GENERAL NOTICES • ALGEMENE KENNISGEWINGS

**DEPARTMENT OF COMMUNICATIONS AND DIGITAL TECHNOLOGIES**

**NOTICE 3880 OF 2026**

# DRAFT SOUTH AFRICA NATIONAL ARTIFICIAL INTELLIGENCE (AI) POLICY

The Minister of Communications and Digital Technologies, hereby publishes, in accordance with section 85 (2) (b) of the Constitution of the Republic of South Africa, 1996, the Draft South Africa National Artificial Intelligence (AI) Policy that was approved by Cabinet on 25 March 2026 (combined with the Special Sitting of Cabinet on 01 April 2026), for public comment.

Members of the public and interested persons are invited to submit their comments / inputs / written representations on this Draft Policy, within sixty (60) days of the date of publication of this notice, final day being 10 June 2026, 16h00 at the latest. Late submissions may not be considered.

All written comments and enquiries on this publication should be directed to:

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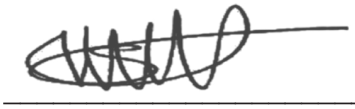
All contributors are requested to mark clearly "Draft South Africa National Artificial Intelligence (AI) Policy" in the subject field of their correspondence.

An interested person making a written submission is deemed to have consented to its disclosure to a requester, except if otherwise clearly requested by such interested person based on one of the grounds for refusal of access to records as provided in the Promotion of Access to Information Act, 2000 (Act No. 2 of 2000).

A copy of the Draft Policy is available at www.dcdt.gov.za and www.gov.za



**MR SOLLY MALATSI, MP**

**MINISTER OF COMMUNICATIONS AND DIGITAL TECHNOLOGIES**

**DATE: 09 April 2026**

## Explanatory Note

Setting a policy agenda for AI is inherently complex, as the technology has an immense range of applications. Because of the broad range of applications and applicability in almost every conceivable sector, a general national policy cannot, and should not, address every aspect of AI. Rather, a national policy's primary objective is to identify the core principles that guide sectoral approaches.

Considering the rapid development of AI technologies and the mainstream adoption of such technologies, traditional regulatory or policy development approaches are unlikely to adequately address the challenges and leverage the opportunities associated with AI. Included in this approach is the use of open-ended language in the Draft National AI Policy, which creates the opportunity for engagement towards the finalisation of the final policy document.

The Draft National AI Policy is based on the South Africa National Artificial Intelligence Policy Framework of August 2024, the 32 submissions received on this Framework, and consultations with government structures through the Cabinet Cluster process.

As such, the Department of Communications and Digital Technologies acknowledges that the Draft National AI Policy is a work-in-progress, and that the national government's final approach to the AI Policy agenda will require extensive external consultations with both local and international experts and interest groups. The Draft National AI Policy should thus be seen as a point of departure and indication of government's current thinking, rather than a strict indication of South Africa's final approach to the AI policy landscape.

There are various interventions that have wording that is purposefully open-ended (such as "establish guidelines/standards"). This approach is implemented in the Draft National AI Policy due to the acknowledgement of the importance of engaging with industry and subject-matter experts to find appropriate definitions.

Exactly because of the broad nature of AI technologies, it is important to note that the implementation of the interventions proposed by the Draft National AI Policy fall under the mandates of various government departments and entities. The successful implementation of the policy will thus require a whole-of-government approach.

The National AI Policy will establish the national priorities and norms, but a key aspect of the Policy is the recognition of sector-specific dynamics that require specialised approaches.

Sector-specific working groups will be established to develop implementation roadmaps aligned to each Cluster's sectors, including manufacturing, energy, infrastructure, transport and trade, and other such sectors where the need for specific responses are identified. These would serve in developing sector strategies and guidelines for the implementation of appropriate and specific AI.

Accordingly, DCDT envisions a staged implementation approach, to enable government to respond to the most pressing regulatory needs immediately, while simultaneously co-creating a comprehensive policy approach that is future-proof and technology-neutral:

1. **Year 1 (2025/26):**
    a. Finalisation of the National AI Policy
    b. Identification and publication of key draft regulatory requirements necessary to address unacceptable risks
    c. Initiate development of National AI Policy Guidelines
2. **Year 2 (2026/27):**
    a. Publish National AI Policy Guidelines
    b. Implement key regulatory requirements for high-risk use cases
    c. Identify and publish draft regulatory requirements for medium and low risk AI use cases
    d. Develop and adopt sectoral AI strategies
    e. Commence institutional framework design and funding approach, and secure funding.
3. **Year 3 (2027/28)**
    a. Full implementation of outstanding policy interventions, which may need to be updated to match emerging trends in AI technologies.

# DRAFT SOUTH AFRICA NATIONAL ARTIFICIAL INTELLIGENCE (AI) POLICY

(March 2026)

## Foreword

The rapid evolution of Artificial Intelligence (AI) technology presents both unprecedented opportunities and unique challenges for South Africa. This National Artificial Intelligence (AI) Policy document reflects our nation's unwavering commitment to harnessing AI's transformative power while addressing the specific needs of our society.

Building on the foundational principles laid out in the initial national AI policy framework, this document introduces expanded strategic pillars, and strategic building blocks leveraging on sector-specific applications that place greater emphasis on inclusive growth, capacity development, and safeguarding human rights. These measures are rooted in the fundamental role played by the Nation's Constitution, as well as the Bill of Rights therein.

The additional measures ensure that South Africa not only keeps pace with global advancements but also carves out a leadership role in AI adoption across the African continent.

A key enhancement to this policy is the deeper focus on the ethical governance of AI systems. Important provisions address fairness, bias mitigation, and data sovereignty, recognizing South Africa's socio-political landscape and the imperative to redress historical inequalities.

The document extends the initial AI policy framework by embedding principles of intergenerational equity, ensuring that AI-driven innovation prioritizes the well-being of current and future generations.

The development of AI ombudsperson structures and the establishment of an AI Ethics Board underscore the importance of transparency, accountability, and human-centric AI deployment.

The expanded scope of this policy also introduces targeted interventions for capacity building and digital infrastructure enhancement. It outlines comprehensive educational initiatives to integrate AI into primary, secondary, and tertiary education, fostering a robust pipeline of talent to fuel innovation.

Additionally, the document highlights the creation of AI hubs and supercomputing facilities aimed at empowering local startups and small enterprises. These initiatives reflect a strategic shift toward democratizing access to AI technologies, ensuring that economic benefits are widely distributed across sectors and communities.

As we move forward, this updated document signals a bold step toward fostering a sustainable and inclusive AI ecosystem. By aligning AI advancements with South Africa's Constitution and socio-economic goals, the policy paves the way for a resilient digital economy that prioritizes equity, innovation, and national competitiveness.

We extend our gratitude to all stakeholders whose insights have shaped this comprehensive policy. Together, we are laying the foundation for a future where AI serves as a catalyst for national economic development and social upliftment.

**OMEGA SHELEMBE**
**ACTING DIRECTOR-GENERAL**
**DATE: 2026-04-09**

# 1. Introduction and Background

## *1.1 Policy Issue Identification*

The advent of Artificial Intelligence (AI) is transforming economies and societies across the globe. As a strategic general-purpose technology, AI holds the potential to drive innovation, enhance productivity, and contribute meaningfully to socio-economic development. However, in the absence of a coherent national policy and coordinated strategies, South Africa risks falling behind in leveraging AI to address its developmental challenges and improve the well-being of its citizens. A lack of an integrated, inclusive, and contextually relevant national AI policy has the potential to exacerbate digital divides, deepen inequality, and limit the nation's ability to safeguard rights, values, and sovereignty, as well as to support the emergence of startups in a rapidly evolving global AI ecosystem.

## *1.2 Background to the Policy Issue*

South Africa's journey toward developing a national AI policy is both an opportunity and a challenge, shaped by the dynamic interplay of technological, economic, and societal forces. The rapid advancement of AI technologies globally and their transformative potential create an urgent need for South Africa to harness these innovations to remain competitive and relevant. AI offers vast opportunities for economic growth, innovation, and job creation, addressing critical social demands across healthcare, education, agriculture, and public safety. However, the pressure to harmonize with international standards and frameworks for ethical AI development and deployment underscores the necessity for robust and adaptive policymaking.

Despite these promising prospects, South Africa faces significant historical and structural barriers that complicate AI adoption. The persistent digital divide, the entrenched socio-economic inequities, the high rates of unemployment, and institutional inertia all represent substantial weights of the past that often resist change. Unequal access to technology, education, and infrastructure poses challenges to achieving equitable AI adoption and ensuring that its benefits are widely shared. In addition, outdated regulatory frameworks would struggle to keep pace with the rapid evolution of AI technologies, highlighting the urgent need for legal and institutional reforms to create an environment conducive to innovation and inclusion.

Crafting an effective AI policy for South Africa demands a delicate balance between addressing current technological imperatives, overcoming historical constraints, and striving toward a future vision of equity and sustainability. Policy interventions must bridge the gap between the push of technological advancement and the pull of economic transformation while addressing systemic inequalities. Investments in education, infrastructure, and inclusive governance frameworks will be critical to ensuring that AI not only drives economic growth but also contributes to social equity, sustainable development, and global leadership in ethical AI practices.

### *1.3 Policy Context and Environment, Links to Other Policies*

The policy is situated within a broader legislative and strategic ecosystem. It forms part of a national legislative and regulatory architecture which includes, among others: the Constitution, intellectual property, copyright, performers' rights and artists' rights including the Copyright Act of 1978, Copyright Amendment Bill and Performers' Protection Amendment Bill, Intellectual Property Rights Act 2008, Protection of Personal Information Act (POPIA 2013), the Electronic Communications Act of 2005, Electronic Communications and Transactions Act of 2002, Films and Publications Act of 1996, and Patents Act of 1978.

Other regulation and legislation which would be relevant includes the Cybercrimes Act of 2020, Technology Innovation Act of 2008, Promotion of Access to Information Act of 2000 (PAIA), National Cybersecurity Policy Framework (NCPF), the National Policy on Data and Cloud, National Integrated ICT Policy, NICIS Framework of 2014, Critical Infrastructure Protection Act or 2019, the South African Human Rights Commission Act 2013 and the like.

All these are in support of the provisions of the Constitution of the Republic, as well as the accompanying Bill of Rights. As a result, AI must not be used to violate any s9, s10, s12, s14, s15, s16, s17, s18, s19, s21, s22, s23, s24, s27, s28, s29, s30, s31, s32, s33, s35 rights. Instead, AI may be used to advance all these, as well as s11, s13, s20, s25, s26, s34 and any other rights.

It also interfaces with continental and international frameworks such as the African Union (AU) Digital Transformation Strategy, Continental AI Strategy, African Digital Compact, Data Policy Framework, among others. It also considers the Smart Africa AI Blueprint, OECD AI Principles, and UNESCO's Recommendation on the Ethics of AI, among others. The policy contributes to the realization of national initiatives, including the National Development Plan 2030, Digital Economy Masterplan, and the Presidential Commission on the Fourth Industrial Revolution (PC4IR) Report.

### *1.4 Brief Overview of the Policy Process Followed*

The development of the policy followed a phased, consultative, and evidence-based process, in line with South Africa's National Policy Development Framework of 2020. This included desktop research and benchmarking against international best practices, the identification of policy gaps and opportunities, and the integration of insights from the PC4IR Report. A multi-stakeholder engagement approach was adopted, involving consultations with academia, industry, civil society, grassroots movements, and various government departments. The policy drafting was further informed by a key working group which examined AI's implications across sectors, including health, education, finance, agriculture, and public safety. The outcomes of these engagements shaped the policy vision, objectives, and implementation priorities presented in the document.

### *1.5 Key Concepts*

#### *1.5.1 Artificial Intelligence*

Artificial Intelligence (AI) is a multidisciplinary field that integrates principles from computer science, engineering, philosophy, psychology, mathematics, neuroscience, linguistics, and biology.[1] Its primary goal is to develop intelligent agents capable of learning, modelling data, making predictions, and either autonomously making decisions or assisting humans in decision-making. While AI systems are inspired by human intelligence, they do not replicate it directly. Instead, AI aims to create machines that demonstrate reasoning, perception, learning, and adaptability in various

[1] Arias, C.R. (2022). *An Introduction to Artificial Intelligence*. SPU Works. 173. https://digitalcommons.spu.edu/works/173

contexts.[2] AI is fundamentally software-based and algorithm-driven, though it extends to physical entities such as robotics[3] and autonomous weapons.

AI can be defined as the combination of artificial (indicating non-natural) and intelligence (the ability to reason, perceive, learn, and generate insights).[4] It encompasses activities such as speech recognition, problem-solving, planning, and adaptation to different environments.[5] Advances in Big Data, computing power, and deep learning algorithms have significantly accelerated AI's capabilities, enabling it to process vast datasets more efficiently than humans.[6] AI technologies are transforming entire industries by optimizing resource use, enhancing productivity, and improving data-driven decision-making.[7]

### *1.5.2 Machine Learning*

Machine Learning (ML) is often considered a subset of Artificial Intelligence (AI) that enhances computational capabilities by enabling systems to learn from data and develop analytical models without relying solely on explicit programming.[8] Unlike traditional programming, which follows predefined rules, ML algorithms identify patterns and relationships from observed examples, allowing systems to improve performance over time. This ability has led to the development of intelligent systems

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[2] Organization for Economic Cooperation and Development. (2020). *Artificial Intelligence: How can we ensure that AI benefits society as a whole?* https://www.oecd.org/digital/artificial-intelligence/

[3] El Hadi, M. M. (2023). *Artificial Intelligence Background, Definitions, Challenges and Benefits.* https://jstc.journals.ekb.eg/article_297957_18c63823bf45bdd85ffd54bf0dafa8f5.pdf

[4] El Hadi, M. M. (2023). *Artificial Intelligence Background, Definitions, Challenges and Benefits.* https://jstc.journals.ekb.eg/article_297957_18c63823bf45bdd85ffd54bf0dafa8f5.pdf

[5] El Hadi, M. M. (2023). *Artificial Intelligence Background, Definitions, Challenges and Benefits.* https://jstc.journals.ekb.eg/article_297957_18c63823bf45bdd85ffd54bf0dafa8f5.pdf

[6] Arias, C.R. (2022). *An Introduction to Artificial Intelligence*. SPU Works. 173. https://digitalcommons.spu.edu/works/173

[7] Mohammad, S.M. (2020*). Artificial Intelligence in Information Technology*. International Journal of Innovations in Engineering Research And Technology [IJIERT]. ISSN: 2394-3696. Vol 7(6). 2020.

