UbuntuNet Alliance

From Vision to Impact: How Africa Can Deliver on its AI Strategy

Prof. Madara Ogot

Key Messages

The African Union (AU) Artificial Intelligence (AI) Strategy (2024) aims to catalyse inclusive AI-enabled growth and safeguard sovereignty, individual and organisational rights (African Union, 2024). The Hierarchy of Engagement with AI (HE-AI) model (Ogot, 2025) offers a practical framework for its implementation. The model frames individual and organisational engagement with AI as a progression along eight maturity levels. It integrates technical capability, governance, ethics, workforce, and ecosystem collaboration into a manageable and measurable stage-gated journey. Executing the Strategy's goals requires a staged evidence-based pathway that the HE-EI model provides. The model's sequenced logic, aligned with the Strategy's phased plan, will support its implementation.

The African Union AI Strategy

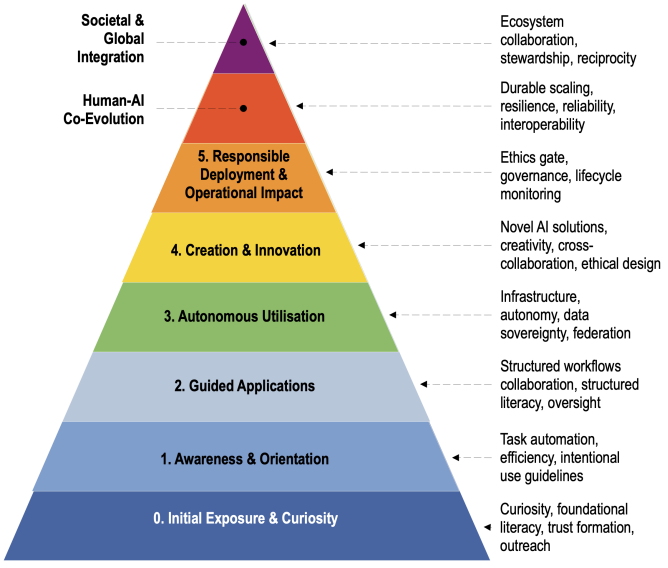
The African Union (AU) Artificial Intelligence (AI) Strategy, adopted in 2024, seeks to harness AI for Africa's development, prosperity and accelerate Agenda 2063 aspirations and the Sustainable Development Goals (SDGs) by improving livelihoods, creating jobs, and driving innovation. The Strategy recognises the unique position of Africa's youthful and tech-savvy population to use AI technologies for inclusive growth. AI, however, presents significant risks, including bias and discrimination, data privacy violations, job displacement, threats to human rights, disinformation, and security concerns.

The Strategy's vision is for Africa to become an active participant in the global AI revolution, optimising AI's benefits while mitigating harms through appropriate governance, infrastructure, and capacity-building. It adopts a people-centred, Africa-centric, and development-oriented approach, guided by principles of ethics, inclusion, human rights, dignity, diversity, and peace principles. The Strategy, structured around five focus areas and operationalised through fifteen actions (see Table 1), calls for strong institutional roles at different levels. The AU Commission is tasked to develop a five-year implementation plan, convene an annual conference on AI safety, mobilise resources, and coordinate research and capacity building. Member States are to develop national AI strategies, prioritise AI talent and skills, and mobilise domestic resources. For their part, the private sector is called upon to invest in local AI solutions and datasets, and development partners to align their funding with Africa's AI priorities. The Strategy highlights the importance of regional coordination through Regional RECs and other continental and regional bodies in implementing these measures.

To ensure accountability, the AU will develop an African AI Readiness Index with appropriate indicators, establish a continental monitoring and evaluation (M&E) dashboard, and conduct a mid-term review in 2027 to recalibrate actions. By linking governance, investment, infrastructure, and ethics, the Strategy positions AI as a key enabler of Africa's long-term development trajectory.

