy, particularly with a focus on ethics and digital skills development. The government has worked on the Digital Ghana Agenda, which includes AI as a key component.[29]

The Agenda seeks to support a strong enabling environment for a fast-tracked digitization by accelerating country wide digital transformation, focusing on critical digital enablers that promote the economy and build on existing digital policy foundations. The project is expected to be implemented during the period between 2022-2028.

26 Benin National Cybersecurity Strategy (NCS). Available at: https://www.itu.int/hub/2020/07/benin-launches-a-new-national-cybersecurity-strategy/#:~:text=It%20revolves%20around%20five%20main,and%20national%20coordination%20and%20international

27 "The National Strategy for Artificial Intelligence and Big Data (SNIAM) of Benin." Digwatch, January 2023.

28 AU Continental AI Strategy. Available at: https://au.int/en/documents/20240809/continental-artificial-intelligence-strategy#:~:text='The%20Continental%20AI%20Strategy%20calls,inclusive%20and%20responsible%20AI%20development.

29 Ghana's Digital Agenda, Available at: https://nca.org.gh/wp-content/uploads/2021/11/Key-NCA-Projects-2018.pdf

In 2020, Ghana partnered with the Mozilla Foundation to develop a set of AI ethics guidelines that prioritise fairness, transparency, and accountability.

Furthermore, the government has launched initiatives to build AI skills among young people, positioning the country as a potential AI hub in the region.

The Government of Ghana through the Ministry of Communications and Digitalisation on Tuesday, November 14, 2023, launched the "ReStart" initiative at the Kofi Annan Centre of Excellence in ICT with the support of the World Bank to train 10,000 young people and persons with disabilities in digital skills to help them harness the limitless potential of emerging technologies and digital skills.[30]

Young people, as "digital natives", are at the forefront of adopting and innovating with new technologies, making them a crucial demographic in leveraging digital transformation for sustainable development.

With initiatives like The United Nations Development Programme, such as UNDP's Young Africa Innovates (YAI) programme empowering them to develop solutions for sustainable development. [31]

In October 2022, the Republic of Ghana National Artificial Intelligence Strategy 2023-2033[32] was launched with Ghana's Ministry of Communications and Digitalisation and Data Protection Commission, GIZ FAIR Forward and Smart Africa. The strategy is based on 40+ local stakeholder consultations, in-depth AI policy landscape mapping and SWOT Analysis of Ghana's AI ecosystem, and 4 high-level public sector consultation workshops to iterate the mission and vision, recommendations and action plan, and a detailed booklet of AI use cases across key sectors. The resulting cross-ministerial and cross-sectoral policies aim for responsible AI adoption in Ghana for sustainable and inclusive growth.[33]

In 2018, the Ghanaian Supreme Court case Raphael Cubagee v Michael Yeboah Asare, K Gyasi Company Ltd, Assembly Of God Church[34], provided insight into the court's likely stance on the use of AI systems in legal services. The ruling in the Cubagee case underscored the constitutionally guaranteed right to privacy, emphasising that personal information or data cannot be used without the individual's consent. Therefore, the use of personal information in AI systems for legal services would require obtaining the necessary consent.

Côte d'Ivoire

Côte d'Ivoire has prioritised the use of AI in public services as part of its broader digital transforma-

30 News article, available at: https://moc.gov.gh/2023/11/21/govt-launches-re-start-initiative-to-train-10000-young-people-in-emerging-technology/

31 News article available at https://www.undp.org/ghana/blog/empowering-ghanas-youth-sustainable-development

32 Ghana's National Intelligence Strategy, Available at:https://www.slideshare.net/slideshow/ghana-s-national-artificial-intelligence-strategy-2023-2033-pdf/270928634#14

33 News article available at https://thefuturesociety.org/policies-ai-sustainable-development/

34 Raphael Cubagee v Michael Yeboah Asare, K Gyasi Company Ltd, Assembly of God Church (2018) JELR 68856 (SC).

tion strategy. The government has implemented AI-driven solutions in sectors such as healthcare and education. For example, AI is being used to improve diagnostic services in healthcare and enhance learning outcomes in education. The country has also been exploring the use of AI for agricultural innovation, given its significant role in the Ivorian economy.

At the end of 2021, The Ministry of Communication and the Digital Economy prepared and validated three main strategies, The National Development Strategy 2021-2025, the National Cybersecurity Strategy 2021-2025 and the National Innovation Strategy 2021-2025.[35]

The Ivorian National Digital Development Strategy 2021-2025 is based on the following seven pillars such as Digital infrastructure; Digital services; Digital financial services; Digital skills; Digital business environment; Innovation; and Cybersecurity and digital confidence.[36]

The National Cybersecurity and Innovation Strategies aim to support the acceleration of digital transformation by creating an ecosystem that is conducive to digital entrepreneurship and by providing protection against the risks or threats associated with the use of digital technologies .

More generally, these various strategies are linked to the National Development Plan (NDP) 2021-2025.[37]

Senegal

Senegal's AI policies are part of its broader Digital Senegal Strategy, which aims to position the country as a digital leader in the region by 2025.

Its national development blueprint, The Emerging Senegal Plan[38], includes a focus on digital transformation as a driver of economic growth. While AI is not the central focus, the digital strategy under the PSE implicitly supports the adoption of AI technologies across various sectors, including agriculture, health, education, and governance.

Furthermore, Law No. 2008-12 on the Protection of Personal Data is a cornerstone of Senegal's data protection framework. It governs the collection, processing, and storage of personal data, which is crucial for AI applications that rely on large datasets.For instance, AI applications in the health sector must adhere to stringent data protection standards to ensure patient confidentiality.

Senegal is a member of the Smart Africa Alliance, which aims to accelerate sustainable socioeconomic development through ICT, including AI. This collaboration is helping shape regional guidelines and frameworks for AI development and governance.

35 Côte d'Ivoire National Cybersecurity Strategy 2021-2025, available at https://telecom.gouv.ci/new/uploads/publications/171137214933.pdf

36 National Digital Development Strategy indicators, available at https://www.ictworks.org/wp-content/uploads/2024/01/cote_divoire_e-overnment_strengthening_support_project.pdf

37 Côte d'Ivoire's National Development Vision and Plans, available at: https://www.effectivecooperation.org/c%C3%B4te-d%27ivoire-national-development-vision-and-plans

38 The Emerging Senegal Plan, Available at: https://www.senegal-emergent.com/en/le-pse/#:~:text=The%20Emerging%20Senegal%20Plan%20(PSE,the%20environment%20and%20natural%20resources

The African AI innovation ecosystem in the ECOWAS region is clearly active, but the progressive realisation of AI regulation seems to be lagging behind in some countries' jurisdictions. According to the 2023 Government AI Readiness Index, Benin, Mauritius, Rwanda, Senegal, and South Africa are ahead in government efforts around AI out of the 24 African countries assessed. The index measures a country's progress against four pillars: government/strategy, data & infrastructure, technology sector, and global governance/international collaboration.[39]

Table showing AI Regulation framework in ECOWAS Region

Country	Dedicated AI legislation	Data protection legislation addresses AI	Has a national AI strategy	Has a policy or draft policy on AI	Expert body on AI has been established
Senegal	No	Yes	No	No	No
Benin	No	Yes	Yes	No	Yes
Nigeria	No	Yes	No	No	Yes
Cabo Verde	No	Yes	No	No	No
Ivory Coast	No	Yes	No	No	No
Ghana	No	Yes	No	No	No
The Gambia	No	Partial	No	No	No
Togo	No	Yes	No	No	No
Burkina Faso	No	Yes	No	No	No
Mali	No	Yes	No	No	No
Guinea	No	Yes	No	No	No
Niger	No	Yes	No	No	No
Guinea-Bissau	No	No	No	No	No
Liberia	No	No	No	No	No

EAST AFRICA COMMUNITY (EAC)

The East Africa Region includes Democratic Republic of Congo, Burundi, Kenya, Rwanda, Somalia, South Sudan, Uganda, and Tanzania.[40] Its headquarters are in Arusha, Tanzania. In 2024, East Africa is expected to be a standout performer in Africa's economic landscape, driving the continent's projected 3.2% real GDP growth.[41] This growth is fueled by significant expansions in the region's travel, hospitality, financial, and telecommunications industries, positioning East Africa as a key player in the global economy.