[8] Jayanth, A. B., Harish, R. D. S., & Binoy, N. (2017). *Machine Learning Approaches to Electricity Consumption Forecasting in Automated Metering Infrastructure (AMI) Systems: An Empirical Study*. 254-263. 10.1007/978-3-319-57264-2_26.

that can support decision-making and optimize interactions across various sectors, including healthcare, finance, and digital markets.[9]

Machine Learning employs different learning paradigms, including supervised, unsupervised, and reinforcement learning, each designed for specific tasks.[10] Supervised learning, used in classification and regression, trains models on labelled datasets to make accurate predictions.[11] Unsupervised learning identifies hidden patterns in unlabeled data, enabling techniques like clustering and dimensionality reduction.[12] Reinforcement learning, inspired by trial-and-error learning, allows systems to interact with dynamic environments and refine their actions.[13] Harnessing ML allows extraction of valuable insights from vast datasets, enhance decision-making processes, and drive innovation in AI-driven technologies, leading to improved efficiency and transformative advancements across industries.[14]

### *1.5.3 Deep Learning*

Deep Learning (DL) is a specialized branch of machine learning that leverages multi-layered artificial neural networks (ANNs) to automatically extract meaningful patterns and representations from raw data.[15] Unlike traditional machine learning techniques, which often require manual feature engineering, deep learning models learn

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[9] Shrestha, P. (2021). Application of Machine Learning and Deep Learning Techniques for Nepal Stock Market Price Prediction. 10.13140/RG.2.2.11794.38085. https://www.researchgate.net/publication/353634645_Application_of_Machine_Learning_and_Deep_Learning_Techniques_for_Nepal_stock_market_price_prediction/citation/download

[10] LeCun, Y., Bengio, Y. & Hinton, G. (2015). *Deep learning*. Nature 521, pp 436–444. https://doi.org/10.1038/nature14539

[11] Madani, A., Arnaout, R., Mofrad, M. et al. (2018). *Fast and Accurate View Classification of Echocardiograms Using Deep Learning.* Digital Med 1(6). https://doi.org/10.1038/s41746-017-0013-1

[12] Madani, A., Arnaout, R., Mofrad, M. et al. (2018). *Fast and Accurate View Classification of Echocardiograms Using Deep Learning.* Digital Med 1(6). https://doi.org/10.1038/s41746-017-0013-1

[13] Janiesch, C., Zschech, P., & Heinrich, K. (2021). *Machine Learning and Deep Learning.* Electronic Markets. 31. 10.1007/s12525-021-00475-2.

[14] Acemoglu, D. & Restrepo, R. (2018). *Artificial Intelligence, Automation and Work*. National Bureau of Economic Research. https://www.nber.org/system/files/working_papers/w24196/w24196.pdf

[15] Goodfellow, I., Yoshua, B., & Aaron, C. (2017). *Machine Learning Basics.* https://www.deeplearningbook.org/contents/ml.html

hierarchical representations of data through layers of interconnected neurons, allowing them to process complex, high-dimensional inputs such as images, text, and speech.[16] While deep learning outperforms conventional methods in tasks involving large datasets, other models like decision trees may still be preferable in cases where data is limited, or interpretability is crucial.[17] Nevertheless, advancements such as cross-modal learning have expanded deep learning's versatility, enabling it to process multiple data formats simultaneously, which is particularly valuable in fields like e-commerce and healthcare.[18]

The power of deep learning lies in its ability to automate feature extraction, reducing reliance on manual input and effectively handling unstructured and noisy data.[19] Through a hierarchical learning process, complex features are built from simpler ones, enhancing model accuracy and adaptability.[20] Various architectures, including Convolutional Neural Networks (CNNs) for image processing, Recurrent Neural Networks (RNNs) for sequential data, and Generative Adversarial Networks (GANs) for synthetic data generation, have been developed to tackle specific challenges across industries.[21] Integrating deep learning into AI-driven applications can unlock valuable insights from vast datasets, improving decision-making and fostering innovation in areas such as autonomous systems and natural language processing.[22]

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[16] LeCun, Y., Bengio, Y. & Hinton, G. (2015). *Deep learning*. Nature 521, pp 436–444. https://doi.org/10.1038/nature14539

[17] Zhang, L., Wang, S. & Liu, B. (2018*). Deep Learning for Sentiment Analysis: A Survey*. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery. 8. 10.1002/widm.1253. https://www.researchgate.net/publication/322694910_Deep_Learning_for_Sentiment_Analysis_A_Survey

[18] Zhang, L., Wang, S. & Liu, B. (2018*). Deep Learning for Sentiment Analysis: A Survey*. Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery. 8. 10.1002/widm.1253. https://www.researchgate.net/publication/322694910_Deep_Learning_for_Sentiment_Analysis_A_Survey

[19] Brynjolfsson, E. & McAfee, A. (2017). *The Business of Artificial Intelligence*. https://hbr.org/2017/07/the-business-of-artificial-intelligence

[20] Goodfellow, I., Yoshua, B., & Aaron, C. (2017). *Machine Learning Basics.* https://www.deeplearningbook.org/contents/ml.html

[21] Leijnen, S. & van Veen, F. (2020). *The Neural Network Zoo*. Proceedings 2020, 47(1), 9; https://doi.org/10.3390/proceedings2020047009

[22] Goodfellow, I., Yoshua, B., & Aaron, C. (2017). *Machine Learning Basics.* https://www.deeplearningbook.org/contents/ml.html

## 2. Problem Statement

### *2.1 Underlying Policy Statement*

South Africa stands at a critical juncture where embracing AI offers both profound opportunities and complex challenges. The underlying policy imperative is to develop a comprehensive, inclusive, and ethically grounded national AI policy that ensures responsible innovation, protects public interest, and advances social and economic transformation. This requires deliberate action to bridge the digital divide, address systemic inequalities, modernize regulatory frameworks, and build capacity for AI deployment across sectors. The policy seeks to enable safe and secure adoption of AI technologies, while safeguarding rights and aligning with national values and international norms

### *2.2 Nature, History, and Scope of the Problem (including Trend Identification and Assessment)*

Globally, AI has emerged as a general-purpose technology that is reshaping economic systems, labour markets, and governance structures. For South Africa, AI presents transformative potential to drive economic growth, improve public service delivery, and respond to national development priorities. However, the country's historical socio-economic disparities, digital inequities, and outdated institutional arrangements pose significant barriers to equitable AI adoption. The persistent digital divide, especially in underserved and rural communities, limits access to the infrastructure, skills, and opportunities needed to benefit from AI. Many South Africans remain excluded from digital services due to a lack of connectivity, affordability challenges, or inadequate digital literacy. Moreover, entrenched socio-economic inequality - stemming from apartheid-era structural injustices - continues to affect access to education, employment, and participation in the innovation economy.

Institutions tasked with regulatory oversight often struggle to keep pace with the rapid evolution of AI technologies. South Africa lacks dedicated legislative frameworks and institutional capacity tailored for AI-specific risks such as algorithmic bias, accountability in autonomous decision-making, and data protection in large-scale analytics systems. In addition, there is growing pressure to align with emerging global

standards and ethical principles for AI governance. International trends reflect a shift toward risk-based, values-driven AI regulation - seen in the European Union’s AI Act, OECD recommendations, and UNESCO's ethical AI frameworks. South Africa must respond to these developments while ensuring its AI policy reflects local socio-economic and socio-political realities, as well as developmental imperatives.

The challenge is thus multifaceted: to stimulate innovation and competitiveness, ensure fairness and inclusion, and anticipate risks; technological, ethical, economic, and societal. Bridging the gap between the "push" of current technological imperatives and the "pull" of future social aspirations, while addressing the "weight" of historical disadvantage, is central to the policy’s design.

## 3. Proposed Policy Vision

### *3.1 Proposed National Vision emanating from the South Africa AI Policy*

*"AI for inclusive economic growth, job creation, cost reduction, and a developing Africa."*

In line with the mission of the State, this vision reflects South Africa's aspiration to harness AI to catalyse socio-economic transformation, drive innovation, and contribute to a more inclusive, sustainable, and competitive national and continental future.

### *3.2 Critical Sectors for AI Implementation*

AI in South Africa will play a key role in the critical areas of:

a. **Education**
b. **Healthcare**
c. And **Agriculture**
d. (With **Public Administration implementation** as a key lever or tool).

In all these sectors, the deployment of AI relies on ***robust digital infrastructure*** and ***widespread connectivity***.

### *3.3 The Rationale for a Policy Intervention*

The development of this policy is a strategic imperative to guide the responsible and ethical development, deployment, and utilization of AI across all sectors of society. As AI technologies rapidly advance, they offer unprecedented opportunities for economic growth, improved public services, and enhanced quality of life. However, without a coherent and comprehensive policy position, these benefits could be overshadowed by potential risks such as job displacement, privacy concerns, and even national security risks.

The policy provides clear guidelines and a structured approach to harnessing AI's potential that enables adoption whilst ensuring safety, ethical use, and alignment with public interest in a risk-proportionate manner – in alignment with South Africa's socio-economic goals and values. It provides mechanisms for the establishment of a framework to regulate the development, deployment, and use of AI in a trustworthy

and ethical manner - and in a manner that supports responsible innovation and growth, in harmony with a cross-border enablement system.

A key rationale for establishing this policy is to foster sectoral strategies that address specific needs and opportunities within different industries, such as healthcare, education, security, finance, etc. By laying down an overarching policy position, the national AI policy enables the development of tailored strategies that leverage AI to drive innovation and efficiency in each sector. This approach ensures that the unique challenges and opportunities of each industry are considered, leading to more effective and targeted implementation of AI technologies. Additionally, sectoral strategies derived from this policy will facilitate a more coordinated and cohesive effort across various governmental and private entities, promoting collaboration and knowledge sharing.

The policy serves as the foundational basis for creating AI regulations and potentially future AI legislation in South Africa. As regulators work to establish rules and standards for AI, it is crucial that these regulations are grounded in a well-defined policy position that reflects the country's vision and priorities for AI. By providing a clear yet flexible stance, this policy guides the development of tailored regulatory mechanisms that ensure AI applications are safe, responsible, ethical, and aligned with public interest. This will not only protect citizens from potential harms but also build trust in AI technologies, encouraging their adoption and fostering a thriving AI ecosystem in South Africa.

### *3.4 Theory of Change for Framing the National AI Policy: A Futures Triangle Approach to Shaping South Africa's AI Landscape*

The Futures Triangle[23] approach serves as a crucial framework for framing the national AI policy, enabling the development of a comprehensive framework that addresses the multifaceted challenges and opportunities shaping South Africa's AI landscape.

[23] *Inayatullah, S. (2008). The Futures Triangle: Tracing the outline of the future.* Journal of Futures Studies*, 13(2), 1-10.*

By integrating the "Push of the Present," "Pull of the Future," and "Weight of the Past," this approach allows the policymaking effort to holistically analyse the driving forces, aspirations, and historical constraints shaping the development and implementation of AI and related policy in South Africa.

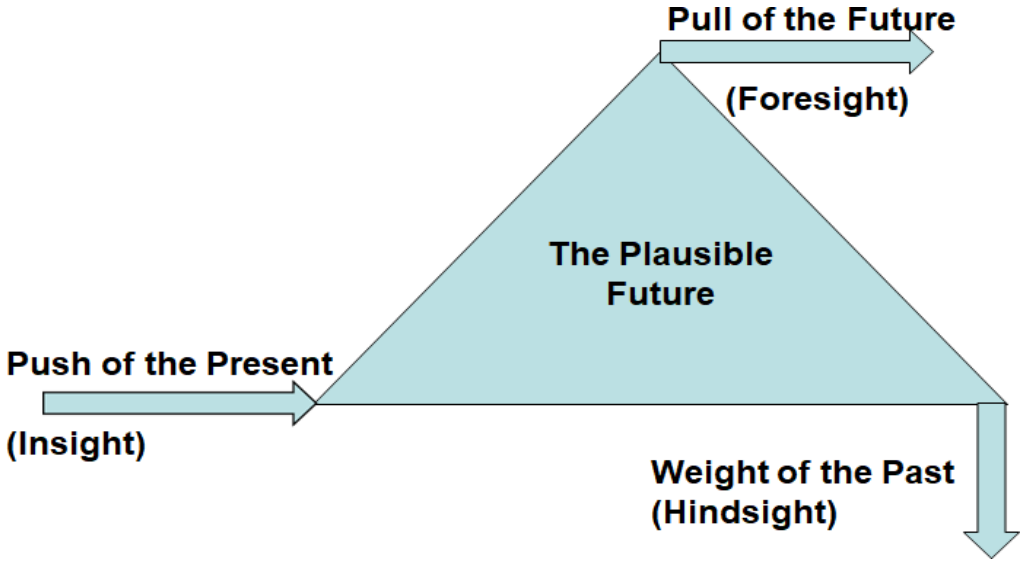


*Figure 1: Futures Triangle*

#### *3.4.1 Push of the Present*

These are the quantitative factors and patterns shaping the future.

- ***Technological Advancement:*** AI technologies are advancing rapidly worldwide, necessitating South Africa to adopt these innovations to stay competitive and relevant. The nation must keep pace with global advancements to avoid falling behind in technological capabilities. In this respect, it becomes crucial to address the current gaps in data quality, availability, and readiness for AI.

- ***Economic Necessity:*** AI offers significant potential for economic growth by enhancing productivity, creating new industries, and fostering innovation. Embracing AI can drive South Africa's economic development, unleash the

country's entrepreneurial energy, create job opportunities, and improve overall economic resilience.

- ***Social Demands:*** There is an increasing demand for AI-driven solutions in critical sectors of the economy (healthcare, agriculture, education, and public safety, etc.). AI can provide innovative solutions to social challenges, improving service delivery and enhancing quality of life.

- ***Policy Momentum:*** Global trends in AI governance and the need to harmonize with international standards are pushing South Africa to develop its own AI policies. The country needs to align with international norms and standards to ensure harmonized, ethical, and effective AI development and deployment.

#### *3.4.2 Pull of the Future*

This refers to the captivating visions of the future that are so irresistible that one cannot resist focusing on them. The National Development Plan (NDP) was aimed to envision South Africa's future where poverty, unemployment and inequality are overcome.

- ***Economic Transformation:*** The vision is to use AI to transform South Africa's economy, create new industries, reduce unemployment, and foster innovation. This involves creating a dynamic and competitive economic environment that can adapt to global changes and leverage AI for sustainable growth.

- ***Social Equity:*** Ensuring that AI contributes to social equity by addressing disparities and improving access to services is a key goal. AI can help bridge gaps in areas like healthcare, agriculture, education, and economic opportunities, promoting inclusiveness and reducing inequalities.

- ***Sustainable Development:*** AI can drive sustainable practices in agriculture, energy management, and urban planning. Utilizing AI for sustainability aligns with global environmental goals and helps South Africa

address its environmental challenges, as well as strive towards key Sustainable Development Goals (SDGs).

- ***Global Leadership:*** South Africa aims to be a leader in AI within the African continent and a significant player on the global stage. This involves not only technological advancements but also influencing global AI ethics and governance frameworks.