Hierarchy of Engagement with AI Model

The HE-AI model is an eight-level maturity framework that treats AI engagement as a developmental journey driven by human motivation (curiosity, safety, mastery, contribution) together with organisational and policy capabilities, including infrastructure, governance, ethics and societal stewardship. Level 0 is the



The Hierarchy of Engagement with Artificial Intelligence Model

start of a user's or organisation's journey of engagement with AI. At Level 1, individuals and organisations shift from the broad curiosity of Level 0 to the intentional use of AI for specific, simple tasks. Level 2 is a significant step beyond the initial targeted application focus and involves embedding third-party AI tools and platforms into core operational processes, introducing formal training, implementation of organisational guidelines, and ensuring institutional oversight.

At Level 3, organisations transition from third-party platforms or basic internal tools to actively building, controlling, and mastering their own dedicated AI infrastructure, including secure data pipelines. Development of tailored AI solutions becomes the focus at Level 4. Level 5 is a critical transition point. Organisations shift to implementing novel AI solutions developed at Level 4 into mission-critical contexts (e.g., autonomous vehicles, healthcare, finance, government services), underpinned by external governance and oversight. Level 5 serves as the "ethics gate" where only responsibly governed systems scale. Level 6 embodies the system-wide scaling of AI systems, accompanied by the necessary Level 5 ethical guardrails and governance structures. Finally, at Level 7, the highest level of maturity with AI engagement, organisations contribute to shaping global standards and achieving widespread societal adoption through reliable, interoperable, and ethically guided AI systems. The HE-AI model is both a diagnostic tool ("where are we today?") and a strategic planning tool ("what happens next?") (Ogot, 2025).

The HE-AI Framework: Turning Strategy into Action

Policymakers across Africa now face the challenge of moving from the AU's AI Strategy commitments to practical, sequenced implementation. Aligning the Strategy's fifteen action lines with the HE-AI maturity framework provides the necessary scaffolding (see Table 2). It gives decision-makers a clear view of what comes first, who should do it, and how to measure progress. Adopting the HE-AI model-AU AI Strategy alignment can turn the Strategy into tangible results for the reasons that follow.

The HE-AI model introduces a sequencing logic that reduces risks during the Strategy's implementation. The Strategy's actions are listed under broad focus areas with no clear indication of which actions should precede others. Alignment with the HE-AI model introduces maturity levels that make it clear that early efforts (Levels 0–2) should focus on literacy, awareness, and pilots, before progressing to infrastructure and innovation (Levels 3–4). The Level-5 ethics gate must also be crossed before scaling and stewardship (Levels 6–7). The proposed staged approach prevents premature investments in scaling before addressing essential foundations.

Also, the HE-AI model supports the clarification of accountability across institutional layers. The Strategy identifies a wide range of actors, including the AU Commission, Member States, the private sector, and development partners, whose roles often overlap. Placing actions within HE-AI levels supports appropriate alignment of actions with actors, thereby removing duplication, filling gaps, and establishing a clear distribution of responsibility. For example, although not explicitly mentioned in the Strategy, National Research and Education Networks (NRENs) could take responsibility for Level-2 pilots and Level-3 data commons; Regional Research and Educational Networks (RRENs) could anchor Level-6 observability and regional AI Commons. In addition, the AU Commission would drive Level-7 by ensuring Africa's participation in global governance.

While the Strategy highlights ethics, inclusion, safety, and security, it does not explicitly make these binding conditions for scale. The HE-AI model features an "ethics gate" at Level 5 to ensure that projects do not advance to large-scale or cross-border deployment (Level 6) without implementing bias audits, provenance and transparency mechanisms, independent oversight, and grievance systems. This compliance checkpoint prevents harmful systems from spreading and ensures that Africa's AI adoption remains responsible, rights-based, and sustainable.

The Strategy mandates an African AI Readiness Index, an M&E dashboard, and a mid-term review in 2027. The HE-AI model can operationalise these mandates using measurable indicators at each level (see possible Specific, Measurable, Assignable, Realistic, Time-bound indicators in Table 3) to support evidence-based policymaking, enable comparisons across countries, and provide AU leaders with concrete milestones for the 2027 review.