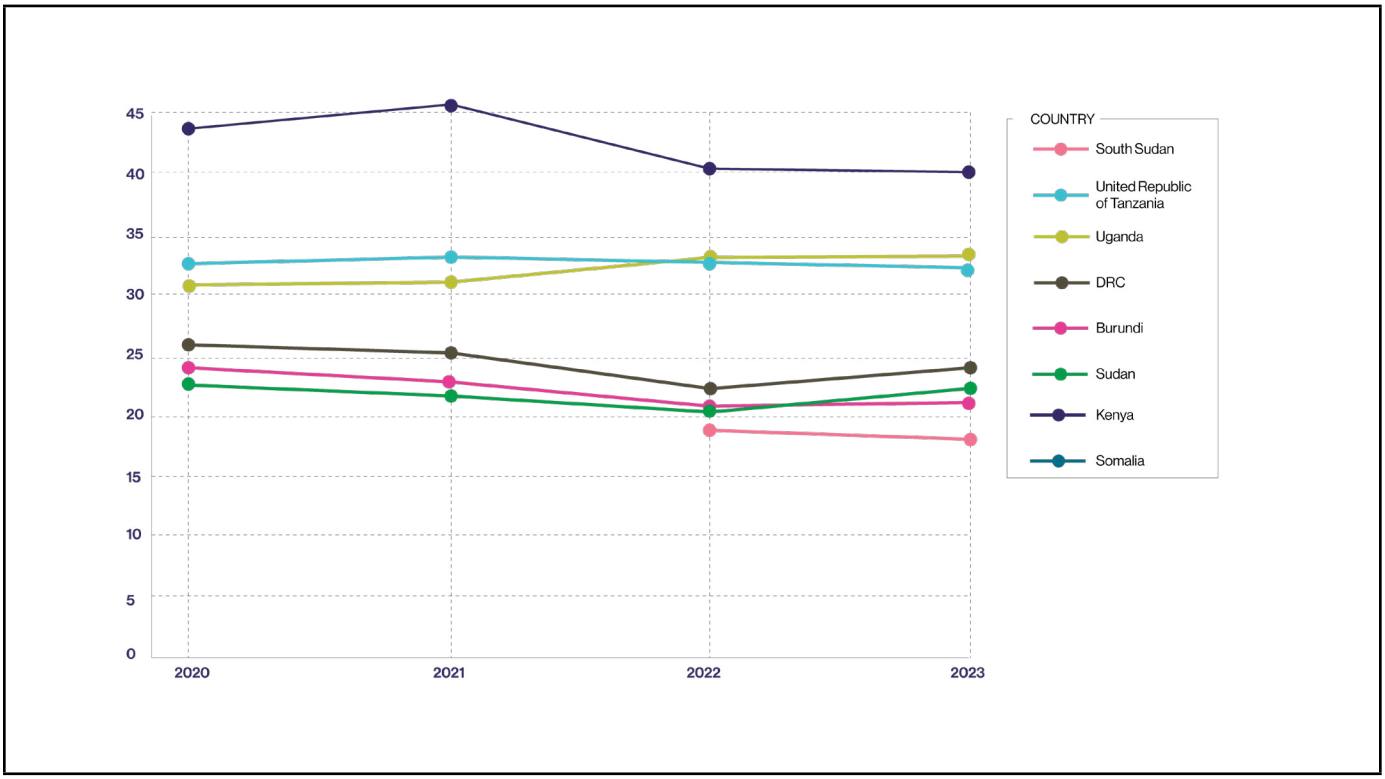
39 https://oxfordinsights.com/ai-readiness/ai-readiness-index/#:~:text=the%20data%20yourself!-,Our%20Findings,-Government%20Pillar

40 East African Community "EAC Partner States". (Accessible here.)

41 EUI. 2024. Africa outlook 2024.

Over the past five years, East Africa has made significant progress in adopting and integrating emerging technologies across various sectors and industries. This technological advancement is reflected in the region's performance on the Government AI Readiness Index. Let's take a closer look at how East Africa has fared in this index over the years.

Government AI Readiness Index in the EAC Region



While AI adoption in the region is progressive with advancements that hold tremendous potential, they also introduce challenges that must be carefully managed. This underscores the critical need for a robust regulatory framework to guide the use, implementation, and development of these technologies. Let's explore how the regulatory landscape in the region has evolved over the past five years:

EAC AI Regulatory framework

No country in the region has dedicated AI legislation. However, 4 out of the 8 countries regulate AI systems' processing of personal data through their data protection laws, offering some protection against automated processing and decision-making. Data protection laws are the most prominent form of AI governance in the EAC region. Currently only 2 out of the 8 countries have an AI strategy/ policy.

Let's examine the AI governance frameworks and developments across individual countries in the region.

Uganda.

In 2018, President Museveni established a National Expert Taskforce on the 4IR to advise the government on leveraging 4IR applications for development challenges. The taskforce identified the need for a national 4IR strategy to highlight key opportunities for adopting these technologies and scaling them safely.

In 2022, Uganda became the first EAC country to publish its National 4IR Strategy, aiming to create a smart and connected Ugandan society. The strategy is part of Uganda's Digital Transformation Roadmap,[42] released in August 2023. The Roadmap highlights the potential of innovative technologies in achieving Uganda's development goals and outlines several key enablers for AI, including:

- Developing a National AI Strategy to guide the social value, unity, and impact of AI and other data-driven technologies.
- Investing in AI literacy and research to promote effective interaction with AI systems, reduce digital divides, stimulate ethical AI development, and enhance understanding of AI's social, legal, and ethical implications.
- Creating ethical frameworks and self-assessment tools to support the responsible use of AI.
- Establishing a Data and AI Ethics Council to oversee AI ethics principles and coordinate independent research into best practices and standards for ethical data and AI technology applications. The Council would include academic and industry stakeholders and engage with national, regional, and international expertise.

In July 2024, Uganda established a task force dedicated to AI.[43] Chaired by IT professional Michael Bamwesigye, the task force, a brainchild of the Uganda Communications Commission (UCC), was mandated to develop a comprehensive framework for AI's integration into the country's development agenda.

Rwanda

Rwanda developed its' National Artificial Intelligence Policy. A roadmap designed to harness the benefits of AI while addressing its associated risks. Aligning with the Vision 2050 and Smart Rwanda Master Plan, this policy aims to enable sustainable and inclusive growth through AI. It positions Rwanda as a leading African Innovation Hub and a Centre of Excellence in AI by engaging local, regional, and international stakeholders.

Developed by MINICT and RURA with support from GIZ FAIR Forward, C4IR Rwanda, and The Future Society, the policy is centred around the vision of making Rwanda a global centre for AI research

42 Uganda Ministry of ICT and National Guidance Digital Transformation Roadmap 2023/2024 – 2027/2028 (2023).

43 *newvision.co.ug*. "New AI Taskforce to Shape Uganda's Tech Landscape." July 26, 2024. https://www.newvision.co.ug/category/news/new-ai-taskforce-to-shape-ugandas-tech-landsc-NV_192901. A

and innovation. Its mission is to leverage AI to boost economic growth, enhance quality of life, and establish Rwanda as a global leader in responsible and inclusive AI. Key national objectives include positioning Rwanda as Africa's AI Lab, building 21st-century skills, and creating a trusted data ecosystem. This policy focuses on six key areas including AI literacy, infrastructure, data strategy, AI adoption in both the public & private sectors, and ethical implementation.

The policy presents several important recommendations aimed at advancing Rwanda's AI ecosystem. These include reskilling the workforce, establishing world-class AI education standards, adapting the curriculum to emphasise STEM skills, and ensuring access to reliable cloud computing resources.

The policy emphasises the need for improved data accessibility, stronger AI policy and regulation, and collaboration to measure and enhance Rwanda's global AI competitiveness. The policy seeks to;

- boost private sector AI adoption,
- support the emerging AI ecosystem, and
- operationalize ethical AI guidelines.

When Rwanda launched its national AI policy, Paula Ingabire, Minister of ICT and Innovation, emphasised the country's goal to become Africa's leading hub for developing trustworthy AI technologies tailored to the continent.[44]

> "To achieve this vision, the country has adopted an ambitious plan to leverage AI to drive economic growth, enhance public service delivery, and foster inclusive and sustainable development," she said.