#### *3.4.3 Weight of the Past*

This refers to the obstacles and entrenched structures that are impeding our progress and resisting change. South Africa has shown unsatisfactory progress in dealing with its historical challenges.

- ***Digital Divide:*** The persistent digital divide, characterized by unequal access to technology and education, poses a significant challenge. Bridging this divide is crucial for ensuring equitable AI adoption and benefits.

- ***Historical Inequities:*** Socio-economic disparities rooted in historical injustices could slow the adoption of AI technologies. Addressing these disparities requires inclusive policies that ensure broad access to AI benefits.

- ***Institutional Inertia:*** Resistance to change within established institutions and bureaucratic inertia could impede the rapid adoption of new technologies. Overcoming this inertia requires strong leadership and clear policy direction.

- ***Regulatory Frameworks:*** Existing regulatory and legislative frameworks may not be equipped to handle the rapid pace of technological change. Updating and reforming these frameworks are essential to create a conducive environment for AI development.

#### *3.4.4 Analysis of the Interactions*

##### *3.4.4.1 Push-Pull Dynamics*

The strong push from technological and economic imperatives, combined with the aspirational pull of economic transformation and social equity, suggests a powerful momentum towards adopting a comprehensive AI policy. However, balancing immediate technological advancements with long-term social goals will be crucial. The push factors drive the urgent need for policy development, while the pull factors guide the policy towards sustainable and inclusive goals.

##### *3.4.4.2 Push-Weight Tension*

Current technological and economic pressures may conflict with the weight of historical issues such as the digital divide and socio-economic inequalities. Addressing these historical weights requires deliberate policy interventions that ensure inclusive access to AI benefits. Investments in fundamental digital infrastructure are necessary to bridge the digital divide and enable widespread AI adoption.

##### *3.4.4.3 Pull-Weight Interaction*

The aspirational pull towards social equity and sustainable development must contend with historical and institutional barriers. Strategies to overcome these barriers include targeted investments in education, infrastructure, and regulatory reforms to foster an enabling environment for AI. Policy must be designed to ensure that AI initiatives are inclusive and equitable, addressing historical disparities and promoting broad access to AI benefits.

## 4. Core Policy Objectives

Developing a robust and forward-looking AI policy is essential for South Africa to harness the transformative potential of AI amid the rapid global evolution of this technology. AI presents a unique opportunity to drive economic growth, enhance service delivery, and position South Africa as an innovation leader. The Fourth Industrial Revolution (4IR) is characterized by the fusion of technologies blurring the lines between the physical, digital, and biological spheres. At the core of 4IR is Artificial Intelligence (AI), which is projected to contribute approximately USD $19.9 trillion to the global economy by 2030.

By fostering advancements in key sectors such as healthcare, agriculture, education, industry and public safety, AI can become a powerful tool for addressing societal challenges and unlocking new avenues for development. A comprehensive policy will enable South Africa to align with global trends, capitalize on emerging opportunities, and establish itself as a key player in the global AI ecosystem.

However, South Africa faces significant obstacles that must be addressed to ensure the inclusive adoption of AI. Historical inequalities, persistent digital divides, and outdated regulatory frameworks pose substantial barriers to creating an environment conducive to innovation and widespread AI deployment. Addressing these challenges requires a multifaceted approach, including deliberate efforts to bridge the technological and socio-economic gaps that hinder progress. A policy-driven focus on fostering digital literacy, expanding internet access, and creating a supportive ecosystem for technological innovation is critical for unlocking the transformative potential of AI in South Africa.

A **central pillar** of the national AI policy is the concept of **intergenerational equity**, which underscores the importance of ensuring that AI development serves the needs and rights of both current and future generations. This involves embedding sustainability and ethical foresight into AI strategies to create long-term value for society while mitigating risks. By prioritizing responsible AI practices, South Africa can ensure that technological advancements promote inclusivity, protect human rights, and support Sustainable Development Goals. This ethical approach to AI policy

development positions the nation to address both immediate challenges and long-term aspirations effectively.

To achieve these objectives, South Africa must enact regulatory reforms and prioritize investments in strategic areas such as education, digital infrastructure, and research and development. Strengthening foundational capabilities will not only bridge the digital divide but also foster a skilled workforce capable of driving AI innovation. Furthermore, harmonizing and aligning the policy with international AI governance standards will enhance the country's global competitiveness while addressing domestic socio-economic disparities. By taking a holistic and inclusive approach, South Africa can leverage AI as a catalyst for economic transformation, social equity, and sustainable growth, ensuring that the benefits of AI are shared widely across all sectors of society.

The guidelines espoused in this policy must be followed. And in line with the OECD's human-centred values: "*AI actors should respect the rule of law, human rights, democratic and human-centred values throughout the AI system lifecycle. These include non-discrimination and equality, freedom, dignity, autonomy of individuals, privacy and data protection, diversity, fairness, social justice, and internationally recognised labour rights. This also includes addressing misinformation and disinformation amplified by AI, while respecting freedom of expression and other rights and freedoms protected by applicable international law. To this end, AI actors should implement mechanisms and safeguards, such as capacity for human agency and oversight, including to address risks arising from uses outside of intended purpose, intentional misuse, or unintentional misuse in a manner appropriate to the context and consistent with the state of the art.*"[24]

This policy seeks to ensure the responsible integration of AI into both public and private sector business models to unlock hidden opportunities to drive economic growth, explore ways to enhance societal well-being, and through talent and capacity development, position Africa as a leading continent in AI innovation. To achieve these

[24] *Organisation for Economic Co-operation and Development (OECD).* (n.d.). *Human centred values and principles for artificial intelligence*. *Retrieved from* https://www.oecd.org

goals, South Africa will need to introduce appropriate regulatory reforms, targeted investments in skills development, digital infrastructure development, and nurture local innovation and startup ecosystems.

### *4.1 Expected Outcomes of This Policy*

This policy is designed to lead to:

a. Increased uptake of AI technologies in public, private, society, and other sectors.
b. Enhanced institutional capacity for AI governance and regulation.
c. Growth in local AI innovation ecosystems and job creation.
d. Reduction in the digital divide through equitable access to AI education, technologies, and services.
e. Stronger national positioning in global AI discussions and partnerships.

### *4.2 Objectives of the Policy*

The policy outlines the following six (06) objectives to address identified challenges:

a. Strengthen AI-related education, research, and skills training through STEAM-focused curricula, public education campaigns, and AI community centres.
b. Use AI in public service delivery, data- driven asset distribution, and startup support through sandboxes and accelerators, as well as for industrial innovativeness and startup development.
c. Establish an AI Ethics Board, National AI Commission / Office, and AI Regulatory Authority (while configuring a harmonized regulatory environment with existing authorities) to oversee and guide AI development, implementation, and compliance.
d. Develop localized ethical standards aligned with international norms, promote fairness, transparency, accountability, and inclusiveness across the AI lifecycle.
e. Use AI tools to digitize and preserve indigenous languages, arts, music, and literature. Leverage AI for

real-time language translation in all 12 official languages, while harmonizing with international practices, and

f. Design responsible and human-centred AI tools to address rural development, supplement healthcare, enable public services, and extend education services, especially in indigenous languages.

### *4.3 Target Beneficiaries and Stakeholders*

The target beneficiaries of this policy include:

a. Citizens, particularly marginalized and underserved communities.
b. Youth, children, women, and persons with disabilities.
c. Micro, Small and Medium Enterprises (MSME) and startups.
d. Investors and the business sector.
e. Public sector entities.
f. Education and healthcare institutions.
g. Researchers and developers of AI technologies.

Key stakeholders involved in the design and rollout of AI policy include:

a. National, provincial, and local government departments.
b. Regulatory bodies.
c. Academic and research institutions.
d. Industry and professional bodies.
e. Civil society and grassroots organizations.
f. International development and governance partners.

### *4.4 Resource Allocations of This Policy – Human, Financial, Equipment, and Systems*

The following are the key resources which this policy seeks to allocate:

a. ***Human Capital***: Expand public-sector (and citizens') training in AI literacy and governance; embed AI in basic-to-tertiary education; support local AI talent through mentorship and exchange programmes.
b. ***Financial Resources***: Allocate funding for infrastructure (including data centres and supercomputing), startup support, and AI research grants. Create incentives such as tax breaks and subsidies for private-sector collaboration.

c. ***Equipment and Systems***: Invest in AI community hubs, data infrastructure, real-time analytics platforms, and connectivity tools like fibre networks, low-earth orbit satellites, and affordable devices, as well as energy and regulatory systems.

### *4.5 Roles and Responsibilities*

The following entities will play key defined roles in the regulation of AI in South Africa, as well as their roles and contribution in the AI ecosystem.

a. **Department of Communications and Digital Technologies (DCDT)**: Lead the development and implementation of the national AI policy. The Department would facilitate public-private partnerships, oversee AI regulatory compliance, and promote digital inclusion and literacy. The DCDT would be responsible as custodian for the national policy on AI, monitor the development of strategies for provinces, sectors and industries (and intervene to find solutions for inter-sector disagreements therein), the governance and regulation of AI, as well as the regulation of AI.

b. **Department of Science, Technology and Innovation (DSTI)**: Its role would be to drive research and development in AI technologies. This would include funding AI research projects and infrastructure, support innovation hubs, and collaborating with academic institutions to advance AI knowledge.

c. **Council for Scientific and Industrial Research (CSIR)**: Its role would be to conduct applied research and provide scientific support for AI initiatives. It would contribute towards the development of AI solutions for various sectors, offer technical expertise, and ensure the ethical use of AI technologies.

d. **Technology Innovation Agency (TIA)**: Its role would be to support the commercialization of AI innovations. Thus, contributing key funding and resources for AI startups, to foster innovative ecosystems, and facilitate technology transfer.

e. **Industrial Development Corporation (IDC)**: Its role would be to promote industrial growth through AI adoption. In that way, it would ensure investment in AI-driven industrial projects, supporting the integration of AI in manufacturing, and enhancing the competitiveness of South African industries.

f. **South African Human Rights Commission (SAHRC)**: Its role would be to ensure that AI technologies (and by extension the developers thereof) respect human rights and ethical standards. It would contribute to monitoring AI applications for compliance with human rights laws, address biases in AI systems, and advocate for fair and transparent AI practices.
g. **Information Regulator (South Africa)**: Its role would be to oversee data protection and privacy in AI applications. It would contribute to ensuring that AI systems comply with the Protection of Personal Information Act (POPIA) and Promotion of Access to Information Act (PAIA), safeguard citizens' data (through any other relevant legislation), and address privacy concerns related to AI technologies.

Other key international institutions and approaches to benchmark against would be:

i. National Institute of Standards and Technology (NIST) AI Risk Management Framework (AI RMF 1.0).
ii. United Nations Educational, Scientific and Cultural Organization (UNESCO) – Ten core principles of a human-rights centred approach to the ethics of AI - https://www.unesco.org/en/artificial-intelligence/recommendation-ethics#.
iii. International Organization of Securities Commissions (IOSCO) AI and ML Guidance in supervising market intermediaries and asset managers.
iv. Organisation for Economic Co-operation and Development (OECD) recommendation of the Council on Artificial Intelligence.
v. Open Worldwide Application Security Project (OWASP) - Machine Learning Security Top Ten.

### *4.6 Institutional Infrastructure and Arrangements Established*

The following entities would be established because of this policy for regulation of AI in South Africa.

a. **National AI Commission (National AI Office):** To coordinate refinements on policy, implementation and further policy development with input from government, industry, and civil society due to the rapidly evolving nature of AI development. This dedicated, standalone office should coordinate AI implementation, bring together stakeholders, and monitor progress. The

relationship between the Board and the DCDT would define whether it is a Schedule 3 Public Entity (NPC under government influence) or a more independent NPC with partial public funding. (Some of the institutions specified below could be “housed” in this office through various arrangements).

b. **AI Ethics Board:** To enforce ethical governance, and for considerations related to bias, privacy, and fairness. Incorporate inputs received from companies-based ethics boards in ongoing reviews of guidelines. This could be established as a Non-Profit Company. The relationship between the Board and the DCDT would define whether it is a Schedule 3 Public Entity (NPC under government influence) or a more independent NPC with partial public funding.
c. **AI Regulatory Authority:** To monitor compliance, perform audits, and issue certifications. Also, to audit AI systems for fairness and to conduct gender and human rights impact assessments.
d. **AI Ombudsperson Office:** To allow affected individuals to challenge AI-driven decisions and to receive redress.
e. **AI Insurance Superfund:** Modelled after the Road Accident Fund, to compensate individuals or entities harmed by AI-driven outcomes. This fund would provide a safety net in cases where liability is difficult to determine, especially for systems operating in ambiguous decision-making spaces.
f. **National AI Safety Institute:** Working in concert with other similar international bodies in advancing the science of AI safety as well as developing, updating and disseminating guidelines for AI safety. This, as part of a risk and mitigation approach to regulation.
g. **Integrated AI-Powered Monitoring Centre:** To monitor as a central nerve-centre towards increasing the efficiency levels of all service delivery (and related) touchpoints in each sector of government and society.

### *4.7 Regulatory Configuration for the Age of Artificial Intelligence*

As a result of this policy, a National AI Commission / Office, an AI Regulatory Council, and an AI Ethics Board will be established to coordinate strategy, monitor compliance and enforce governance. Further, this policy actively repositions the Independent Communication Authority of South Africa (ICASA) for an AI-driven regulatory future. While traditionally focused on broadcasting, telecommunications, and postal services,

ICASA will be increasingly positioned to play a crucial role in ensuring AI systems in its domain operate ethically, transparently, and in compliance with regulatory standards. ICASA's evolving mandate would include overseeing ethical AI use in telecoms, ICT and broadcasting, ensuring fairness, transparency, and non-discrimination in content recommendation, network management, and advertising. Working in concert with the Information Regulator, ICASA will help ensure AI systems used by network operators and broadcasters align with data protection principles under POPIA.

Additionally, ICASA would contribute to developing technical standards for AI in various next generation networks and spectrum management, and it will require algorithmic impact assessments for high-risk systems used by licensees. ICASA will also provide guidance and offer regulatory sandboxes to support responsible AI innovation within its sector (and related sectors). To govern AI effectively, South Africa's regulatory framework will benefit from a more integrated, cross-sectoral model. A National AI Regulatory Forum, coordinated by the Department of Communications and Digital Technologies (DCDT), will bring together ICASA, the Information Regulator, Competition Commission, SARB, FSCA, CSIR, and DTIC to coordinate oversight, standards, and ethical guidance.