Table 1: AU AI Strategy Focus Areas and Corresponding Actions

Focus Area	Corresponding Action Items
1. Harnessing AI's benefits for Africa's people, institutions, and private sector	1. Establish AI governance systems and regulations at national and regional levels. 2. Promote adoption of AI in the public sector to enhance service delivery. 3. Accelerate adoption of AI in priority sectors (agriculture, health, education, climate, culture, peace, and security). 4. Promote adoption of AI by the private sector, including small and medium enterprises. 5. Create an enabling environment for a vibrant and inclusive AI start-up ecosystem.
2. Addressing risks of AI use (ethics, governance, inclusion, safety, human rights)	6. Ensure availability of high-quality, diverse datasets and build compute infrastructure (e.g., HPC, data centres, cloud). 7. Strengthen information integrity and promote media and information literacy (MIL). 8. Adopt and implement ethical principles for AI respecting human rights, dignity, inclusion, diversity, culture, and values. 9. Develop and enforce technical standards to ensure safety and security of AI systems.
3. Building AI capabilities (infrastructure, talent, skills, research, data, innovation)	10. Promote AI skills and talent in schools, workplaces, and across populations, including upskilling and reskilling. 11. Foster AI research and innovation through collaboration between academia, private sector, and government. 12. Advance challenge-driven research in priority areas, ensuring collaboration across sectors.
4. Fostering regional and international cooperation	13. Promote regional cooperation and coordination with stakeholders (academia, civil society, governments, private sector). 14. Strengthen African participation in global AI governance processes. 15. Foster AI-related partnerships with other regions and global actors to mobilise financial and technical resources.
5. Stimulating public and private investment in AI	Action areas embedded across all four above, with emphasis on mobilising national, regional, and international resources to sustain AI ecosystems, start-ups, skills development, and R&D infrastructure.

Table 2: AU AI Strategy Focus Areas and Corresponding Actions

HE-AI Level	Relevant AU Strategy Action Lines	Explanation of Fit
L0 – Initial Exposure & Curiosity	7. Strengthen information integrity and promote Media and Information Literacy (MIL). 10. Promote AI skills and talent in schools, workplaces, and across populations (introductory literacy).	Early exposure requires basic AI awareness, MIL campaigns, and introductory skill-building to reach youth, civil servants, and citizens.
L1 – Awareness & Orientation	2. Promote adoption of AI in the public sector (orientation pilots). 3. Accelerate adoption in priority sectors (education, agriculture, health, climate, etc.) at a pilot level. 7. MIL initiatives (extended). 10. AI literacy at K-12 and vocational levels.	Orientation of ministries, teachers, and early sector pilots with strong human-in-the-loop (HIL) oversight fit at this stage.
L2 – Guided Application (Pilots)	2. Public sector adoption (pilot projects). 3. Priority sector pilots. 4. Promote private-sector adoption, including SMEs (early sandboxed use cases). 5. Create enabling environment for start-ups (pilot innovation grants).	Structured pilots under regulatory sandboxes ensure learning by doing. NRENs can host sandboxes to test systems before wider rollout.
L3 – Autonomous Utilisation	1. Establish AI governance systems (data protection, legal frameworks). 4. SME adoption (when supported by national data/compute). 6. Ensure availability of high-quality datasets and build compute infrastructure (HPC, cloud, data centres).	Level 3 emphasises building sovereign infrastructure and governance needed for sustained AI use, directly aligning with dataset and compute actions.
L4 – Creation & Innovation	5. Start-up ecosystem development (innovation hubs, incubation). 11. Foster AI research and innovation through academia-private sector-government partnerships. 12. Advance challenge-driven research in priority areas.	This stage is about creating new models, benchmarks, and tools. It corresponds to innovation ecosystems, R&D programmes, and entrepreneurship support.
L5 – Responsible Deployment & Operational Impact (Ethics Gate)	1. AI governance systems (operationalisation of laws). 8. Ethical principles respecting human rights, dignity, and inclusion. 9. Technical standards for safety and security.	Level 5 is the compliance checkpoint, where governance, ethics, and standards must be in place before scale.
L6 – Human-AI Co-Evolution	2. Public sector adoption (scaled services beyond pilots). 3. Priority sector adoption at production scale. 4. SME adoption at national scale. 6. Compute and datasets (scaled to continental services). 11. Research partnerships (scaling outputs).	Level 6 represents scaling across ministries, sectors, and borders, backed by reliable infrastructure and service-level observability.
L7 – Societal & Global Integration	13. Promote regional cooperation and stakeholder coordination. 14. Strengthen African participation in global AI governance. 15. Foster partnerships with other regions and global actors.	Level 7 positions Africa as a co-shaper of global AI governance, standards, and partnerships while coordinating regionally to deliver Agenda 2063.