The government estimates that the AI ecosystem could be worth $589 million in the next five years, but implementing the policy will require an investment of $76.5 million within the same period.[45]

United Republic of Tanzania

Tanzania does not have a national AI strategy or policy. However, in February 2022, the Ministry of Health published a Policy Framework for Artificial Intelligence in the Health Sector. This framework outlines key aspects such as processes, technologies, capabilities, stakeholders, principles, and recommendations for implementing and using AI in healthcare. It aims to build on the existing digital health and data landscape to improve health outcomes.

The framework also serves as a foundation for developing national policies and regulatory mechanisms for AI use in the health sector. Guiding stakeholders, including policymakers, health managers, healthcare providers, funders, training institutions, and implementers, on leveraging AI effectively.

44 Rwanda in Zimbabwe. "Rwanda to Become Hub for AI Research in Africa." n.d. https://www.rwandainzimbabwe.gov.rw/actualites/info-details/rwanda-to-become-hub-for-ai-research-in-africa#:~:text=Rwanda%20is%20recognised%20as%20one,private%20sectors%20and%20ethical%20implementation.

45 Ibid.

In addition, the Ministry of Communication and Information Technology's strategic plan acknowledges AI's potential for development but does not offer detailed guidelines on its application or governance.[46] Regulation related to AI is partially addressed through Tanzania's new data protection law. Although progress in AI governance has been slow, recent initiatives like the AI4D-Lab, which focuses on responsible and multidisciplinary AI research, may encourage future governance efforts.

Kenya

Kenya does not yet have a national AI strategy or policy in place. However, on April 8, 2024, the country launched the National AI Strategy Development Process by the Ministry of ICT and Digital Economy, in collaboration with Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.[47] This initiative, ***"FAIR Forward – Artificial Intelligence for All,"*** focuses on responsible AI development to promote sustainable growth.

In June 2024, the Ministry of ICT and Digital Economy, in partnership with GIZ, began developing a comprehensive National AI Strategy.[48] This strategy aims to guide Kenya in AI development, application, and governance, ensuring that the technology's potential is maximised while addressing ethical considerations and national interests.

In 2018, Kenya's Ministry of Information, Communications and the Digital Economy (ICDE) established a taskforce to develop a roadmap for emerging technologies, including Distributed Ledgers and Artificial Intelligence.[49] Aimed at shaping the Fourth Industrial Revolution. The taskforce was tasked with reviewing AI technologies, assessing their potential contributions to Kenya's agenda, and providing an implementation roadmap.[50] The task force's report, delivered in July 2019, explored how AI and other emerging technologies could enhance sectors such as food security, housing, healthcare, manufacturing, cybersecurity, and land rights.[51]

In the sector specific AI regulation, the Media council of Kenya unveiled Taskforce on Data and AI Guidelines. Speaking during the launch of the taskforce, the Media Council of Kenya CEO David Omwoyo said,[52]

> "AI is offering several opportunities in the media sector, but we need to put in place ethical guidelines that will help govern its use in Kenya, especially for the media

46 Tanzania Ministry of Communication and Information Technology Strategic Plan for the Period of 2021/22 – 2025/6.

47 David Indeje. "Kenya's Path to AI: Launch of Kenya's National AI Strategy Development Process." KICTANet, May 6, 2024. https://www.kictanet.or.ke/kenyas-path-to-ai-launch-of-kenyas-national-ai-strategy-development-process/.

48 David Indeje. "Kenya Unveils National Emerging Technologies and AI Strategy Framework." KICTANet, June 5, 2024. https://www.kictanet.or.ke/kenya-unveils-national-emerging-technologies-and-ai-strategy-framework/#:~:text=The%20overarching%20vision%20of%20the,both%20localized%20and%20globally%20competitive.

49 Government of Kenya, The Kenya Gazette, No.2095 of 3 August 2018.

50 International Telecommunication Union Development Sector Collaborative regulation for digital transformation in Kenya: A country review (2023), page 25 (ITU report).

51 Ministry of Information, Communications and Technology "Emerging Digital Technologies for Kenya: Exploration and Analysis" (July 2019).

52 "MCK Unveils Taskforce on Data and AI Guidelines." Media Council of Kenya, October 24, 2023. https://mediacouncil.or.ke/index.php/media-center/mck-newsroom/news/mck-unveils-taskforce-data-and-ai-guidelines.

industry”

He added there is a need to develop broader and general guidelines on the usage of AI and data.

> “These guidelines will play a crucial role in shaping future regulatory initiatives undertaken by regulators”

Somalia

Somalia does not currently have a dedicated national AI strategy or policy. Instead, the country developed a national ICT Policy and Strategy in 2019, which outlines a five-year plan (2019-2024) to leverage ICT for social and economic development. The goal of this policy is to facilitate Somalia’s digital transformation, promote a knowledge-based and inclusive society, and accelerate progress toward the Sustainable Development Goals (SDGs). The ICT Policy and Strategy defines priorities and intervention areas to support the ICT sector and broader socio-economic development.

In 2017, Somalia enacted the National Communications Law, establishing the National Communications Agency (NCA) as the regulatory authority.[53] This law sets out the agency’s structure, decision-making processes, and responsibilities, aiming to create a competitive and enabling regulatory environment for voice, broadband, and postal communication services.

Regarding AI development and regulation, the ICT Policy acknowledges the need to address emerging technologies such as the Internet of Things (IoT), AI, robotics, machine-to-machine (M2M) services, net neutrality, big data, blockchain, and cryptocurrencies. The policy notes that as these technologies evolve, it will need to be reviewed and updated to address new challenges and opportunities.

ccc

Table showing AI Regulation framework in East Africa Region

Country	Dedicated AI legislation	Data protection legislation addresses AI	Has a national AI strategy	Has a policy or draft policy on AI	**Expert body on AI has been established**
Kenya	No	Yes	No	No	Yes[54]
Uganda	No	Yes	Yes	No	Yes
United Republic of Tanzania	No	Yes	No	No	No
Rwanda	No	Yes	No	Yes	Yes[55]
South Sudan	No	No	No	No	No
Sudan	No	No	No	No	No
Burundi	No	No	No	No	No
Somalia	No	No	No	No	No

SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC)

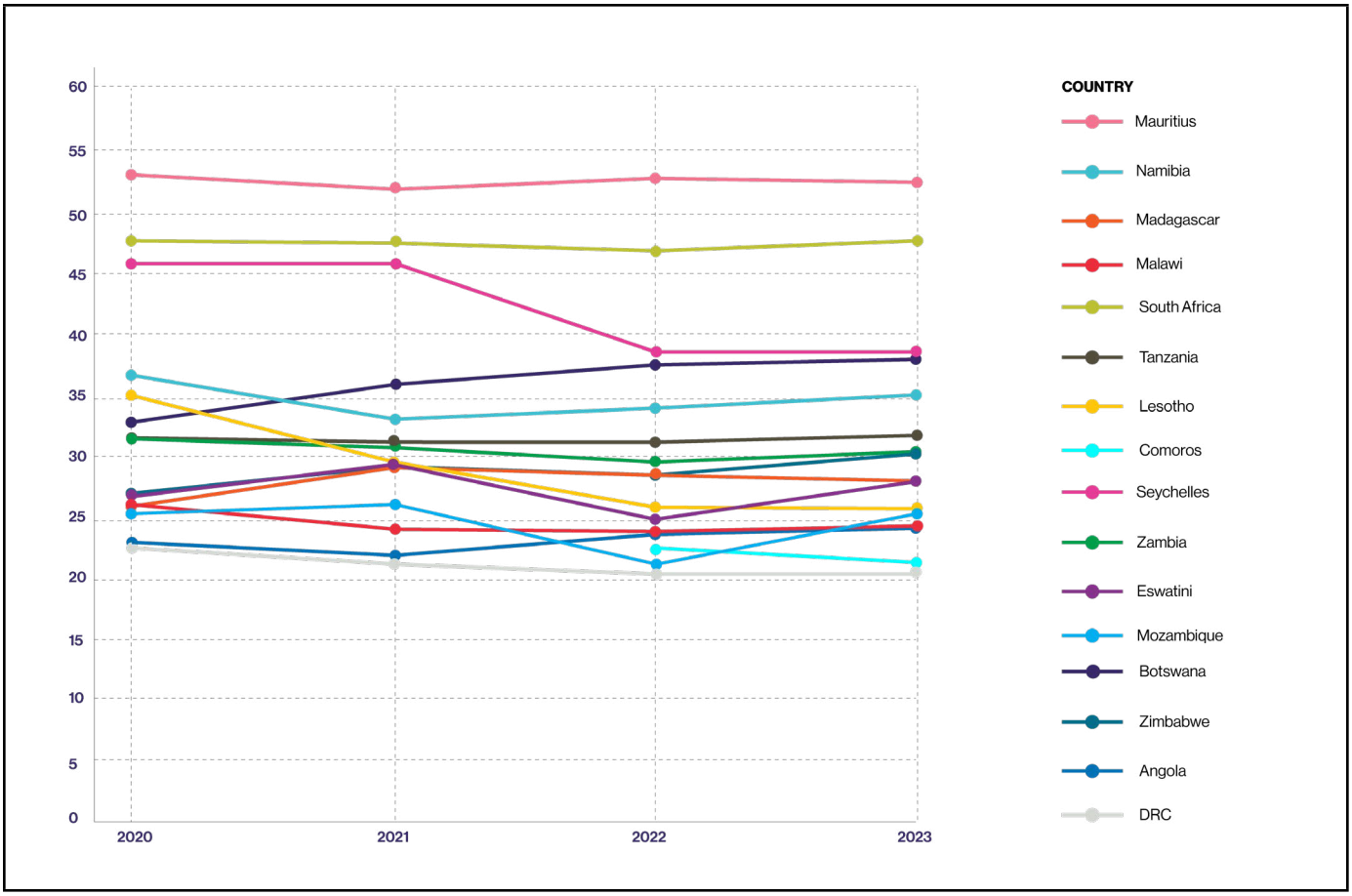
The SADC region is proliferating the use of AI with growing examples lying in applications and innovations across various sectors including education, health, labour and climate change, which offers significant opportunities for socio-economic development.[56] Consequently, supporting regulatory frameworks that can ensure sustainable and ethical AI as well as digital transformation remains imperative.