Each regulator will maintain distinct responsibilities: ICASA on AI in digital infrastructure and broadcasting; the Information Regulator on data privacy; the Competition Commission on digital market fairness; and financial regulators on AI in fintech. Shared regulatory sandboxes and innovation hubs will encourage experimentation while ensuring safeguards. To be effective in this context, ICASA will move beyond sectoral silos and adopt a tech-convergent (and tech-enabled) approach through closer collaboration with other regulators. It will adopt and be capacitated with some proactive, foresight-driven methods, enhancing its internal AI capabilities, and modernizing compliance tools to include algorithmic audits.

ICASA will also become more participatory, engaging industry, academia, and civil society to build inclusive and forward-looking regulatory frameworks for AI use in communications and broadcasting. ICASA will work with other regulators worldwide in setting up an agile, tech-based, collaborative approach to regulating AI in digital

environments. South Africa's digital services regulatory mechanism will exercise formal coordination such as joint compliance protocols, shared audit infrastructure, and cross-sector task teams. And this will be bolstered by an integrated, data-powered infrastructure, centres and **systems for monitoring and increasing service delivery efficiency levels**.

### *4.8 Communication*

The policy emphasizes transparency, public engagement, and inclusive communication through:

a. **Public Awareness Campaigns**: Promote understanding of AI technologies, rights, and risks, particularly in local languages.
b. **Community Platforms**: Enable feedback and participation in public-sector AI applications, and
c. **Accessible Information**: Ensure citizens can understand and challenge AI decisions, with explainable AI systems required for high-risk use cases.

## 5. Trends in Policy and Regulatory Options for AI in South Africa

South Africa has various policy options to navigate the complexities of AI development in multiple sectors while promoting ethical standards, fostering economic growth, and establishing a solid regulatory framework. The options span several critical areas: ethics, regulatory flexibility, economic development, and international alignment. Each option carries its own set of trade-offs and requires careful consideration of the country's unique socio-economic and each sector's technological context. This policy proposes at least four options: an ethics-first approach, a flexible iterative approach, an economy-focused approach, and an approach that aligns with global standards and partnerships – all suitable for different sectors and industries. Yet, a combination of these would serve as an ideal.

### *5.1 Ethics-First Approach (Prioritizing Ethical AI Development)*

An ethics-first approach would involve implementing stringent guidelines and safeguards around the ethical use of AI technologies. This option could ensure robust protections against misuse, addressing concerns around transparency, accountability, and fairness. Emphasizing ethics aligns with South Africa's socio-historical landscape, where issues of fairness and inclusivity are particularly sensitive due to past inequities. Such an approach could go a long way in building public trust and fostering social acceptance of AI by demonstrating a commitment to responsible practices. This approach provides a clear, protective structure for managing ethical concerns, such as bias and discrimination, which could resonate with South Africa's diverse society.

It is often argued that this approach could slow the pace of AI innovation, especially if stringent guidelines increase compliance costs or discourage experimental uses of AI. Also, it could limit opportunities for quick adoption and scaling of AI in sectors like law enforcement and education, where faster deployment may yield significant public benefits. Among the available options, organizations could be required to implement ethics checklists at every development stage, ensuring that bias, fairness, and transparency are systematically addressed.

### *5.2 Flexible, Iterative Regulation (Enabling Innovation While Managing Risk)*

A flexible regulatory approach would entail developing adaptable strategies that evolve with AI's rapid technological advancements. This option could involve phased regulations or "sandbox" environments where AI innovations are tested under regulatory supervision before broader deployment. Such an approach allows for faster scaling while maintaining the ability to respond to unforeseen ethical or security concerns. As a result, regulations should be adaptable and flexible, providing for future review as AI technologies and applications evolve, while ethical AI development allows room for innovation. This could also include the use of technology in regulation. Among the options would be pro-active measures of mitigating risk, including conducting security audits specific to AI/ML and 'red teaming' - minimizing dependence on third-party datasets in the training process; an ensemble operation based on a multi-layered protection design.

While not part of the country's established regulatory tradition, such an approach would support innovation by allowing AI technologies to develop in a less restrictive environment, potentially making South Africa an attractive destination for AI startups and investments. It would also provide regulators with real-time insights into emerging AI applications, helping them adapt regulations based on practical experience and observed risks. On the flip side, this approach might introduce ethical and security risks, especially if emerging issues are not identified promptly or regulated adequately. It could create inconsistencies in AI standards across sectors, potentially reducing public trust in AI and complicating oversight.

### *5.3 Economic-Focused Strategy (Maximizing AI's Economic Impact)*

An economic-focused approach would prioritize AI applications that directly contribute to economic growth, such as using AI to enhance productivity in key sectors like mining, agriculture, and public administration. This option would involve substantial investments in AI-related education and training, as well as incentives for local AI research and startups. Among available options could be a strategic focus on ensuring that data is AI-ready, accessible, and governed by experts in AI and data science.

It would help promote economic resilience by leveraging AI to create new jobs, stimulate growth in strategic industries, and improve productivity. Further, it aligns with South Africa's goal of fostering a digital economy, which could help bridge economic disparities and enhance competitiveness. However, without robust ethical and regulatory oversight, this approach could risk exacerbating inequalities, particularly if AI applications lead to job displacement without adequate worker reskilling. It could lead to increased digital divides, where economic gains primarily benefit certain sectors or regions, leaving marginalized communities without equitable access to AI's benefits.

### *5.4 Alignment with Global Standards and Partnerships*

South Africa could position itself in the international AI landscape by aligning its policies with global standards such as the OECD AI principles and collaborating with international AI governance bodies. This approach would include developing frameworks that are interoperable with global standards on ethics, transparency, and data protection, fostering trust in AI both domestically and internationally. This approach would strengthen the country's credibility as a responsible AI actor on the global stage, potentially attracting foreign investment and partnerships. Also, it provides a pathway for the country to influence AI governance in Africa, establishing it as a leader in AI ethics and governance on the continent.

However, aligning with international standards may limit South Africa's regulatory flexibility, potentially creating policy mismatches if global standards do not address local needs. This approach could prioritize international competitiveness over local socio-economic priorities, potentially stalling efforts to address historical inequities.

A **combination of all the above options (depending on the innovation and safety needs of each sector)**, however, would serve as **an ideal approach**.

There are various other approaches to regulation, including a **principles-based** regulation, a **guardrails** approach, and a **just AI** approach. But before those are considered, there must be clarity on the best policy and strategy approaches.

## 6. Emerging Issues on the South Africa AI Policy

### *6.1 Ethics in AI Policy*

South Africa's national AI policy emphasizes ethical considerations as a foundational element, aiming to build trust in AI technologies by embedding fairness, transparency, accountability, and inclusivity into the development and deployment of AI systems. Ethical concerns in AI revolve around ensuring that the technology respects human rights and upholds societal values. For instance, the policy explicitly addresses bias mitigation, aiming to reduce discrimination in AI outcomes, which is critical given South Africa's diverse and historically unequal society.

The ethical deployment of AI also extends to ensuring explainability and transparency, particularly in high-stakes areas like healthcare and finance. By mandating that AI systems be sufficiently interpretable, the policy aligns with global best practices, which advocate for transparency to build public trust and facilitate the ethical use of AI. Furthermore, the policy's commitment to inclusivity recognizes the potential for AI to either bridge or widen existing socio-economic gaps, making ethical considerations a priority to prevent exacerbation of inequalities.

### *6.2 A Regulatory Framework for AI Policy*

Regulating AI is a complex task, particularly in a rapidly evolving field. This policy recognizes the need for adaptive, comprehensive regulations that address both current and potential future challenges. This approach is informed by the policy's adoption of a Futures Triangle perspective, which examines the pressures from current technology, future aspirations, and historical legacies that impact the adoption and regulation of AI in South Africa. Key regulatory areas would include data protection and privacy, with the policy recommending robust data governance standards. This aligns with global trends, such as the European Union's General Data Protection Regulation (GDPR), emphasizing that data should be collected, processed, and stored transparently and securely. These measures aim to safeguard citizens' privacy while supporting data-driven innovation, balancing the need for regulatory oversight with flexibility to adapt to new developments in AI.

The policy also proposes sector-specific regulations to address unique AI applications in areas like public safety, healthcare, education, fintech etc. These targeted regulations are essential as they consider the ethical implications specific to each field, ensuring that AI applications are deployed responsibly and effectively. The policy thus positions smart regulation not only as a mechanism for control, but also to foster an enabling environment where AI can develop safely and ethically.

### *6.3 Economic Impact of AI*

AI presents transformative opportunities for South Africa's economy, with the potential to enhance productivity, create new industries, and address national challenges in areas such as healthcare, agriculture, education, and public safety. The national AI policy underscores AI's role in economic development, viewing it as a key driver of the Fourth Industrial Revolution (4IR) and a contributor to national economic resilience. The policy envisages that an opportunity exists for new industries to be created through the development of AI. By fostering an AI ecosystem that promotes innovation, South Africa can harness AI to improve competitiveness and stimulate job creation, particularly through support for AI startups and public-private-partnerships.

The policy's focus on talent and capacity development is central to realizing AI's economic potential. Investments in AI-related education and training aim to create a skilled workforce capable of developing and managing AI technologies. This strategic emphasis on human capital development ensures that the economic benefits of AI are widely distributed, promoting inclusivity in the digital economy. The policy emphasizes a commitment to advocating for the inclusion of underrepresented communities within the AI ecosystem, ensuring that AI technologies are accessible to all South Africans.

Moreover, the policy considers the economic risks associated with AI, such as job displacement due to automation. It advocates for a balanced approach that combines economic incentives for AI innovation with strategies for workforce reskilling and upskilling. This mitigates potential adverse effects on employment, especially in industries most susceptible to automation. Through targeted economic policies, South Africa can leverage AI for growth while addressing potential economic challenges.

### *6.4 Emerging Issues and the Global Context*

Global AI trends do slightly influence the national AI policy, particularly regarding international AI ethics and governance. The policy's alignment with global standards, such as the OECD's recommendations on AI ethics, underscores South Africa's intention to participate in the global discourse on responsible AI. As AI applications become more prevalent, issues like cybersecurity and geopolitical dynamics are becoming increasingly important. The policy addresses these by proposing strong cybersecurity measures to protect AI infrastructure, recognizing that vulnerabilities in AI systems could have national security implications.

The policy also embraces sustainable development goals (SDGs), recognizing AI's potential to contribute to environmental sustainability. By integrating AI with sustainable practices in agriculture and energy, the policy positions AI as a tool for addressing climate change and resource management challenges. This approach reflects a broader trend towards AI for Good, where AI is harnessed not just for economic gain but for social and environmental impact as well.

## 7. Governance

### *7.1 Performance Reporting and Accountability*

The national AI policy mandates clear accountability mechanisms across AI system development and deployment. Developers and deploying organizations are obligated to provide sufficiently explainable AI outputs, especially in high-risk contexts such as credit scoring, law enforcement, and healthcare. Public-sector systems are to be held to higher standards of sufficient transparency and accountability. Institutions deploying AI must establish traceable lines of responsibility, with a named accountable official or entity. Oversight institutions, including the proposed AI Ethics Board and AI Regulatory Authority, will monitor compliance, conduct audits, and assess system fairness, including gender and human rights impact assessments. These institutions are mandated to evaluate AI's societal effects, enforce algorithmic transparency, and ensure the legality and contestability of automated decisions.

### *7.2 Transparency and Information Dissemination*

The policy adopts the principles of "sufficient explainability" and "sufficient transparency," ensuring that AI systems offer comprehensible outputs and visible operational processes. Public-sector and high-risk AI systems must be auditable, and plain-language notifications must be issued when individuals are affected by automated decisions. Citizens must be informed of their rights and provided with avenues to challenge algorithmic outcomes. Transparency is also ensured through routine algorithm impact assessments, open publication of AI audits, and public education campaigns. These mechanisms will build public trust and provide insight into AI decision-making logic, data sources, and potential consequences.

### *7.3 Risk Assessment and Mitigation Strategy*

While aimed at encouraging innovation, South Africa's AI governance adopts a risk-based approach, categorizing AI systems based on levels of potential harm. The policy draws some inspiration from the European Union AI Act and includes strict regulations for high-risk applications. A National AI Safety Institute will be established to advance risk science and develop safety standards with international collaboration.

Key risk mitigation strategies include:

a. Regular scenario-based risk planning, Human Rights Impact Assessments (HRIAs) and Regulatory Impact Assessments (RIAs).
b. Enhanced data governance through POPIA-aligned frameworks.
c. Bias detection and mitigation protocols, including mandatory testing of high-stakes systems.
d. Legal and technical remedies for deepfakes, defamatory AI, and child-targeted manipulative systems.
e. An AI insurance superfund to compensate affected individuals in ambiguous liability scenarios, and
f. Cross-sector collaboration to harmonize data security and prevent the misuse of AI technologies.

## 8. Policy Monitoring, Evaluation and Review

### *8.1 Policy Measurement*

The policy will introduce the need for detailed implementation plans emanating from the multi-sector strategy development processes - with measurable outcomes to enhance accountability and progress tracking. The implementation roadmap under each sector strategy will have detailed timelines, measurable milestones, and accountability mechanisms. There must be some well-structured and transparent collaboration frameworks between sectors, including incentives such as tax breaks, grants, and subsidies to encourage private-sector participation, particularly for startups and small businesses. These must be seamless, easy to understand, and designed with a full view of the citizen in mind. The proposed sectoral approach would ensure that AI governance is distributed across government spheres and provinces, economic and social sectors, each adapting to AI within their regulatory scope.

Further, an AI cross-system intelligence integration mechanism will be put in place to combine data from different sources to provide a complete security and activity view. The policy would foster institutional coherence by assigning clear lines of responsibility across government departments and regulatory bodies. Further by creating a coordinating facility for AI governance that includes independent oversight, public institutions, and civil society representation. This means that regulators such as the Competition Commission, and Environmental Management Inspectorate would cooperate through established mechanism. The policy mandates the development of implementation plans with measurable outcomes, timelines, and milestones across all sectoral strategies. Performance indicators will be tailored to the specific focus area - such as AI adoption rates, ethical compliance benchmarks, bias mitigation results, and infrastructure deployment levels. Regular AI Maturity Assessment Indexing and AI Readiness Indexing will be institutionalised to evaluate national preparedness and progress.

### *8.2 Monitoring Processes*

A cross-governmental, sectoral approach will underpin the monitoring of the implementation and effects of this policy. It thus proposes:

a. Sector-specific implementation roadmaps with defined timelines and outputs.

b. Regular algorithmic audits and bias testing (especially for high-risk systems).
c. Public tracking tools for procurement transparency and accountability.
d. Monitoring of inclusivity outcomes, e.g., benefits accrued to marginalized communities, and
e. An AI cross-system intelligence integration mechanism will be introduced to consolidate data from various sectors and enhance decision-making in real-time.