Finally, governments and development partners often face an overwhelming number of competing priorities. By situating each action on a HE-AI maturity level, policymakers and funders can make informed decisions on where resources would have the most impact. For example, investment in media and information literacy (MIL) campaigns is most effective at Levels 0–1, while investment in R&D is appropriate at Levels 3-4. This phased logic ensures that foundational readiness is achieved before investing in advanced projects, thereby increasing the latter's chances of success. Taken together, these reasons present a compelling case for AU policymakers to adopt the HE-AI model alignment as a guiding framework for Strategy implementation.

The model alignment is not a rigid sequence but a flexible scaffolding that can accommodate alternative pathways. Policymakers may choose to pursue simultaneous progress across multiple levels in response to political imperatives, develop partner opportunities, or urgent societal challenges. For such cases, the model alignment still provides value by highlighting where accelerated action can take place safely, and where compensatory measures (such as enhanced oversight or interim ethics protocols) are needed to avoid premature scaling. Moreover, cross-cutting issues such as talent development and public sector adoption naturally span multiple maturity levels. Instead of treating this as a challenge, the alignment encourages policymakers to layer these activities across levels, ensuring that foundational literacy (Levels 0–2) evolves into advanced skills and applied leadership (Levels 4–6), and that early pilots (Level 2) transition smoothly into scaled services (Level 6) once Level-5 safeguards are in place.

The alignment offers multiple on-ramps and alternative routes rather than a single linear journey. Countries can prioritise different entry points according to their circumstances, focusing, for example, on building compute infrastructure (Level 3) while still running guided pilots (Level 2), or investing in regional cooperation (Level 7) even as they strengthen domestic ethics frameworks (Level 5). The scaffolding acts as a compass and provides coherence without stifling innovation. By situating the Strategy's fifteen actions within the HE-AI maturity levels, policymakers have a

phased roadmap for long-term accountability and a recognition of alternative pathways that allow experimentation, innovation, and urgency-driven interventions to coexist with responsible governance. The alignment, therefore, transforms the Strategy actions from a static checklist into a dynamic architecture for adaptive, accountable, and context-sensitive development of AI across Africa.

Policy Implications and Actor-Specific Recommendations

African Union Commission: Use the HE-AI model to sequence the Strategy's fifteen actions into a gated programme with a mandatory Level 5 ethics and safety gate as a precondition for Level 6 scaling supported by AU funds. Also, publish a Service Level Objective (SLO) toolkit (availability, latency, safety incident metrics) for government AI-enabled services. Set up the continental Monitoring, Evaluation and Learning (MEL) portal and Africa AI Readiness index based on the HE-AI model-based indicators.

Member States and NRENs: Member states to develop national AI strategies aligned to the AU AI Strategy. The strategies to be anchored on the HE-AI model with Levels 0–2, including MIL programmes, citizen AI orientation and guided Level 2 pilots; Levels 3-4, including data governance, compute capacity, local benchmarks and models; the Level 5 gate, mass deployment at Level 6 and continental and global contribution at Level 7. Member States to designate NRENs as operators of national AI Commons and to host national sandboxes and testing facilities to de-risk priority sector pilots.