54 The Taskforce on Distributed Ledgers and Artificial Intelligence. For more information See The Kenya Gazette, No.2095 of 3 August 2018.

55 Rwanda Centre for the Fourth Industrial Revolution.

56 Adams, R., Shilongo, K. and Gaffley, M. (no date) *Landscape study of AI policies and use in Southern Africa*, *Unesdoc.unesco.org*. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000382651 (Accessed: 08 August 2024).

Government AI Readiness Index[57] in the SADC Region



Based on the Government AI Readiness Index by Oxford Insights[58], sub-saharan Africa has the lowest average score of any world region in the index, which signifies challenges to government AI adoption in the region. Despite this, a closer look across 2020 - 2024 displays significant progress and development in government AI readiness in the region, as relates to developments in government, technology and data and infrastructure.

In particular, countries in the SADC region have displayed continuous improvement in scores across the years, with the most notable progress being between 2020 and 2021. Mauritius, South Africa and Seychelles have had the top scores in Africa since 2020.

In 2023, 10 countries (Mauritius, South Africa, Seychelles, Namibia, Zambia, Madagascar, Lesotho, Eswatini, Angola, Comoros) experienced a slight deep, with reduced scores compared to the previous year 2022.

57 *Gov Ai Readiness Index* (2024) *Oxford Insights*. Available at: https://oxfordinsights.com/ai-readiness/ai-readiness-index/ (Accessed: 08 August 2024).

58 Ibid

AI Policies and Laws in SADC Region

The Government of Mauritius published the AI Strategy in 2018. Key considerations of the Mauritian AI Strategy include the potential applications and impact of AI, the establishment of an ecosystem to nurture AI development, and the creation of a regulatory framework for AI oversight. The Mauritian AI Strategy recognizes the ability of AI technologies to integrate into the broader Mauritian economy and support productivity, economic growth, and quality of life.

Further, the Financial Services (Robotic and Artificial Intelligence Enabled Advisory Services) Rules 2021 which provides a regulatory framework for services providers of Robotic and Artificial Intelligence Enabled Advisory Services.[59]

Zambian ICT Minister in May 2024 announced the finalisation of the drafting of an Artificial Intelligence (AI) policy that would guide the country on how to harness the benefits of the latest technologies, further announcing that the AI plan will be launched within two months.[60] The initiative is seen as a crucial step towards achieving Zambia's ambitious goal of producing 3 million tonnes of copper annually, utilising AI to enhance mineral exploration and production processes.

Similar efforts have been taken in Zimbabwe where the government is set to come up with an Artificial Intelligence (AI) policy, with consultations and framework formulations considered to be at advanced stages.[61] The policy seeks to explain how Zimbabwe is prepared to embrace AI and what laws are we supposed to enact in relation to the adoption of AI.

In South Africa, the Department of Communications and Digital Technologies (DCDT) unveiled its ambitious draft National AI plan at the National AI Government Summit, which outlines a visionary roadmap for harnessing the transformative power of AI to propel socio-economic development, foster innovation, and navigate the challenges and opportunities of digital transformation.[62] The country published the first draft of the strategy on 15th August 2024 and opened a formal consultation process, inviting public feedback via email until the end of September 2024.[63]

Tanzania is in the early stages of drafting a national AI strategy and guidelines led by the Ministry of Information, Communication and Information Technology (MICIT).[64]

Seven South African countries met and drafted the Windhoek Statement on Artificial Intelligence in Southern Africa in partnership with UNESCO. The countries include Malawi, Botswana, Namibia,

59 Kowlesser, N. and Kadeer, Z. (2021) *The FSC issues new rules on robotic and AI enabled advisory services*. Available at: https://www.blc.mu/the-fsc-issues-new-rules-on-robotic-and-ai-enabled-advisory-services/ (Accessed: 11 August 2024).

60 DW Team.(2024) *Zambia finalizes AI policy to boost copper production*, *DigWatch*. Available at: https://dig.watch/updates/zambia-finalizes-ai-policy-to-boost-copper-production (Accessed: 11 August 2024).

61 Masuku, L. (2024) *Government to launch AI policy*, *zbcnews*. Available at: https://www.zbcnews.co.zw/featured/government-to-launch-ai-policy/ (Accessed: 11 August 2024).

62 Adams, N.-R. (2024) *South Africa's National AI Plan*, *Michalsons*. Available at: https://www.michalsons.com/blog/south-africas-national-ai-plan/72988 (Accessed: 11 August 2024).

63 Ifeoma Joy Okorie. "South Africa Publishes a National AI Policy Framework, Seeks Feedback." TechPoint Africa, August 15, 2024.