### *8.3 Evaluation of the Policy*

Evaluation will be both formative and summative. It will:

a. Assess whether objectives (e.g., ethical AI use, inclusivity, competitiveness) are being met.
b. Identify unintended consequences or emerging risks.
c. Include independent oversight and peer reviews to uphold objectivity.
d. Identify the patterns of improvement and otherwise, with regard to innovation, economic impact, startup enablement.
e. Include regular human rights and gender impact assessments to evaluate social effects of AI implementations.

Periodic independent certification of high-stakes AI applications will be enforced to ensure that evolving practices align with the policy's principles of fairness, safety, and transparency.

### *8.4 Policy Review Schedule*

The policy framework will undergo comprehensive review every three years, or earlier if triggered by significant technological or legislative shifts. Interim evaluations will inform mid-term updates and corrective actions. A flexible but structured review mechanism will allow the policy to adapt to fast-paced developments in AI, ensuring ongoing relevance and responsiveness.

## 9. Strategic Pillars for the South Africa AI Policy

Strategic pillars of this AI policy are the fundamental components or key areas of focus that support and drive the implementation of the policy's goals and objectives. They serve as the core framework around which the policy is structured, providing clear guidance and direction for its implementation. This policy is based on **6 Strategic Pillars (SP)**.

These are:

a. Capacity and Talent Development
b. AI for Inclusive Growth and Job Creation
c. Responsible Governance
d. Ethical and Inclusive AI
e. Cultural Preservation and International Integration
f. Human-Centred Deployment

Each of these pillars are built using **Strategic Building Blocks (SBB)** as follows:

| Strategic Pillars | Strategic Building Blocks |
|---|---|
| a. Capacity and Talent Development | i. Education, Training and Industry Collaboration<br>ii. Digital Infrastructure |
| b. AI for Inclusive Growth and Job Creation | i. Research, Development, and Innovation<br>ii. AI for Startups, MSMEs and Innovation |
| c. Responsible Governance | i. Safety and Security<br>ii. Privacy and Data Protection<br>iii. Professional Responsibility |
| d. Ethical and Inclusive AI | i. Ethical AI Guidelines Development<br>ii. Fairness and Mitigating Bias |
| e. Cultural Preservation and International Integration | i. Promotion of Cultural and Human Values<br>ii. Global Collaboration and Competitiveness |
| f. Human-Centred Deployment | i. Human Control of Technology (Human-Centred Approach in AI Systems)<br>ii. Transparency & Sufficient Explainability<br>iii. Public Sector Implementation |

### *9.1 Strategic Pillar (SP) 1: Talent Development / Capacity Development*

#### *9.1.1 Strategic Building Block (SBB) 1: Education, Training and Industry Collaboration*

*Aim: To ensure that South Africa has a robust AI talent pool.*

The inclusion of AI in school curricula is imperative for equipping students from primary to tertiary education. This entails the education of educators in AI tools and the integration of multilingual education where applicable. There should be training programmes developed that cater to accreditation bodies such as the Quality Council for Trades and Occupations (QCTO), targeting data management and AI-specific infrastructure. Industry-academic partnerships are also crucial for experiential learning in the practical implementation of AI, focusing on interdisciplinary teamwork, risk management, and data stewardship.

AI education should not only focus on technical skills but also integrate Social Sciences and Humanities to address ethical challenges and provide governance sensitivity. This integration helps embed creativity, emotional intelligence, and critical thinking capabilities in students. Curricula must cover ethics, biases, and societal impacts of AI. Additionally, community-based AI education centres must be established to promote accessibility. Upskilling and reskilling initiatives are crucial to reduce job displacement due to AI in industries such as finance, agriculture, mining, and logistics.

For successful deployment of AI in education, strategic talent retention measures are required to retain qualified professionals in the country. Skilling programmes must begin early for professionals such as educators, librarians, and researchers. Inter-institutional coordination (among all types of educational, research and innovation institutions) is essential to prevent duplication of efforts. This will require a breaking down of silos between schools in the same districts, rural, township and urban. In addition, investment in assistive technologies can benefit children with disabilities while closing the digital divide responsibly. Instituting a master institute focused on enhancing applied research innovation and startups will ensure national accessibility to skills development in different fields pertaining to AI.

South Africa must urgently expand its human capital base to compete in the AI era. This requires a National AI Skills Development Strategy spanning schools, TVET colleges, universities, and lifelong learning pathways. Dedicated specialised AI programmes should be introduced across higher education and vocational institutes, co-designed with industry to meet labour market demand. To cultivate world-class research talent, government would introduce competitive AI research grants, innovation challenges, and fellowships. In parallel, diaspora engagement programmes can facilitate knowledge transfer and mentorship, while targeted AI entrepreneurship training and incubation hubs will strengthen the pipeline of innovators and startups.

#### *9.1.1.1 Policy Interventions*

- **Educational Integration:** Incorporate AI education including responsible use and risk management into the educational curricula from foundational, basic education to tertiary levels. Skilling of educators and other assistants in AI tools, as well as emphasizing multilingual education where feasible.

- **Training Programmes:** Develop specialized training and continuous learning programmes in AI. Engage with the Quality Council for Trades and Occupations (QCTO) to standardize AI qualifications and job roles. Training would include data management, curation, and AI-specific data infrastructures. Introduce AI-focused **curricula and training guidelines** to prepare a future workforce. Support self-taught individuals without necessarily having formal qualifications.

- **Capacity Development and Partnerships**: Ensure ongoing expertise and **capacity development within regulatory bodies and government agencies** – creating agility. Emphasize on real-world skills development through collaboration with industry. Foster partnerships between academia and industry for real-world AI application training. These partnerships would highlight interdisciplinary collaboration, risk management, data governance, and cooperation between technical experts and social scientists.

- **STEM and Humanities Integration** (towards STEAM): AI training must incorporate Social Sciences and Humanities to address ethical dilemmas and promote governance sensitivity. Also, these human-centric skills would serve to embed creativity, emotional intelligence, and critical thinking, particularly in early learning. Embed AI education from primary to tertiary levels with curriculums addressing ethics, biases, and societal impacts. Launch community-driven AI education hubs, as well as mobile training centres.

- **Reskilling and Upskilling Programmes**: Initiatives for reskilling the sectors impacted by AI aimed at alleviating job displacement. Conduct research to project AI's impact on jobs, particularly in sectors like finance, agriculture, mining, and logistics. Because the AI era will result in the creation of new professions, the country must put in place an appropriate **labour market transition strategy**. **Support unemployed individuals and adults** in general to acquire skills through internet resources, with micro-credentialing – as well as various informal learning pathways. Also, by mapping the industries which are likely to be affected by AI-driven disruptions.

- **Strategic Retention of Talent**: Implement a more focused approach to retain skilled professionals in the country, which is crucial for building a robust AI sector. **Develop international exchange programmes** to ensure an infusion of skills and technology. **Utilize AI tools to craft a responsive educational curriculum**, also to review and re-iterate. Develop educational sector strategies for deploying and implementing AI (with responsible use of personal and other data) – including the responsible use of predictive sets for early career guidance. Encourage diaspora knowledge transfer programmes to bring back skills from South Africans abroad.

- **Upskilling and Cooperation**: Implement special **skilling programmes upfront for key information custodians** - educators, librarians, and archivists, etc. Also, for researchers, entrepreneurs and postgraduate

students. **Bolster cooperation** between academic, innovation and research institutions to streamline efforts and avoid duplication. And ensure that educational and research institutions (including rural and urban schools) share resources to break down silos in similar and adjacent districts.

- AI-related skills development must go beyond advanced research and coding to include technical education, artisanship training, and sector-specific capacity-building. This will ensure that South Africa's masterplans in manufacturing, mining, and other industrial sectors are supported by a workforce capable of adopting and deploying AI solutions.

- **Invest in Assistive AI Technologies** to support children with disabilities, ensuring inclusive access to education and essential services. Invest in addressing the digital divide, while giving attention to measures which would enable children. AI tools should prioritize inclusivity and respect children's cognitive abilities. Also, ensure that these tools would honestly state the functionalities and limitations which they possess and avoid amplifying disparities when directed at children.

- **Master AI Institute**: Review the mandate of the Artificial Institute of South Africa and ensure it sufficiently funded and capacitated to spearhead the diffusion of relevant skills, entrepreneurship, applied research and innovation for the benefit of the country and continent. Further, establish an effective creative AI, big data analytics, blockchain, and cybersecurity capacity-building infrastructure.

    - This should be a key part of an ever-growing ecosystem of skills, research and innovation apparatus – which would be available country-wide and online.

    - This should build on the work which the DCDT has started, with hubs located in various learning, research and innovation institutions – including international linkages.

#### *9.1.2 Strategic Building Block (SBB) 2: Digital Infrastructure*

*Aim: To advance technological capabilities and drive innovation*

To enable the adoption of AI in South Africa, there is a requirement to establish effective and affordable supercomputing infrastructure. This includes giving top priority to access such infrastructure for learning and research - and setting up a national data centre and a related computing network to improve the country's computing power index. Moreover, it is essential to invest in digital connectivity technologies such as 5G, 6G and high-capacity fibre. Priority should be accorded to last-mile connectivity via low earth orbiting satellites to deal with hurdles in non-local digital infrastructure access. Granting access to 5G, and future 6G and broadband networks to everyone and sunsetting legacy systems is crucial. Universal internet access can be addressed by declaring it a socio-economic right. Monitoring the effect of price decreases on low-end devices must be conducted to make technology affordable. Creating AI community centres in under-served communities allows for AI literacy and training, involving rural businesses in rural infrastructure development.

South Africa must promote investment in connectivity infrastructure using international cloud-based services either by collaboration with foreign providers and/or regional supercomputing centres. However, there is an issue of security when using foreign infrastructure, infringing on data privacy. Therefore, investment in domestic infrastructure is also needed, to ensure data sovereignty. Development of shared supercomputing centres such as AI giga-factories facilitates startups and researchers and promotes sector-specific regulation compliance. Development of secure data repositories promotes safe access to knowledge. Yet there is a need to reduce environmental degradation from the energy demands of data centres.

##### *9.1.2.1 Policy Interventions*

- **Supercomputing Infrastructure:** Develop robust and cost-effective supercomputing infrastructure to support AI research and development. Prioritize access to supercomputing infrastructure for education and innovation. Develop and implement a plan for national data centres with

related national computing network, to increase South Africa's national computing power index. Prioritize investments in digital infrastructure that **leverages on global cloud-based solutions**. Partner with **international cloud providers and regional supercomputing hubs; and use offshore capabilities and strategic partnerships** to mitigate against the possibly negative effects of the high energy demand, and to reduce the strain on local infrastructure.

- A contrary view is that reliance on foreign infrastructure compromises the security of sensitive South African data. And therefore, there is a need to **invest in local infrastructure and related data sovereignty measures** to safeguard the national interest. Acknowledge and create plans to reduce the country's **current hardware dependence** on the US and China (in the context of their geopolitical rivalry).

- **Digital Connectivity:** Invest in digital infrastructure and advanced connectivity technologies like 5G, future 6G and high-capacity fibre networks. Focus on last mile connectivity, including the use of satellite technologies, and address the barriers to accessing non-local digital infrastructure. Prioritize **expansion of infrastructure**, affordable connectivity and unlocking South Africa's public and private data holdings to enable locally driven AI solutions. **Create shared supercomputing facilities** such as AI giga-factories for startups and researchers.

- Establish **Regional AI Factories** to enhance AI sovereignty and inclusive innovation throughout South Africa. These decentralized hubs will foster local data control, drive sector-specific AI solutions, and stimulate regional economies.

- **Universal Access and Affordability**: Accelerate broadband and 5G (and future 6G) rollout and phase out legacy networks – while framing universal internet connectivity as a fundamental socio-economic right. **Access to electronic equipment is a prerequisite** for integrating AI

into education systems at all levels. This includes equitable access to hardware, connectivity, and infrastructure to ensure inclusive participation. Monitor the impact of the **reduction of prices on low-end devices** (smartphones/tablets) for low-income households.

- **Reaching the last mile**: Create cost-effective, accessible digital infrastructure to support AI adoption – including the **use of satellite systems**. Create government-led investments to address infrastructure, electricity, and digital tools. Expand **low-cost, high-speed internet coverage in rural and underserved areas** to ensure that these communities can participate in the AI-driven economy. Develop community-based connectivity solutions such as Wi-Fi hotspots, digital hubs, and mobile network extensions tailored to rural and peri-urban areas.

- **Infrastructure-Readiness**: Emphasize on **data infrastructure readiness mechanisms** while also establishing trusted data repositories to ensure secure and compliant access to information. Put measures in place to mitigate against the **environmental impact** on infrastructure (particularly significant consumption of electricity and water by data centres). **As ICT protocols become outmoded and superseded with new ones**, the standards for telecommunications technologies and digital infrastructure should enable the growth and development as well as effective deployment of AI products.

- **Energy Preparedness for the AI Age**: Take specific measures to ensure the availability of electricity, water and other environmental resources to power the operation of appropriate levels of compute resources (and provide favourable terms for locally based data centres in the national energy mix). Similarly, ensure the long-term availability of appropriate critical minerals and rare earth resources for the AI age.

- Establish **AI community centres and hubs** in underserved regions to promote AI literacy and training. Involve local businesses in rural infrastructure development. Create equitable digital access for schools

and community centres. Also create collaboration mechanisms between **government and private hyperscalers**, as well as encourage the development of **energy-efficient data centres**. **Facilitate sector-specific strategies** ensuring seamless regulatory alignment.

- Investigate the **effect of quantum computing and open-source tools on the expected evolution of AI** and prepare the national infrastructure accordingly.

### *9.2 Strategic Pillar (SP) 2: AI for Inclusive Growth and Job Creation*

#### *9.2.1 Strategic Building Block (SBB) 1: Research, Development, and Innovation*

*Aim: To advance technological capabilities and drive innovation.*

South Africa plans to set up and sponsor specialized AI research institutions on top of what already exists, such as the partnerships of national research conducted in basic, specialized, and applied AI research across various universities. The country will prioritize such projects as those which are building scientific knowledge on machine intelligence. Investing in AI research, development, and infrastructure is key to fostering innovation. Encouraging collaborations among academia, industry, and the government is essential to make local innovation a top priority. These involve offering economic incentives and capital grants to local AI startups. The creation of institutions which encourage inter-disciplinary collaborations between industry and academia for AI technology development is important. Additionally, regulatory sandboxes need to be strengthened to experiment with privacy-preserving AI applications.

To build a healthy startup culture with AI assistance, extensive research on its technicalities is required. Policy formulation needs to be aimed at highly capable foundation models with regulatory milestones defined to prevent one-size-fits-all policies. Frameworks need to be established for making postgraduate research data available for utilising solutions from institutions. Additionally, embracing a dynamic way of developing technologies such as quantum computing and open-source tools will

make us future-ready while maintaining technology neutrality in policy formulation.

AI represents a critical lever for economic growth, productivity, and industrial competitiveness. To drive this transformation, South Africa would establish AI Centres of Excellence through government–industry co-funding, serving as hubs of innovation and application. Economic impact must be measurable, with quantifiable adoption targets for increasing AI uptake in priority NDP sectors. Dedicated sector-specific AI roadmaps are essential to accelerate adoption in areas such as healthcare, agriculture, education, finance, and manufacturing. This will be supported through targeted subsidies, tax incentives, and procurement policies, ensuring that AI technologies become embedded across industries. To scale innovation, AI startups and MSMEs must be supported through grants, compute credits, and access to critical datasets.

#### *9.2.1.1 Policy Interventions*

- **Research Centres:** Establish and appropriately fund dedicated AI research centres. Also scale and monetize the outputs of existing institutions (e.g., CSIR). Enhance **regulatory sandboxes** to test privacy-preserving AI applications. Initiate a review of the country's **exchange-control systems** to encourage the export of IP and the repatriation of funds. Strategic funding from the government and private sector can spur advancements and enhance the country's competitiveness in the global AI landscape.

- **Public-Private Partnerships:** Promote collaborations between academia, industry, and government – and prioritize South African innovation. Provide **dedicated financial support, regulatory practices and incentives** for AI research and local AI startups. And advocate for **technology neutrality,** ensuring that the AI policy does not prescribe specific technologies or service providers. Develop **a coordinated national AI innovation ecosystem** which supports industrial development and innovativeness.

- Conduct **in-depth research into AI's technical complexities** and use AI to foster a thriving startup ecosystem. Create mechanisms to make

the **postgraduate research data** of each institution easily accessible to utilize and harness the solutions which come from these institutions. For future-readiness and cost-effectiveness, the country must employ a more dynamic approach to foster evolving technologies such as **quantum computing and opensource tools**. Create an environment where open-source tools are widely utilized in the development of AI applications. Further policy development related to **highly capable AI foundation models** will be required. Some of these models present unpredictable risks and require a definition of different regulatory thresholds to avoid a one-size-fits-all regulatory regime.

#### *9.2.2 Strategic Building Block (SBB) 2: AI for Startups, MSMEs and Innovation*

*Aim: To ensure startups and MSMEs effectively leverage AI technologies.*

South Africa plans to establish AI accelerators based on successful mentorship and funding schemes such as Singapore's. The accelerators would assist startups in terms of resources to scale up. The aim is to, where possible, provide equity-free funding, mentorship, and exposure to a network of international experts and investors. To promote innovation while avoiding unfairness, South Africa will create regulatory sandboxes that allow micro, small, and medium enterprises (MSMEs) and startups to pilot AI innovations under observation. It does so across industries with co-funding models. It incentivises social entrepreneurs, MSMEs, youth-owned, and women-owned startups, providing government with legal exemptions to preferentially purchase from them.

Incentives in the form of tax credits, financing from an AI Innovation Fund, and grants will be provided after the likes of examples from around the globe such as Canada's Strategic Innovation Fund. Data is treated as a public good to promote fair development through open data initiatives. Public institutions that are within data ecosystems will be paid to finance innovations. In doing so, South Africa aims to foster an environment that will stimulate domestic innovation without making regulatory systems rigid enough to smother technological developments. As a result, South Africa

will establish a vibrant, well-supported digital startups ecosystem by fostering AI-related R&D, promote entrepreneurship, and enable industrial applications of AI. This will be achieved through coordinated innovation funding, sectoral innovation hubs, and support for startups that contribute to industrial competitiveness and digital trade.

#### *9.2.2.1 Policy Interventions*

- **AI Accelerators**: Create accelerators along the lines of Singapore's mentorship and funding models. Offer tax breaks, funding mechanisms (AI Innovation Fund) and grants for AI adoption, drawing on global examples like Canada's Strategic Innovation Fund. **Encourage and fund social entrepreneurs**, small and medium-sized enterprises, women, and youth-led startups to spark local innovation. Create **legal exemptions enabling government to procure solutions directly from social entrepreneurs**, small and medium-sized enterprises, women, and youth-led startups, as well as academic, research and innovation institutions which have benefitted from government funding and establishment support.

- **Regulatory Sandboxes**: Establish AI testing environments for MSMEs and startups, to ensure the testing of AI innovations under regulatory oversight to prevent dominant interests from undermining fairness. These testing environments would span various sectors and industries, with appropriate cooperation and co-funding mechanisms. South Africa would facilitate a sandbox approach to innovation, where AI is a significant component. All regulatory measures would **take into account the innovative nature of technology-based startups** and would be applied in an adaptable and flexible manner which allows room for innovation.

- **Non-private/non-regulated data must be treated as a public good** to drive equitable development, thus encouraging open data initiatives and data commons. Local personal data provides market intelligence and many other advantages – thus it must be treated as a public good. **Compensate the public institutions** appropriately for their

contributions in the development of data ecosystems – to support innovations. Also, create incentives for public, academic and private sector to contribute to open data initiatives.

- AI must also be harnessed to **drive industrial transformation**, reconfigure supply chains, and support businesses in adapting to the platform economy. This includes enabling firms to reprogramme their operations, investments, and customer engagement for participation in digital markets.

## *9.3 Strategic Pillar (SP) 3: Responsible Governance*

### *9.3.1 Strategic Building Block (SBB) 1: Safety and Security*

*Aim: To protect citizens and infrastructure.*

Cybersecurity in South Africa targets the installation of robust controls for the protection of AI systems and information against mal-use or meddling. This covers the identification of strategic risks including detrimental bias and AI abuse. There ought to be a mechanism of risk management that can cater to these threats based on prevailing local socio-economic realities and vulnerabilities in technology. The larger digital presence in AI systems comes with enormous data protection threats, especially in handling personal data at scale. Solutions must deal with these threats while facilitating seamless but secure collaboration among state actors and private actors via established data sharing protocols. It also becomes important to safeguard children against manipulative AI systems such as exploitative advertising.

Impeccable technical and legal remedies for Deep-fakes and Defamatory AI need to be established. Further, establishing an AI insurance superfund can serve as a guarantee of compensation for damages resulting from AI-based decisions in which liability is unclear. A National AI Safety Institute will establish the art of AI safety by creating standards with the assistance of international organizations. Ongoing scenario-based risk planning for AI systems and Regulatory Impact Assessments (RIAs) will be done. Safeguarding South African data ownership in handling third-party suppliers is essential. Following a model that is like the EU's high-risk application classification is a sound way of handling potential risks. Cooperation with regulatory

authorities such as the Information Regulator will combat misinformation online practices.

South Africa will ensure that AI-related policies on data management, industry regulation, and digital trade are harmonised, thereby strengthening trust and accountability. Governance would combine proactive monitoring with crisis response protocols, creating and updating appropriate playbooks, while ensuring technical, societal, and ethical impacts are assessed. Ongoing stakeholder feedback would guide continuous improvement and help manage emerging risks effectively.

Effective governance is the backbone of a trusted AI ecosystem. South Africa would implement AI-specific data governance frameworks that ensure provenance, quality control, and interoperability of datasets. To measure progress, a National AI Maturity Index would be established to track adoption, readiness, and impact across sectors. Government institutions would also strengthen capacity through executive-level digital transformation leadership roles such as Chief AI or Digital Officers, backed by specialised training for public officials. To ensure accountability, mandatory reporting frameworks for AI deployments in the public sector will be introduced, reinforcing transparency and public trust.

#### *9.3.1.1 Policy Interventions*

- **Cybersecurity Measures:** Implement robust cybersecurity protocols to safeguard AI systems and data from unlawful access or acquisition of data and to prevent attempts to alter their behaviour or performance by bad actors. Identify strategic risks, such as harmful bias and misuse of AI. Solutions must also address **data protection risks** arising from expanded digital access, particularly in AI systems that process personal information at scale.

- **Risk Management:** Develop frameworks to identify and mitigate risks associated with AI. Include a risk management framework that considers local socio-economic conditions and technological vulnerabilities. **Develop data sharing protocols** to facilitate seamless yet secure

collaboration between state institutions and private entities, ensuring that innovation does not compromise privacy. Apply these protocols in electronic government systems and applications also.

- Stage **regular scenario-based risk planning** for AI systems, as well as **Regulatory Impact Assessment** (RIA). By applying an approach like the EU AI Act which **categorises AI systems based on risk levels and imposes stricter regulations on high-risk applications**, South Africa would manage potential risks effectively. Develop capacity to research specific risks related to South Africa and the continent of Africa. And prioritize **South African data ownership** and protect citizen data when dealing with 3rd party vendors.

- **Protect children from manipulative AI systems**, such as predatory advertising, gamified features that encourage excessive screen time, and other exploitative practices. AI systems must be prevented from exploiting children's behavioural patterns for commercial gain.

- Strengthen the work of the **Information Regulator** to counter misinformation, disinformation and other harmful online practices. And provide as well as capacitate clear **technical and legal recourse** against the use of Deepfakes and Defamatory AI.

    - Create an **AI Insurance Superfund**, modelled after the Road Accident Fund, to compensate individuals or entities harmed by AI-driven outcomes. This fund would provide a safety net in cases where liability is difficult to determine, especially for systems operating in ambiguous decision-making spaces.

    - Create a **National AI Safety Institute**, working in concert with other similar international bodies in advancing the science of AI safety as well as developing, updating and disseminating guidelines and playbooks for AI safety. This, as part of a risk and mitigation approach to regulation.

#### *9.3.2 Strategic Building Block (SBB) 2: Privacy and Data Protection*

*Aim: To safeguard personal information and to ensure protection of data in general.*

The national AI policy is aimed at crafting standard data creation and usage procedures for the private and public sectors. It aims to enhance the existing data protection legislation so that wider measures can be taken. Transparency is one of the highlighted aspects regarding the use of AI data, particularly the handling protocol of sensitive information. The policy harmonizes AI privacy controls with the Protection of Personal Information Act (POPIA) to protect privacy rights of individuals, applying its eight conditions strictly. It is also harmonized with laws such as the Cybercrimes Act, Consumer Protection Act, and Electronic Communications and Transactions Act. Intellectual Property (IP) rights are also given precedence, especially for large language models (LLMs), with mandatory watermarking to secure developers' rights.

To ensure safe cross-border data flows without loss of sovereignty, South Africa will put its National Policy on Data and Cloud into action. It will create precise parameters for cross-border data flows in the financial sector, e-commerce, logistics, and healthcare. Such policies will complement regional ones such as the African Continental Free Trade Area (AfCFTA). Research will also be done on how AI platforms handle customer data to ensure sufficient remedies when necessary. The policy places focus on the application of principles like "data protection by design," accountability, data minimisation, purpose limitation, storage limitation. Safeguarding citizens' data in government third-party procurement is imperative in upholding South African data sovereignty in public procurement and other areas.

##### *9.3.2.1 Policy Interventions*

- **Data Protection and Governance:** Strengthen existing data protection regulations and create legislation to ensure broader regulatory measures. Establish standardized data generation and utilization practices across public and private sectors. Align AI privacy measures with the **Protection of Personal Information Act** (POPIA) to safeguard individual rights to privacy. Ensure strict enforcement of the Act’s 8 conditions for lawful processing of data. Emphasize on the application of

data protection principles such as **data protection by design and default**, accountability, data minimisation, purpose limitation and storage limitation.

- **Data Handling & Transparency:** Ensure transparency in AI data usage and storage practices. Apply **secure data handling protocols** for process-sensitive information in all critical areas of society and the economy. Section 32 of POPIA, for instance, governs the processing of health data while upholding confidentiality. Further, this necessitates the use of **Privacy Impact Assessments**. **Treat Intellectual Property (IP) rights** as a critical area for AI governance, particularly regarding the use of copyrighted materials to train large language models (LLMs). This requires mandatory water-markings to protect the rights of developers, as well as fair intellectual property regulation of AI innovation and AI creations.

- **Connect the AI Policy to existing legislation** like the Cybercrimes Act, Consumer Protection Act, and the Electronic Communications and Transactions Act. And adopt a **risk-based privacy approach** to prevent over-regulation. Conduct research on **AI software websites and platforms** for their management of customer data. Ensure appropriate remedies. Protect citizen- and other people's-data in the case of third-party procurement by the South African government. The maintenance of **South Africans' data sovereignty in public procurement and other areas** is essential.

- **Facilitate cross-border data transfers** in AI data processing by implementing the National Policy on Data and Cloud to ensure data security and sovereignty – and to prevent perpetuation of colonial-era data extraction practices.

    - Prioritize the application of clear protocols for **global data flows for AI applications in sectors like financial services, e-commerce, logistics and health care**. Use these mechanisms

to give effect to the **African Continental Free Trade Area (AfCFTA)**, **Southern African Customs Union**, **Single Digital African Market**, and **AU and SADC protocols**.

#### *9.3.3 Strategic Building Block (SBB) 3: Professional Responsibility*

*Aim: To foster responsible AI development and use.*

The policy focuses on the need to develop a code of conduct for AI professionals. This is part of wider initiatives to bring AI development and use in line with ethical values and principles. The policy also calls for integrating ethics training into professional development and learning in AI so that professionals can meet the ethical issues arising from their work. There must be a clear definition of an AI professional, and whether South Africa needs a specialist professional body for purposes of accreditation. This would include making use of existing institutions such as the Institute of Directors and the Ethics Institute to create specific ethical standards for developers, organizations, and end-users.

Organizations with AI must be held accountable for the actions of their systems through having clear accountability lines. Provisions must be made for handling any adverse effects, and lastly, the accountability must be traceable to a specific official or organization. This promotes transparency and trust in how organizations manage their use of technology. These measures are complemented by South Africa's more detailed policy aims towards securing responsible innovation as well as the avoidance of unwanted implications from AI technology. Through encouraging professional ethical behaviour and business responsibility, South Africa is seeking to provide an environment allowing technological change's advantages to be distributed fairly throughout society.

##### *9.3.3.1 Policy Interventions*

- Develop a clear **definition of an AI professional**, including whether South Africa should create a dedicated professional body for AI accreditation, including for developers, organizations, or end-users. Leverage professional bodies such as the Institute of Directors as well

as the Ethics Institute, to develop ethical standards. This is so that the training would be tailored for professionals and non-professionals. Create the **code of conduct** for AI professionals. And integrate ethics training into AI education and professional development.

- **Accountability**: Organizations must take responsibility for the outcomes of their AI systems. This includes establishing clear lines of accountability and mechanisms for addressing any negative impacts. This accountability must ultimately point to an attributable official or entity.