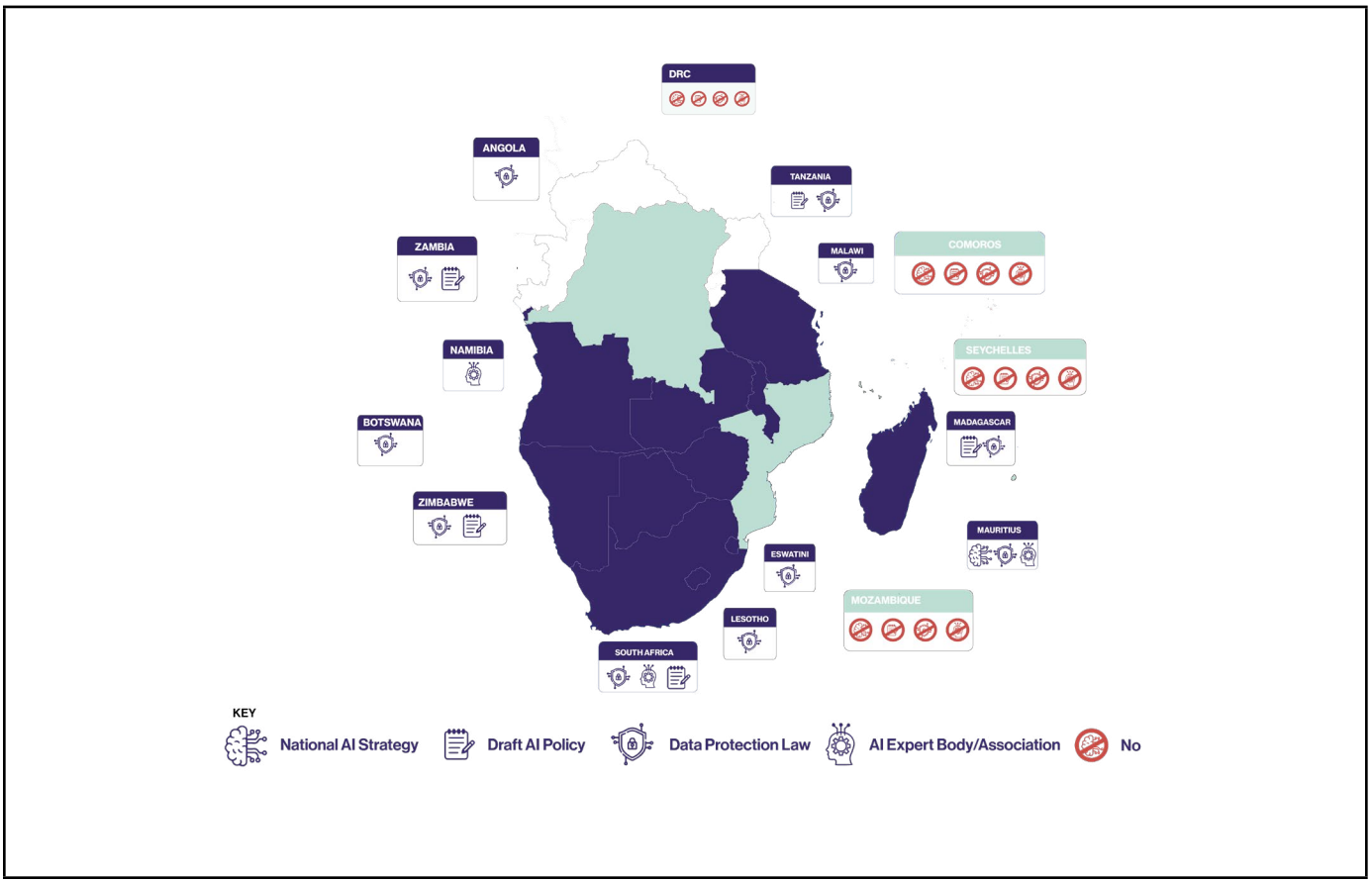
64 Kombo, S. (2024) *Tanzania is Drafting a National AI Strategy and Guidelines*. Available at: https://techweez.com/2024/06/04/tanzania-developing-a-national-ai-strategy/ (Accessed: 11 August 2024).

South Africa, Mozambique, Zambia, and Zimbabwe.[65]

> In 2024, Zambia, Zimbabwe, and South Africa put out draft National AI policies and Plans. Tanzania is in the early stages of drafting an AI Strategy.

Foundational Laws for Responsible AI

Unlike Mauritius, most countries in the SADC region are yet to implement national approaches to AI regulation and implementation. This may be due to a lack of policy capacity but possibly also pragmatism as policy actors look to navigate policy and regulation options related to a range of frontier technologies associated with the 4IR.



South Africa, for instance, has no national approach to AI regulation. Despite this, businesses in South Africa are experiencing a greater uptake of AI compared to other African countries, creating an urgent need for AI regulation. In response, the South African Department of Communications and Digital Technology (DCDT) introduced a discussion document on AI in April 2024.

65 UNESCO (2022) *Windhoek Statement on Artificial Intelligence in Southern Africa, Windhoek (Namibia), 9 September 2022*, *unesco*. Available at: https://unesdoc.unesco.org/ark:/48223/pf0000383197 (Accessed: 11 August 2024).

The Minister of the DCDT, in the introduction to this Discussion Document[66] that seeks to initiate discussion between the public and private sector to facilitate AI innovation, emphasises South Africa's ongoing efforts to develop an AI-focused legislative framework. The Discussion Document outlines the government's key AI priorities and sets policy development deadlines to ensure that South Africa remains competitive in the global AI landscape. The purpose of the Discussion Document is to foster dialogue between the South African Government and the private sector. These interactions aim to establish guiding principles for AI regulation and develop a comprehensive regulatory framework. The approach differs from that of the other African countries as it involves an extensive consultative process with the South African private sector and a longer implementation timeline.

South Africa's Department of Communications and Digital Technologies unveiled the country's national policy framework for artificial intelligence, marking the country's initial step towards drafting a comprehensive AI policy. The department opened a formal consultation process, inviting public feedback via email until the end of September 2024. The framework underscores the need to carefully address AI's ethical, social, and economic implications to maximise its benefits while mitigating risks. Emphasising the importance of human-centred AI, the policy aims to ensure that AI applications enhance human decision-making and support a thriving innovation environment.[67]

For Seychelles, although it stands out as one of the best-prepared African countries in terms of ICTs under the Government Global AI Readiness Index, the country has no AI legislation, National AI Strategy or policy. Triggered by concerns over the unregulated use of AI, a local journalist, Srdjana Janosevic, proposed The Pro-Human Technology Bill.[68] This legislation is a call to action for Seychelles' lawmakers to ensure technology serves humanity without infringing on rights or livelihoods. The bill focuses on issues ranging from employment protection to the rights of children in education, from access to services without the internet to the fight against digital forgery.[69]

Botswana is among the 193 Member States that adopted the recommendation on the ethics of AI at the United Nations Educational, Scientific and Cultural Organization's (UNESCO) general conference in November 2021, but it still has not yet assimilated these recommendations and developed AI ethics for the economy's digital transformation strategy.[70] These findings also imply that, to some extent, Botswana is lagging in responding effectively to technological changes, as evidenced by a lack of AI representativeness in the current regulatory laws and ethical principles.

> ''...there is no code of practice in place for the operationalization of closed-circuit television (CCTV) surveillance in public space. Facial recognition technology is

66 *South Africa's Artificial Intelligence (AI) Planning Discussion Document*. Available at: https://www.dcdt.gov.za/images/phocadownload/AI_Government_Summit/National_AI_Government_Summit_Discussion_Document.pdf (Accessed: 11 August 2024).

67 Ifeoma Joy Okorie. "South Africa Publishes a National AI Policy Framework, Seeks Feedback." *TechPoint Africa*, August 15, 2024.

68 CryptoRank. *Seychelles Parliament discuss a bill to tackle AI: Ai*, *CryptoRank*. Available at: https://cryptorank.io/news/feed/6f320-seychelles-parliament-tackle-ai (Accessed: 11 August 2024).

69 Ibid

70 Shonhe, L. and Kolobe, M. (2023) *A Glimpse into Botswana's AI Readiness Landscape*. Available at: https://jedem.org/index.php/jedem/article/view/812/566#:~:text=Despite%20Botswana%20being%20among%20the,AI%20ethics%20for%20the%20economy's (Accessed: 11 August 2024).

being deployed without guidelines reconciling the imperatives of public safety and protection with the fundamental rights to personal privacy."[71]

This situation where countries are lacking in comprehensive national AI laws, strategies and policy is cross-cutting through Tanzania, Namibia, Zambia, Zimbabwe, Madagascar, Lesotho, Eswatini, Angola, Malawi, Comoros, Mozambique and DRC.

In Tanzania the most recent Strategic Plan 2020 - 2027 from the Ministry of Communication and Information Technology noted the ability of AI to assist in development but does not provide any comprehensive guidelines on its intended application or governance.[72]

Lesotho's Department of Mathematics and Computer Science in the National University of Lesotho is now mandated to include research on AI systems and projects.[73] This is in line with the country's National Science and Technology Policy, which sees the role of research and development as a major activity that defines the critical agenda in the national system of innovation and in the industrial and commercial transformation.[74]

Angola, despite being one of the world's largest oil producers, is among Africa's least AI-ready economies.[75] In 2021, the Minister of Telecommunications, Information Technologies, and Media, during the Forum on Digital Transformation, emphasised the potential of AI in driving the country's digital evolution, followed with efforts including the government signing the memorandum of understanding with the UAE for the Digital Angola 2024 Strategy.[76] The government passed a Law on Video Surveillance (Lei da Videovigilância 2/20) in 2020, which aims to balance requirements for security and public order with the right to privacy and other fundamental rights by outlining various limits and obligations related to video technology and data use, transparency, and admissibility as evidence.[77]

Malawi has identified digitalisation as integral to its long-term development vision, Malawi 2063. Additionally, the National Digitisation Policy for 2023–2028 aligns and emphasises the importance of digital transformation in delivering economic growth, good governance and overall improvements in quality of life.[78]

The Strategic Plan for the Information Society 2019-2028 in Mozambique identifies a range of opportunities for enhancing data analysis and statistical data processing, with a variety of actions

71 Mudongo, O. (2021b). LONDA: Botswana digital rights and inclusion 2020 report. Lagos: Paradigm Initiative. Available at: https://paradigmhq.org/wp-content/uploads/2021/05/lr-Botswana-DigitalRights-Inclusion-2020-Report.pdf

72 Tanzania Ministry of Communication and Information Technology Strategic Plan for the Period of 2021/22 – 2025/6. (Accessible here.)

73 Effoduh, J. (2020) *7 Ways that African States are Legitimizing Artificial Intelligence*, *openAIR*. Available at: https://openair.africa/7-ways-that-african-states-are-legitimizing-artificial-intelligence/ (Accessed: 11 August 2024).

74 IST-Africa Initiative. *National ICT Research Capacity and Priorities for Cooperation - Kingdom of Lesotho*, *IST-Africa*. Available at: http://www.ist-africa.org/home/default.asp?page=doc-by-id&docid=5189 (Accessed: 11 August 2024).

75 According to Oxford Insights Government AI Readiness Index 2023

76 Nyamwaya, D. and Kgomo, J. (2023) *Case Studies of AI Policy Development in Africa*. Available at: https://arxiv.org/html/2403.14662v1 (Accessed: 11 August 2024).

77 *Video surveillance regulation in Angola* (no date) *African AI Observatory*. Available at: https://www.africanobservatory.ai/social/video-surveillance-regulation-in-angola (Accessed: 11 August 2024).

relevant to AI. This includes pursuing a more coordinated national approach to data exchange and access, as well as an Open Data Policy and Government Open Data Platform.[79]

AI Associations

In November 2022, South Africa's Department of Communications and Digital Technologies (DCDT) launched an Artificial Intelligence Institute of South Africa (AIISA) to encourage the take-up of AI and localised AI solutions.[80] Within it, is hosted the Tshwane University Of Technology AI Hub (TUT Hub) which focuses on developing technologies that support SMMEs, local communities, industry, the national AI strategy and global projects and The University Of Johannesburg AI Hub which focuses on projects including AI in mining, farming, the criminal justice system development and AI capacity building for public servants.[81]

In addition, the country's Department of Higher Education, Training, and Innovation (DHET&I) established the WEF Affiliated AI Centre which focuses on AI Ethics and the Centre for Artificial Intelligence Research (CAIR) which focuses on AI Research.[82]

Seychelles set up the Seychelles Innovation Hub which serves as an incubation ground for start-ups and entrepreneurs, facilitating the development of their ideas and bringing them to market.[83] As the epicentre of the AI ecosystem, the Seychelles Innovation Hub attracts startups and innovators from around the world. It offers a range of services, material, and human resources as well as financial support to perfect projects. It is also an opportunity for entrepreneurs to network and benefit from the expertise of industry leaders.

Tanzania recently saw the creation of the AI4D Africa's Anglophone Multidisciplinary Research Lab, which conducts multidisciplinary, responsible AI research, with the aim of prompting engagement in governance considerations.[84]

Botswana is involved in various initiatives focused on the regional harmonisation of its digital policies and regulations: The DataCipation project which supports the development of digital policies across African Union member states and seeks to enhance citizen participation in the digital economy.[85] Additionally, Botswana participates in the African Union's Policy and Regulation Initiative for Digital Africa (PRIDA)[86] which has involved regional engagements backed by the International Telecommunication Union (ITU). Botswana has also joined the EU-funded Cyber for Development Project, which aims to bolster cyber resilience through coordinated organisational and technological efforts.

79 Mozambique – Strategic Plan for the Information Society 2019-2028, Resolution No. 52/2019

80 *AIISA: Launch – Artificial Intelligence Institute of SA* (2022) *AIISA LAUNCH*. Available at: https://aii-sa.co.za/ (Accessed: 11 August 2024).

81 *AIISA: Launch – Artificial Intelligence Institute of SA* (2022) *AIISA LAUNCH*. Available at: https://aii-sa.co.za/ (Accessed: 11 August 2024).

82 *Sa, World Economic Forum Sign Accord to establish 4IR affiliate centre* (2019) *Department of Science and Innovation*. Available at: https://www.dst.gov.za/index.php/media-room/latest-news/2804-sa-world-economic-forum-sign-accord-to-establish-4ir-affiliate-centre-2 (Accessed: 11 August 2024).

83 R, M. (2024) *South Africa's Artificial Intelligence (AI) Planning Discussion Document*, *Seychelles' Thriving Artificial Intelligence Ecosystem*. Available at: https://www.capmad.com/technology-en/seychelles-thriving-artificial-intelligence-ecosystem/#:~:text=The%20Seychelles%20government%20is%20actively,of%20an%20appropriate%20regulatory%20framework. (Accessed: 11 August 2024).

84 *AI4D Africa's Anglophone Multidisciplinary Research Lab* (2024). Available at: https://nm-aist.ac.tz/ai4d-africas-anglophone-multidisciplinary-research-lab/ (Accessed: 11 August 2024).

85 GIZ, Citizen Engagement and Innovative Data Use for Africa's Development (DataCipation), 2021.

86 ITU, Policy and Regulation Initiative for Digital Africa (PRIDA), 2019

Conclusion

From the foregoing, both public and private entities in Southern Africa are adopting AI applications at a rapid rate. It is evident that AI technologies are already being used and have been deployed in many domains and sectors in the region. This counters the narrative that the ethics of AI is still premature to be discussed and needs to be taken seriously by the local actors in the region.[87]

Most recently, a number of foundational laws on cybersecurity, electronic transactions and data processing have been enacted which have implications for responsible AI use and development.

Commonalities across the region include ambitions to optimise AI for the delivery of social and government services, the need to harness AI as a tool to facilitate economic development, and prioritisation of capacity development to harness these opportunities.[88]

Additionally, most countries are getting support from multinational organisations such as the World Economic Forum, UNESCO, GIZ FAIR Forward and also through regional collaborations as well.[89] For instance the drafting of the Windhoek Statement on Artificial Intelligence in Southern Africa in partnership with UNESCO, Namibia is working with UNESCO to adopt their Recommendation on the Ethics of Artificial Intelligence, and in partnership with Smart Africa Alliance, South Africa developing the Smart Africa Blueprint on AI that sets the safeguards of the nation's AI policy.[90]

87 UNESCO Office in Harare (2022) *Landscape Study of AI policies and use in Southern Africa: Research Report.* Available at: https://unesdoc.unesco.org/ark:/48223/pf0000385563 (Accessed: 11 August 2024).

88 Ibid

89 Kamau, G. (2024) *Which Countries in Africa Have AI Policies Set in Place?*, *Techweez.* Available at: https://techweez.com/2024/03/28/ai-in-africa-national-policies/ (Accessed: 11 August 2024).

90 Kamau, G. (2024) *Which Countries in Africa Have AI Policies Set in Place?*, *Techweez.* Available at: https://techweez.com/2024/03/28/ai-in-africa-national-policies/ (Accessed: 11 August 2024).

Challenges and Barriers to AI Regulation in Africa

1. Velocity

The rapid pace of AI development outstrips current regulatory frameworks and expertise. Traditional regulatory approaches, rooted in the slower industrial era, are insufficiently agile to keep up with the fast-evolving AI landscape. It's no secret that the law rarely, if ever, keeps pace with technology. Legislative processes simply do not move at the same speed as technological change, and even if they tried, they would struggle to keep up.

Africa legislators struggle to create an agile and focused regulatory system that can effectively oversee AI without stifling innovation. Current laws that have been developed, for example tech taxations, startup acts and drafts and more, all have tried to regulate the tech ecosystem but end up stifling innovation rather than implementing and supporting the sector.

2. What to Regulate

AI's multifaceted nature complicates regulation, as a "one-size-fits-all" approach could lead to either over-regulation or under-regulation in different contexts. Since AI's development, it has often been described as ungovernable. A challenge that becomes evident when attempting to regulate a technological field with a singular law or case.