## *9.4 Strategic Pillar (SP) 4: Ethical and Inclusive AI*

### *9.4.1 Strategic Building Block (SBB) 1: Ethical AI Guidelines Development*

*Aim: To ensure responsible and ethical development, deployment and use of AI.*

South Africa's approach to AI emphasizes ethical development and deployment, focusing on principles such as fairness, transparency, accountability, inclusivity, confidentiality, human autonomy, reliability, and accountability. The preservation of democracy is a key focus in AI development and deployment to ensure that AI systems support democratic values rather than undermine them. A targeted regulatory approach is proposed to regulate high-risk AI systems while introducing proportional controls based on risk levels. The regulatory framework aims to classify AI systems by risk levels and implement strict protections for critical infrastructure like financial systems. Guidelines for responsible AI practices will align with human rights principles such as privacy and access to information. Sector-specific guidelines are planned for industries like law enforcement and healthcare. An independent AI Ethics Board will be established to enforce ethical governance regarding bias and fairness. Additionally, a National AI Commission/Office will coordinate policy development with input from government, industry, and civil society.

To ensure robust oversight throughout the full lifecycle of AI (design through to decommissioning), governance guidelines are being developed. A child-centric ethical framework integrating international standards like POPIA will safeguard children's data

by minimizing collection and using anonymization techniques. An AI Ombudsperson office will allow individuals to challenge decisions made by AI-driven systems. Multiple regulatory bodies such as the Information Regulator will play clearly defined roles in governing South Africa's use of technology responsibly.

The adoption of AI in South Africa must remain firmly rooted in human rights and social justice. This includes mandatory gender and human rights impact assessments for all AI systems, particularly in high-risk domains. Oversight will be strengthened through independent certification of high-risk AI applications, with results made accessible through public audit reports. Inclusivity is paramount: AI must be harnessed to advance disability inclusion by supporting assistive technologies and accessibility tools, while child-centric principles should safeguard young people in education systems, commerce and online platforms. Together, these measures will entrench fairness and inclusivity in the national AI ecosystem.

#### *9.4.1.1 Policy Interventions*

- **Ethical Development and Deployment:** Make the **preservation of Democracy** a key focus in the development, deployment and use of AI. Ensure that AI systems are designed and implemented with ethical considerations at the forefront, with a focus on the impact that the AI would have on people, addressing issues which include bias, fairness, transparency, justification, inclusivity, confidentiality, limitations, human autonomy, reliability, and accountability. In defining the approach to **social equity**, the country would **emphasize on the ethical development and deployment of AI**. The principle of **non-maleficence** in AI emphasizes the importance of safety and ethical considerations in AI development.

- **Targeted Regulatory Approach**: Identify and regulate high-risk AI systems, **such as those which control critical infrastructure** (e.g., water systems, energy grids, and emergency responses), also consumer decision-making systems. Introduce the notion of “proportional controls.” A Targeted Regulatory Approach would provide

a nuanced method which distinguishes between the various types of AI and their related risks and opportunities. This is because some AIs are used for such diverse activities as content generation content, classifying, recognition, processing, translation, negotiation, analysis, design, editing, detection, recommendation, control, automation, modelling, monitoring, navigation, simulation, auditing, prediction, etc.

- A Risk and Opportunities Approach to AI governance and regulation should be at the forefront of policy. And incorporate global best practice including NIST **AI Risk Management Framework** and ISO/IEC 42001. Emphasize a fair balance between policy-level oversight and organizational-level compliance to encourage safe and transparent AI adoption.

- Use **Technology-Centric Regulation**: And focus on applications that have the **most significant impact on individuals' safety and rights**. Classify AI systems according to risk levels and have strict protections to ensure operational resilience for the country's financial systems. And create guidelines for responsible AI practices, ensuring alignment with human rights principles, including the right to privacy and the right of access to information as enshrined in the Bill of Rights. Also, initiate further and ongoing development of **sector-specific guidelines** tailored to industries such as law enforcement, healthcare and finance.

  - Establish an **independent AI Ethics Board** to enforce ethical governance, and for considerations related to bias, privacy, and fairness. Incorporate inputs received from companies-based ethics boards in ongoing reviews of guidelines.

  - Establish a **National AI Commission / Office** to coordinate refinements on policy, implementation and further policy development with input from government, industry, and civil society due to the rapidly evolving nature of AI development. This dedicated, standalone office should coordinate AI

implementation, bring together stakeholders, and monitor progress (and should be the nerve-centre of the various national AI implementation measures).

- Establish an **AI Regulatory Authority** to monitor compliance, perform audits, and issue certifications. Also, to audit AI systems for fairness and to conduct gender and human rights impact assessments.

- Establish an **AI Ombudsperson** office to allow affected individuals to challenge AI-driven decisions and to receive redress.

- **Utilize the current institutional frameworks effectively**: **Establish collaboration mechanisms between regulatory bodies** with entities such as the South African Reserve Bank and Financial Sector Contingency Forum to manage AI-related operational risks. This policy emphasizes the roles of **multiple regulatory bodies** whose mandate is relevant to the governance of AI in South Africa. These include:

  - The Information Regulator
  - Independent Communications Authority of South Africa
  - Competition Commission of South Africa
  - The Department of Environmental Affairs through its Environmental Management Inspectorate
  - Council for Scientific and Industrial Research.

- **Incorporate the full AI lifecycle** - from design to deployment, maintenance, and decommissioning - into governance guidelines to ensure robust oversight. Utilize a **mixture of horizontal and vertical regulatory approaches** because, while AI is systemic and its impacts flow across multiple sectors and domains, there is a need for regulations which are sector specific.

- OPTION: The policy advocates for **principles-based regulation** rather than prescriptive rules to ensure agility.

- OPTION: The policy advocates for **guardrails approach** to both the policy and regulation of AI because of the prevailing resource-constrained and uncertain environment. Thus, there will be a need to define the boundaries in which technology change can be executed in a manner that is aligned with organisational strategy, risk, architecture, operational and cyber security requirements.

- OPTION: The policy advocates for a **Just AI approach**, explicitly focused on redressing inequalities through equitable access to AI opportunities. **Integrate second-generation rights** (economic justice) and third-generation rights (environmental sustainability) into AI governance to ensure equity, accountability, and inclusive development.

- OPTION: The AI policy **could lead to the Development of Legislation in sectors where it is appropriate;** beyond the development of sector strategies and guidelines.

    - ✓ Legislation could be designed to regulate organisations at three technology stack levels: applications, model, and infrastructure. And the key would be to create **legal protections first related to AI at the applications layer**, where people's safety and rights are most affected.

- To foster adherence to rules and norms, this policy identifies 6 key principles of responsible AI:
    - Fairness
    - Reliability and safety
    - Privacy and security
    - Inclusiveness
    - Transparency
    - Accountability.

#### *9.4.2 Strategic Building Block (SBB) 2: Fairness and Mitigating Bias*

*Aim: To ensure equitable AI deployment.*

AI bias refers to the discriminatory data and algorithms that are inadvertently embedded in AI models, leading to biased outcomes at scale. This is distinct from intentionally designed biases for specific decision-making purposes. To address this issue, South Africa aims to develop methods for identifying and mitigating biases in AI systems. Key strategies include ensuring that AI systems are trained on diverse datasets representing all demographics. Algorithms should be frequently tested for biased outcomes. Significant investments will be made in local data collection to develop African-relevant datasets, promoting diverse and inclusive values. Supporting localized AI solutions helps address historical socio-economic disparities, enhancing South African sovereignty in technology.

Ethical guidelines will be developed to address dilemmas such as data bias. An independent oversight body will conduct certifications of high-stakes AI applications, with public access provided to system audits. Mandatory gender and human rights impact assessments will also be introduced to identify potential disparities. Communities affected by disabilities must be directly involved in discussions about relevant AI applications, ensuring their needs are considered during policy formulation. Additionally, efforts will focus on enhancing how AI assists individuals with visual, aural, learning, or other physical disabilities.

South Africa's AI strategy must not only reflect global best practice but also safeguard its African identity. This requires alignment with AU Agenda 2063, the AU Continental AI Strategy, and G20 frameworks to strengthen coherence and international positioning. To promote African sovereignty in the digital era, regional AI factories and federated African data platforms should be developed, ensuring shared infrastructure and collective resilience. In addition, South Africa would partner in building continental cooperation platforms for standards, skills, and R&D, while expanding its leadership role in global AI governance through active participation in the UN, OECD, UNESCO, and ITU. Equally, the country would prioritise AI

applications that preserve local languages and cultural heritage, affirming its unique African contribution to global AI.

#### *9.4.2.1 Policy Interventions*

- *(There is a difference between AIs which are designed to make specific decisions considering a specific bias which would be legitimately fed into them, and AI bias which refers to discriminatory data and algorithms which gets incorrectly baked into AI models, resulting in models which deploy biases at large scale. The latter are often found in algorithms, the data, regulations, use of the systems, and deployment).*

- **Bias Mitigation:** Develop methods to identify and mitigate biases in systems using AI. Ensure AI systems are trained on **diverse data sets** representing all demographics. And further test algorithms used on relevant applications or outcomes for biased outcomes frequently. Introduce mandatory **gender and human rights impact assessments** to address potential disparities in AI applications.

- Make significant investments in local data collection and the development of **Africa-relevant datasets**, ensuring AI systems reflect diverse and inclusive values. Support the development of **localized AI solutions** that address historical socio-economic disparities to promote South African sovereignty in technology.

- Differentiate between **legitimate academic practices** such as Text and Data Mining (TDM) and AI web scraping. Research and address the ethical implications of AI systems in **moderating online content**, particularly in preventing misinformation and disinformation.

- Create an **independent oversight body to conduct independent certification** of high-stakes AI applications and create public access to AI system audits. **Conduct frequent bias testing** of AI systems and specify the **levels of competence** for individuals who would oversee high-stakes AI. Develop ethical guidelines to **address specific ethical**

**dilemmas associated with AI**, such as data bias and AI procurement standards for both public and private sectors.

- Enhance the ways by which AI would help people with **visual, aural, learning and other physical disabilities**. Ensure **direct involvement of communities affected** by disabilities in discussions about AI applications that could benefit them, ensuring their needs are considered in policy formulation. And **create child-centric ethical principles** – and integrate such frameworks as POPIA, EU-GDPR, AU-CAIS, and US-COPPA – in ensuring the correct management of child-data.

    - **Minimize the collection of data related to children** - and use techniques like anonymization or pseudonymization to safeguard identities.

### *9.5 Strategic Pillar (SP) 5: Cultural Preservation and International Integration*

#### *9.5.1 Strategic Building Block (SBB) 1: Promotion of Cultural and Human Values*

*Aim: To align AI development with societal values.*

The policy is built on the creation of value-based AI systems that support human flourishing, equality, and environmental care. This approach is aligned with international best practices while responding to distinctive socio-economic challenges and norms in the nation. It places emphasis on the engagement of stakeholder participation centred on inclusive societies participating in the design and deployment of AI for ensuring social value alignment. For inclusivity, stakeholder engagement is promoted across different phases in the life cycle of AI. Feedback mechanisms are embedded in AI applications to offer pathways for updates based on lessons learned. Localized ethical standards are offered based on OECD/UNESCO standards to reverse past imbalances. Cultural preservation is also encouraged through digitization of indigenous languages, arts, music, and literature using AI tools.

AI technologies will be developed to solve rural development challenges, supplement the healthcare of unserved areas, and stretch education in indigenous languages. Collaborations with tertiary institution-startups are to create products which capture the culture of South Africa without diminishing human-centric needs. Ubuntu as an African philosophy is the base for the projects through interdependence and the sense of community responsibility in the implementation of AI systems to reach the greater good while accepting diversity. Along with these objectives, awards and grants for projects that advance cultural preservation, social justice, and human well-being with AI will be set up. Investigation of language models that facilitate marginalized African languages is also a strategic focus area. Public broadcasting organizations' content will be made reasonably available to developers without overwhelming these sources. Through real-time language translation capabilities in all 12 official languages of South Africa using AI tools can bridge communication gaps across the nation.

Overall, South Africa's strategy envisions not just technological progress but socially benevolent convergence of technology with the moral codes of society which embodies fairness, transparency and accountability.

#### *9.5.1.1 Policy Interventions*

- **Value-Based AI:** Develop AI systems that promote human well-being, equality, and environmental sustainability. Involve diverse stakeholders in the AI policy-making process to ensure alignment with societal values. Align with South Africa’s cultural diversity and ethical principles. Develop context-specific ethical frameworks and guidelines aligned with OECD/UNESCO standards while addressing historical inequalities.

- Launch and create a **sustained national effort to curate large, diverse datasets in AI-ready formats**. Ensure **inclusive stakeholder participation from diverse communities** in the design and deployment of AI systems. Prioritize data availability by taking measures to make available large **data sets from public sources** for the training of AI models.

- To ensure effective promotion of cultural values, broaden stakeholder engagement beyond policy to **include key areas across the AI lifecycle**. This means including people in the integration and transition to AI-powered services by incorporating feedback mechanisms into AI applications – to provide update mechanisms based on lessons learned. Develop AI tools to **digitize and preserve indigenous** languages, art, music, and literature. Embed AI heritage preservation as a priority.

- Leverage AI for real-time **language translation** to overcome communication barriers across the country's 12 official languages. And collaborate with tertiary institutions and startups to create AI tools that **reflect South Africa's cultural heritage** and human-centred needs. Also promote the development of **AI solutions to address rural development**, improve healthcare in underserved regions, and enhance education in local languages.

- **Ubuntu as a beacon and a lens**: The African philosophy on interdependence, community, and shared responsibility, provides the guide for AI policy in respect for human dignity, fairness, and social equity. In that way, AI systems would bring benefits to society at large while ensuring that ethical considerations such as transparency, reduction of bias, and accountability are at the core. As a result, AI should serve the common good, respect diversity, and promote the well-being of all.

- Support **research into language models which support underserved African languages** as a strategic and cultural imperative. Make it reasonably easy for developers of models to **access content which is held by the public broadcast entities as well as other public sources**, without burdening these entities and sources. And **establish awards and grants** to support AI initiatives that advance cultural and heritage preservation, social equality, and human well-being.

#### *9.5.2 Strategic Building Block (SBB) 2: Global Collaboration and Competitiveness*

*Aim: To position South Africa as a regional AI leader.*

South Africa would build AI research facilities and partnerships with sub-Saharan and other continental partners. This involves the creation of several AI hubs in South Africa, such as those at the University of Johannesburg (UJ), Tshwane University of Technology (TUT), Central University of Technology (CUT), and a military-focused hub at Stellenbosch University. These hubs will enable innovation in industries such as agriculture, healthcare, finance, and defence. The policy is in alignment with global frameworks like the UN's Global Digital Compact and Governing AI for Humanity efforts. The vision is to harmonize governance structures based on international best practices and make systems interoperable and supply cross-border data flows. Benchmarking with international frameworks like the EU's GDPR for data protection standards is included.