AI is not just a single piece of hardware or software; rather, it is a constellation of technologies that enable computer systems to solve problems and perform tasks that would otherwise require human intelligence.[1] This means that laws and regulations will need to address multiple scenarios, applications, and technologies.

3. Competing Priorities

AI regulation is not a priority in most African countries due to pressing challenges such as insecurity, economic difficulties, political instability, and other urgent issues that demand the immediate attention of governments and legislators. These concerns overshadow the need for AI regulation, leading to either a complete lack of regulatory frameworks for AI or a slow and delayed regulatory process. As a result, many African nations have yet to fully address the implications of AI, leaving them vulnerable to potential risks associated with unregulated AI systems.

1 NSCAI INTERIM REPORT, supra note 2, at 8.

4. Limited Technical Expertise

The African continent faces a significant shortage of AI experts, particularly in the legislative and public sectors. Most of the existing expertise is concentrated in the private sector, leaving a knowledge gap among lawmakers and public officials. This lack of understanding among legislators about AI, its workings, risks, and potential harms poses a serious challenge to effective regulation. Even when there is a desire to develop policies, experts are often overlooked, resulting in regulations that may stifle innovation rather than foster progress.

This scarcity of informed voices in policy-making hinders the development of regulations that can adequately address the complexities and challenges posed by AI. AI is a relatively new technology, and many policymakers in Africa do not fully understand its potential benefits or risks. This gap in knowledge makes it difficult to develop comprehensive regulations

5. Nascent Development

AI is still in its early stages of development and adoption across Africa. Making it difficult to predict how the technology will evolve and what specific regulations will be needed. Regulators often rely on established use cases and risks to guide policy, but with AI still emerging, there's a lack of concrete examples to draw from.

Regulators may feel that with AI not being fully developed or adopted, the full impact of the technology on society, the economy, and governance is not yet clear. This uncertainty makes it difficult for them to draft regulations that are both effective and flexible enough to accommodate future developments.

6. Balancing Innovation and Regulation.

The legislative arm and governments in Africa face the challenge of encouraging innovation while also protecting citizens from potential risks. Over-regulation at an early stage could stifle innovation, while under-regulation could lead to unchecked risks. Striking this balance is particularly challenging when the technology is not yet fully understood or integrated into society.

7. Copying Syndrome

The "copying syndrome" has been a challenge in tech regulation across Africa. When it comes to tech regulations, countries often replicate established regulations, for example the GDPR, without adapting them to local contexts. This approach leads to laws that lack contextual relevance, fail to address unique local needs, and struggle with inadequate infrastructure and resources. Such regulations may not effectively support the digital environment in many African countries, potentially stifling innovation and perpetuating dependency on foreign standards.

AI inhibitors in Africa

While AI has the potential to drive significant advances in numerous social and economic fields, and with many businesses and industries shifting towards AI-driven products and services, several issues must be addressed as AI continues to emerge. These include ethical concerns, privacy protection, bias prevention in AI systems, and establishing accountability for AI-driven decisions. As AI becomes more integrated into various aspects of society, these challenges highlight the need for a more nuanced and adaptable approach to regulation.

Inhibitors to AI development in Africa include;

1. Infrastructure and Technology Gaps

AI requires immense computing power and access to vast data sets to function effectively. However, in Africa, the necessary infrastructure and technologies needed are significantly lacking. This limited access presents a major obstacle to AI development and adoption on the continent.

While internet usage in Africa is growing, it remains insufficient to support widespread AI development. Despite the rising number of users, 570 million internet users in 2022, a number that more than doubled compared to 2015. The internet penetration rate stood at around 43% in 2021, below a global average of 66%.[2]

Factors such as high costs, limited skills, and a lack of engaging content contribute to this problem. According to the International Telecommunication Union, Africa still records the highest fixed Internet costs in the world. On the continent, it costs five times more to obtain 5 gigabits. The price of broadband Internet services represents 2.9% of the monthly gross national income (GNI) per capita globally; in Africa, it is estimated at 14.8%.[3] Affordable and reliable internet is crucial for accessing AI tools and resources, and the current level of connectivity does not meet the needs for robust AI deployment and innovation.

Africa still does not have capacity to develop its own technologies in large capacities, and therefore many countries in Africa rely on Western countries for reliable technology equipment and services.[4][5] Other than western exploitations, technical dynamism is low in infrastructure development, the private and public sectors in many African countries invest low in research development with few links

2 Saifaddin Galal. "Internet Usage in Africa." Statista, January 10, 2024.

3 Mamadou Ousmanne. "Africa: The Cost of the Internet Is 5 Times Higher Than the Global Average." Powers of Africa, October 7, 2024.

4 Countries like Zimbabwe, Uganda and Ethiopia use Chinese telecom ZTE used to monitor its citizens' communication, Hikvision world's leading surveillance camera manufacturers recently opened in Johannesburg. Zimbabwe for instance, employed Cloudwalk to provide mass facial recognition and in exchange Zimbabwe sends images of its citizens to China, which gives it a cutting edge to Artificial Intelligence technologies and gaining access to African markets are gaining access to 'data' the new oil.

5 Damian Okaibedi Eke and Kutoma Wakunuma (eds), Responsible AI in Africa: Challenges and Opportunities (Springer 2023) 53.

to official technology infrastructure. In many fields like medicine and agriculture technical inputs have to be acquired abroad, there is little interest in technical adaptation and innovation.

The technology gap is massive in Africa. This is due to the poverty

2. Data Availability and Infrastructure

The lack of quality data and data infrastructure significantly impedes AI development. High-quality data is essential for training AI models, particularly for language and speech recognition applications. The UN Economic Commission for Africa (UNECA) notes that African data ecosystems are in "nascent stages" and lack comprehensive data facilities. The scarcity of data and infrastructure, such as data centres and high-performance computing resources, further restricts the development and deployment of AI solutions.

Limited data infrastructure, such as the absence of data centres, storage facilities, insufficient capacity in African National Statistical Offices, low levels of data literacy and high-performance computing resources, hampers the ability to develop and deploy effective AI solutions. Without a strong data infrastructure, it is challenging to support AI applications and research.

3. AI Skills and Talent

Africa faces a notable skills gap in AI. There is a shortage of skilled professionals capable of developing and implementing AI technologies. A Gartner survey revealed that 56% of participants believe learning new skills is essential for handling both existing and new jobs, yet there remains a significant imbalance between the demand and supply of AI skills. This shortage is exacerbated by the high global demand for AI talent, making it challenging for African countries to attract and retain skilled developers.

4. Awareness and Research

Limited awareness and low levels of research in AI contribute to slow adoption. Many AI applications developed elsewhere do not align with local needs and contexts in Africa. The continent lacks extensive local R&D, which means that imported AI solutions often fail to address specific cultural and infrastructural challenges. This gap in local research and development impedes the creation of contextually relevant AI applications.

5. Investment and Resources

Investment in AI and digital technologies is relatively low in Africa. The absence of powerful computing resources, such as supercomputers, which are concentrated in just 30 nations, limits the capacity for training large-scale AI models. This lack of investment restricts the ability to develop advanced AI solutions and hampers the growth of the AI ecosystem.

In Q2 of 2024, it is estimated that global AI investments reached $23.2 billion. However, Africa AI start-ups secured only 1% of this funding, despite being home to over 2,400 AI companies. The continent's share of AI goldrush is minimal. The disparity is due to risks associated with investing in emerging markets and lack of a robust infrastructure required to invest in AI applications and

devices. Limited financial investments constrain the ability of African researchers and entrepreneurs to participate in the cutting-edge AI. Various countries in Africa have began investing in the tool but quite pale in comparison with the resources the Global North are employing towards research.The financial gap not only limit innovations but also in addressing the challenges that AI posits, as a result, certain sectors like education, agriculture and healthcare are left behind in terms of innovation.

As a result of this disparity it trickles down to the skill gap required in developing AI tools for Africans. Strategic partnerships between the government, educational institutions and private sectors can leverage funding initiatives. Policy interventions and tax incentives geared towards AI research may create a budding environment coupled with the necessary resources to skyrocket Africa in the new buzz.. There are projections that Africa stands to gain significantly with an estimated $1.5 trillion increase in its economy alone equivalent to half of the continent's current GDP. Approximately $2.02 billion has been invested in the continent, with only 63% of AI startups that are in the initial stages where there is still experimentation and not not actual development of solutions to African problems.[6]

6. Collaboration and Innovation Hubs

There is a deficiency in mechanisms for collaboration and knowledge exchange among researchers, academia, and innovators in Africa. The limited presence of digital innovation hubs further restricts the impact and value of local innovations. Effective collaboration and innovation centres are crucial for nurturing a vibrant AI ecosystem and driving technological progress.

7. Ecosystem Development

Africa's AI ecosystem is still in its infancy, with limited capital, government support, and educational infrastructure. Successful startup ecosystems require a combination of factors, including capital, government incentives, strong universities, and an educated populace. The lack of these elements hinders the growth and scaling of AI startups and entrepreneurial activities, stalling overall progress in AI development.

8. Uncertainty

There is significant uncertainty about the benefits of AI technology. While AI offers potential advantages such as automation and improved customer experiences, many African business leaders and stakeholders are sceptical about its benefits and potential disruptions to traditional ways of working. This uncertainty creates resistance to AI adoption and limits its integration into business practices.

9. Lack of Relevant Government Policies

There is a notable absence of AI policies in Africa. With only 9 countries with AI strategies and policies out of the 55 African nations. While some countries have initiated national AI strategies and data protection laws, these efforts are still in their infancy. The African Union has proposed structured AI regulations, but there is a need for more developed and tailored policies to manage the benefits and risks of AI technology effectively.

6 Stephen Agwaibor. "African AI Startups: Navigating Growth amidst Infrastructure Gaps." Techcabal Insights, June 27, 2024.

Future Directions and Recommendations

Artificial Intelligence presents significant opportunities for Africa, offering the potential to drive economic growth, improve public services, and address critical challenges in areas such as healthcare, agriculture, and education. However, to fully harness these benefits while mitigating risks, it is essential for African nations to establish robust AI policy and regulatory frameworks. Borrowing a leaf from the AU's continental AI strategy, below is an outline of key directions and recommendations for AI policy and regulation in Africa, focusing on enhancing policy frameworks, promoting regional collaboration, fostering innovation and research, and ensuring inclusive and equitable AI development.

Enhancing Policy and Regulatory Frameworks

Africa needs to enhance policy and regulatory frameworks that are tailored to the continent's unique socio-economic landscape. Developing adaptive, forward-looking regulations that can keep pace with rapid technological advancements while ensuring ethical and equitable AI deployment. Prioritise creating inclusive, context-specific policies that address local needs, prevent the copying of foreign regulations, and promote innovation. The continental strategy proposes fifteen action areas, one of them being, 'The first action area provides for the establishment of an appropriate AI governance system and regulations at regional and national levels.'

These Regulations and policies should preserve the values of the country and continent facilitating the distribution of AI's benefits across society, protecting individuals, companies, democracy and rule of law and the environment from risks while boosting innovation and employment.

The AU's continental strategy calls for;

- The Africa Union to, 'Develop a 5 Year Implementation Plan of the Continental AI Strategy that considers the variations and disparities between AU Member States in key capabilities that underpin AI development as well as different levels of development and digital readiness.'

- AU member states to, 'Develop national AI strategies and governance mechanisms that emphasise building necessary capabilities to address the risks of AI and maximise its benefits.'

Promoting Regional Collaboration and Integration

To successfully implement AI across Africa, fostering national, regional, and continental collaboration is essential. Fragmented national and regional regulations lead to market fragmentation and reduce legal certainty for those developing or using AI systems. To achieve trustworthy AI and promote innovation, Africa needs a consistent and high level of protection across the continent:

- Establish uniform obligations and protections to prevent divergences that could hinder the free circulation, deployment, and uptake of AI technologies. This can be accomplished by fostering partnerships between African countries and regional blocs to develop unified standards, share resources, and address common challenges in AI adoption. Such collaboration will enable the pooling of expertise, data, and technological infrastructure, building a robust AI ecosystem that benefits all member states.

- Strengthen regional and international cooperation. This includes creating open science platforms and building an inclusive, interconnected, and interdisciplinary research and innovation ecosystem.

- Establish multi-stakeholder and multi-disciplinary policy dialogues on AI issues in Africa. Create platforms for exchanging experiences in developing and implementing AI strategies and ethical guidelines, drawing on international norms.

Integration efforts could lead to the creation of regional AI hubs, fostering innovation and driving economic growth. This collective approach would strengthen Africa's position in the global AI landscape and ensure that AI development aligns with the continent's unique priorities and values.

Fostering Innovation and Research

For Africa to catch up with global advancements and develop technologies that address the continent's unique challenges, fostering innovation and research in AI is essential. The continental AI strategies' 'ninth action area promotes research and innovation in AI through partnerships between academia and the private and public sectors. This action line promotes the development of challenge-driven AI research in priority areas through collaboration between the research community and the public and private sectors.'

Encouraging a culture of innovation requires:

- Investment in education and skills development, particularly in STEM fields, to build a strong foundation of local talent capable of driving AI research.

- African governments and private sectors should prioritise funding for research institutions and startups that are exploring new AI applications, especially those that can solve pressing issues in areas like healthcare, agriculture, and education.

- Nurture homegrown innovation, in order to develop AI solutions that are both relevant and impactful for our diverse populations.

- Stimulate and develop user-centred research on how users optimise the use of AI and Generative AI.

- Create an environment that encourages experimentation and risk-taking;

    - » Provide financial support,
    - » establish regulatory frameworks that are flexible and conducive to innovation and
    - » Policymakers to work towards removing barriers to entry for AI startups and researchers, such as complex regulatory requirements or lack of access to data.

For us to create a thriving research ecosystem, collaboration between academia, industry, and government is crucial:

Establish partnerships with international research institutions to facilitate knowledge transfer and expose African researchers to the latest developments in AI.

Create networks of AI research centres across the continent to enable collaboration and resource sharing, leading to more significant breakthroughs.

The governments' needs to;

- » support the mapping of AI research gaps in Africa to facilitate research and innovation and address the continent's unique challenges
- » Mobilise technical and financial resources to facilitate researchers' and innovators' access to funding and testbed and connect with international partners.

These efforts should be complemented by incentives for private sector investment in AI research, such as tax breaks and grants, to stimulate further innovation and attract top talent to the region.

Ensuring Inclusive and Equitable AI Development

In order to prevent AI and emerging technologies from exacerbating existing inequalities and to ensure that its benefits are broadly shared across all segments of society. It is essential to ensure

inclusive and equitable AI development in Africa. To achieve this, incorporate diverse voices into the AI development process, particularly from underrepresented groups such as women, youths, rural communities, and marginalised populations. Policymakers, developers, and stakeholders must work together to ensure that AI systems are designed and implemented in a way that is sensitive to the cultural, social, and economic contexts of different African communities. This inclusivity will help create AI solutions that are technically sound and socially responsible and beneficial for everyone.

- Education and awareness-raising are key components of promoting equitable AI development;
- Provide accessible AI education and training opportunities, particularly to those who are often left out of the tech industry, in order to build a more diverse and inclusive AI workforce.
- Offer scholarships, mentorship programs, and community-based initiatives to empower individuals from all backgrounds to engage with AI technologies.
- Incorporate efforts to increase public understanding of AI, ensuring that all citizens, regardless of their socio-economic status, have the knowledge to participate in discussions about AI's impact on society and advocate for their rights.
- Enhance public understanding of AI by promoting skills development, equal access to opportunities, and a diversified AI curriculum across all levels of society.
- Foster AI expertise and create policies that attract and retain skilled professionals to drive Africa's AI innovation and development.

It is mandatory for equitable AI development to require the implementation of ethical guidelines and regulatory frameworks that prioritise fairness, transparency, and accountability. These frameworks need to mandate that AI systems are regularly audited to prevent biases and discriminatory practices, and that they are designed to serve the public good. Governments and institutions must commit to monitoring AI applications to ensure they do not disproportionately harm vulnerable groups or deepen social divides.

Lawyers Hub Offices, ACK Garden House, 1st
Ngong Avenue, Upper Hill, Nairobi, Kenya.

+254 111 215 675 (WhatsApp)
Call: +254 784 840 228

Email: info@lawyershub.ke
www.lawyershub.org