Public-private partnerships are key to the facilitation of AI innovation globally. South Africa would collaborate with other nations regarding data sharing as well as computation power to accelerate regional development. There is a focus on also ensuring that wages for local labour in the AI sector employed by foreign companies are reasonable through affirmative action by the government. A Data Justice strategy is being proposed as a model for AI regulation, with an emphasis on economic and environmental impact and human rights. This would entail using similar principles to the European Union's Digital Services Act by making platform distributors perform risk assessments and report separately on their performance.

By combining these strategies in its national policy, South Africa hopes to drive maximum international collaborations while defending local interests amid an evolving digital economy landscape.

##### *9.5.2.1 Policy Interventions*

- Foster AI research hubs and international **collaborations with sub-Saharan and other continental partners**. Create partnerships to facilitate the **sharing of data and computing resources**, ensuring that

AI development benefits the region. Promote AI innovation through **public-private partnerships** and global alliances. Because the purpose is to integrate AI into the economy, government would rely on **private and public entities (locally and abroad) in the development, usage and advancement of AI systems** – and in obtaining feedback which could lead to new iterations of policy, regulations and regulatory approaches for realising the objective of this Policy.

- Operate in concert with **the UN's Global Digital Compact** and Governing AI for Humanity initiatives. Regulation would be **aligned with international standards** (such as the EU's GDPR – as a model) through smart implementation techniques. Apply the provisions of the **European Union's Digital Services Act** which puts the onus on platform distributors to conduct risk assessments, develop mitigations, and report on their related performance for an independent audit.

- Align and harmonize **governance structures with global standards and Africa-wide strategies (including AU's Digital Transformation Strategy, Continental AI Strategy, African Continental Free Trade Area, AU Agenda 2063, among others)**. This would help with interoperability of systems and cross-border data flows. This alignment and harmonization should be kept agile (the local standards as benchmarked against global standards should be reasonably considered legal and enforceable, even as they change internationally). Encourage partnerships to develop federated African cloud / data platforms to enable shared AI resources across Africa for sovereignty and resilience.

- Adopt a **Data Justice approach,** which accounts for economic and environmental impacts as a possible framework for AI governance. This approach requires that as much as local players are bound by local rules, also the multinationals (who are often not subject to local taxation) would be subject to specific rules related to first, second, third and other generation rights violations. Ensure **equitable wages for South African**

**workers** in the AI sector who work for foreign / multinational employers. This requires government to take an active role to protect the rights of virtual and digital workers across the AI value chain, ensuring fair compensation, psychological care and fostering labour regulations that reflect the evolving nature of work in the digital economy.

- **Review the trade and investment cooperation frameworks** to ensure that AI contributes to new market opportunities, facilitates cross-border innovation, and strengthens Africa's collective competitiveness. Investment in AI-related infrastructure will be pursued to reinforce South Africa's position as a hub for AI-driven trade, industrial development, and consumer protection.

### *9.6 Strategic Pillar (SP) 6: Human-Centred Deployment*

#### *9.6.1 Strategic Building Block (SBB) 1: Human Control of Technology (Human-Centred Approach in AI Systems)*

*Aim: To maintain human oversight over AI.*

The AI policy is focused on incorporating human control [Human-in-the-Loop (HITL)] into key decision-making processes of AI, especially in Generative AI. The strategy employs reinforcement learning with human feedback (RLHF) so that AI systems are aligned with ethical requirements and societal norms. Through embedding human inputs into every aspect of AI system development, South Africa seeks to develop more transparent, accountable, and ethically sound AI applications. HITL has human intervention at every stage of development of the AI system, right from data labelling to model validation and continuous feedback loops. There needs to be predetermined points of human intervention even in riskiest areas to maintain security and liability. Safety-critical systems need to utilize inherent safety features that put the systems into under-human-command state always, avoiding unintended effects by virtue of completely autonomous decision-making. Decision-making architectures place greater importance on human judgment than AI-generated decisions, particularly in essential government functions where responsibility is essential.

Ethical concerns form the core of HITL systems. Human Rights Impact Assessments will regularly be performed on AI systems to analyse their effects on society. The non-maleficence principle: do no harm, is central to steering the development and application of safe and positive AI technologies for individuals and society. Through the incorporation of these components into HITL systems, South Africa aims to develop more ethical, transparent, and accountable AI solutions in different industries. Not only does this build greater trust among citizens but also serves the country's overall objective of using technology to drive economic development without subjecting itself to potential risks of its application.

Constitutional values and public interest must always guide AI deployment. This entails conducting Human Rights Impact Assessments in all public-sector AI deployments, ensuring that rights are respected at every stage of design and implementation. Citizens would be central to deployment, with participatory design and engagement mechanisms embedded in government AI systems. To reinforce accountability, transparency standards such as explainability and traceability would be mandatory in public-facing applications. South Africa would also leverage public–private partnerships to digitise government records and services, ensuring resilience and efficiency. Finally, priority would be given to AI applications that directly improve service delivery in critical domains such as health, education, agriculture, industry, public safety and justice.

#### *9.6.1.1 Policy Interventions*

- **Human-in-the-Loop Systems (HITL):** Ensure that critical AI decisions involve human oversight (especially in Generative AI). This includes the use of reinforcement learning with human feedback (RLHF). Apply the Human-in-the-Loop approach, **ensuring oversight** at all development stages. With specific thresholds for human intervention, even for high-risk areas.

- Develop frameworks for **AI decision-making that prioritize human judgment**. AI should not replace human decision-making, particularly in critical government functions. Critical systems should include **built-in**

**safety brakes** and remain under human control always. Ensure that consumers have the **option to engage with humans** instead of AI systems where feasible.

- Apply the principle of **non-maleficence** whereby AI should not harm individuals, society, or the environment. And conduct **Human Rights Impact Assessments** on AI systems, including all government-related systems. Further, conduct regular **study of acceptable thresholds** for the application of human oversight and intervention, publish and update accordingly.

#### *9.6.2 Strategic Building Block (SBB) 2: Transparency & Sufficient Explainability*

*Aim: To build public trust in AI (using AI within wider systems that are responsible and accountable to the public)*

The national AI policy focuses on the creation of explainable AI systems that deliver clear, interpretable outputs. This is important for trust and acceptance by users, especially in high-risk applications such as credit scoring. By making decisions by AI systems comprehensible and contestable, trust and accountability are improved, and developers are made accountable for their results. Explainability allows one to understand how and why an AI arrives at a decision, creating the platform through which decisions made by AI can be challenged by stakeholders in the appropriate forums. Risk-based specifications make developers accountable without unfairly burdening lower-risk applications. Mechanisms must be established through which citizens may grasp high-risk systems without overwhelming less mission-critical ones.

Knowing how high-risk AI algorithms operate enables the detection and prevention of biases. This includes ensuring transparency by employing strategies such as POPIA's Section 71 on automated decision-making. Routine algorithm impact assessments enable impacts on society to be assessed while advancing algorithmic transparency. Transparency is defined as the public operation of AI systems, where processes are visible to users. Governance frameworks must ensure transparency

through offering visibility of model operation and possible effects. Foreign suppliers must be aligned with local accountability, with institutions obligated to inform individuals when affected by AI decision-making.

Public campaigns shall make citizens more aware of AI technology implications. Research will also address ethical implications in the scenario of content moderation by AI to curb misinformation.

#### *9.6.2.1 Policy Interventions*

- **Sufficiently Explainable AI:** Promote the development of systems around AI that provide clear, understandable outputs (related to the ability to understand and interpret how AI systems arrive at their decisions or conclusions). Use the principle of "**sufficient explainability.**"

  - **Trust and Acceptance:** Users and stakeholders are more likely to trust and accept AI systems, **especially in high-stakes applications, such as credit scoring**, if they can understand how decisions are made. While trust and acceptance are high ideals, it will be important to create an environment where users and stakeholders are able to challenge decisions made using AI systems through appropriate fora. AI systems must include **mechanisms for citizen understanding** and trust, especially regarding high-risk systems. This would be done without imposing an unnecessary burden on less risky applications. Ensure that citizens have information on how to check and verify the criteria listed by AI tools organisations.

  - **Bias Detection and Mitigation:** Take appropriate measures for detecting and mitigating, because **understanding how high-risk AI algorithms make decisions** allows for the detection and mitigation of biases that could have significant consequences.

Biases can unintentionally be amplified in AI systems due to skewed training data or inherent biases in algorithms.

- **Accountability:** Risk-based requirements for explainability enables and mandates **developers and organizations to be accountable for the actions and outcomes of organisation systems including AI**. Accountability is mandatory.
    - OPTION: A clear **licensing requirement** (with standards bodies) for the deployment of high-risk AI applications.

- AI developers must provide clear, understandable outputs for affected individuals, ensuring that **automated decisions** are lawful, fair and challengeable. Automated systems must **allow affected individuals to understand** how decisions are made and challenge unfavourable outcomes.

- **Sufficient Transparency:** This refers to the clear and open operation of AI systems, ensuring that their processes, decision-making criteria, and **outcomes are understandable and accessible to users and stakeholders**, including insights into model functionality, data usage, decision logic, and potential impacts. Increase transparency through governance systems and ensuring publicly available information. Use the principle of "**sufficient transparency.**"

    - Because advanced and sensitive systems may have less transparent decision-making processes (i.e., "black box" scenarios), South Africa should **carefully select use cases which require regulatory oversight** (and not reject every system which does not have transparent processes). Implement frequent **algorithm impact assessments and algorithmic bias testing** to evaluate the societal effects of AI systems. Facilitate appropriate levels of algorithm transparency. **Educate the public** on AI technologies and their implications. Explainable AI provides insights into how models behave in different scenarios, which can

lead to improvements in model performance, efficiency, and usability.

- Require **foreign-based AI providers** and systems **to meet local accountability standards**. Require organizations to provide **plain language notifications** to individuals when AI systems impact them. Apply **POPIA's Section 71** on automated decision-making as a useful tool for ensuring explainability and transparency. Link this policy to the **Copyright Amendment Bill / Act**.

#### *9.6.3 Strategic Building Block (SBB) 3: Public Sector Implementation*

*Aim: To enhance government efficiency through AI.*

South Africa will embrace AI in public administration for the sake of maximizing state governance and delivery of services. The use of AI tools such as planning tools, predictive analytics, and chatbots is employed for efficiency enhancement. Pilot testing AI policies and guidelines to create risks prior to extending them across all is in the plan. Ethical directives in the implementation of AI are key to ensuring public officials learn about how to use these technologies. A whole-of-government strategy is recommended, based on values such as Batho Pele, consistent with current legislation that applies to the public service. Rewards will be given for exploration of distinctive public-sector issues. Continuous AI Maturity Assessment Indexing will be utilized to track developments. Openness of AI acquisition is highlighted, with bias stress-testing and emphasis on explainability and accountability within public-sector systems.

AI shall be the key factor to facilitate alignment of value creation within the government ministries through data-driven policymaking in asset redistribution, capital mobilization for all, optimized supply chain performance for MSMEs, and intelligent land allocation. Pilot applications will be introduced in healthcare (diagnosis by prediction), education (individual learning platforms), urban planning (intelligent traffic management), and national security. Citizen participation platforms will be created for receiving feedback on public service deployment of AI.

#### *9.6.3.1 Policy Interventions*

- **Utilize public administration in an entrepreneurial manner** to test and pilot the use of AI for purposes of transitioning society towards tech-readiness. Also, for pilot testing of AI policies and frameworks to identify risks and refine strategies before widescale adoption. **Utilize a Whole-of-Government Approach**, guided by principles such as Batho Pele and tethered to all other laws and regulations which govern the public service. The design and deployment of AI in the public service must exhibit the principles of Batho Pele.

- **AI in Administration**: Implement AI in accountable and traceable systems to optimize state management and service delivery. This includes the use of chatbots, predictive analytics and planning tools based on AI. Incentivise AI research aimed at addressing **unique public-sector** challenges and creating targeted solutions. Treat **behaviour-change and digitalisation as essential sub-pillars** – as part of the implementation of AI in the public sector. Deploy and apply AI to play a critical role in coordinating **public value creation across government, public and private sectors**.

- Establish a **National AI Social Compact for Human-Centred AI addressing socio-economic repercussions**: Enhance public sector digital capacity development – including human capital development, data sovereignty measures, infrastructure, local manufacturing, local development, ethical development, deployment and usage. Also enable public institutions and employees to actively ensure AI and digital readiness at every level of society.

- **Guidelines and Standards:** Develop guidelines for ethical and effective AI deployment in government operations. Ensure training of public servants in the usage of AI. **Foster public transparency regarding AI procurement** and stress-testing for bias, holding public-sector AI systems to a higher standard of explainability and accountability.

Engage citizens actively in shaping public-sector AI systems. And introduce and fund regular **AI Maturity Assessment Indexing.**

- In pursuit of the objectives of the country, **use AI for the effective distribution of productive assets** – including driving efficiency through (and for):

  - Data-Driven Policy for Asset Redistribution
  - Democratizing Access to Capital
  - Smart Land and Resource Allocation
  - AI-Enabled Skills Development
  - Optimizing Supply Chains for Small Businesses
  - AI for Cooperative-Based Production Models, and
  - Automated Legal & Administrative Support

- Create integrated, data-powered infrastructure, centres and **systems for monitoring and increasing the efficiency levels** of all service delivery (and related) touchpoints in each sector of government and society. Launch pilot projects in key areas such as healthcare (e.g., predictive diagnostics), education (e.g., personalised learning tools), and urban planning (e.g., smart traffic management). Establish platforms for community input and feedback on AI applications in public services to build trust and ensure alignment with societal needs.

## 10. Conclusion

This policy's vision is of AI for inclusive economic growth, job creation, cost reduction, and a developing Africa. Therefore, as the policy leads to sector-based strategies, every sector must express measurable targets assigned to responsible institutions, with a linked budget.

This policy represents a strategic blueprint aimed at harnessing AI technologies to propel the country's economic growth, technological advancement, and societal well-being. Emphasizing ethical development, the policy prioritizes the responsible deployment of AI that aligns with South Africa's values and priorities. By focusing on ethical guidelines, the policy aims to ensure that AI systems are developed and implemented with considerations for fairness, accountability, transparency, and inclusivity. This approach not only fosters trust among citizens and stakeholders but also mitigates potential risks such as bias and discrimination in AI applications. This policy lays a foundation upon which various sectors may develop their own implementation strategies.

In addition to ethical considerations, the policy outlines key pillars such as robust data governance frameworks, infrastructure enhancement, and significant investments in research and innovation. These pillars are crucial for creating an enabling environment where AI technologies can thrive and contribute meaningfully to sectors such as healthcare, agriculture, education, and public safety. By promoting human-centric AI solutions, the policy aims to prioritize the needs and well-being of South Africans, ensuring that AI advancements lead to tangible improvements in quality of life and societal progress. Overall, the policy lays the groundwork for South Africa to emerge as a leader in AI innovation while addressing challenges and opportunities in a holistic and sustainable manner.

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