RECs and RRENs (e.g., UbuntuNet Alliance, WACREN, ASREN): The Strategy lists datasets and infrastructure without providing direction on who runs the commons and telemetry at scale. The AUC to designate RRENs as operators of regional AI Commons (shared HPC/compute, secure storage, dataset repositories, model registries, federated identity) backed by observability networks to collect cross-border SLO/incident telemetry for scaling at Level 6.

Table 3: Potential Indicators for the AU AI Readiness Index

HE-AI Level	Possible Indicators for Readiness Index (aligned with AU action lines)
L0 – Initial Exposure & Curiosity	• # of national and regional AI awareness campaigns launched (Action Line 7). • % of population reached through MIL programmes in schools, universities, and public forums (7, 10). • # of teachers and trainers introduced to AI/MIL content (10). • # of AU/REC webinars or civil service sessions introducing AI ethics, rights, and risks (7).
L1 – Awareness & Orientation	• # of public sector agencies oriented on AI applications through workshops and sandbox pilots (2). • # of pilot projects in priority sectors (agriculture, health, education, climate, peace & security) initiated with HIL oversight (3). • % of Member States integrating AI literacy modules into K-12 and TVET curricula (10). • # of vocational training or reskilling programmes launched nationally (10).
L2 – Guided Application (Pilots)	• # of regulatory sandboxes established for AI pilots (2, 3, 4). • # of SME-focused AI pilots supported by incubators or NRENs (4, 5). • # of start-up grants or innovation challenges launched by governments or RECs (5). • % of pilot projects with documented evaluation reports (accuracy, fairness, cost-effectiveness) (2, 3).
L3 – Autonomous Utilisation	• # of national data registries operational and publicly accessible (6, 1). • % of AU Member States connected to a federated African data framework (6). • # of HPC facilities, cloud platforms, or data centres deployed for AI use (6). • % of datasets published with metadata/data cards to ensure quality and transparency (6). • # of AI governance laws, regulations, or national AI strategies enacted (1).
L4 – Creation & Innovation	• # of active AI start-up incubators or accelerators supported by AU/REC funding (5). • # of challenge-driven research projects in priority sectors (11, 12). • # of collaborative R&D projects between academia, government, and private sector (11). • # of new models, benchmarks, or tools developed for African languages and contexts (12).
L5 – Responsible Deployment & Operational Impact (Ethics Gate)	• % of AI deployments undergoing bias, rights, or impact audits before scale (8, 9). • # of Member States adopting or implementing national ethical AI principles aligned with AU guidance (8). • # of accredited audit and red-team labs hosted by universities/NRENs/RRENs (9). • % of AI procurement contracts requiring compliance with AU ethical and technical standards (1, 9).
L6 – Human-AI Co-Evolution	• % of public-sector AI services scaled from pilots to nationwide implementation (2). • % of priority sector applications (health, agriculture, education, climate, peace & security) running at production scale (3). • % of SMEs using AI-enabled tools at national level (4). • # of AU states with operational AI observability feeds reporting uptime, bias, and failure data (6). • # of cross-border AI-enabled services active (disease surveillance, AfCFTA trade facilitation, climate monitoring) (13).
L7 – Societal & Global Integration	• # of AU Member States formally participating in global AI governance bodies (14). • # of AU contributions to international AI standards (ISO, IEC, IEEE, OECD.AI) (14). • # of inter-regional AI partnerships established with external partners (15). • % of AU-funded datasets, models, and benchmarks released under open licenses (13, 14, 15). • # of AU or REC-led continental AI policy positions tabled in global fora (14, 15).

These regional and national initiatives are to be financed through a combination of funding mechanisms, including AU seed and Member State funding, usage fees and development partner support. The RECs are to commission regional teams and labs to deliver Level 5 checks as a service for Member States. These actions directly support the implementation of the capacity, cooperation, and safety focus areas of the Strategy.

Private sector and Start-ups: Leverage regulatory sandboxes and co-invest with NRENs and RRENs in context benchmarks (e.g., African languages, sector priorities) that unlock Level 4 innovation that scales at Level 6 aligned with the Strategy's start-up and SME agenda.

Regulators and Standards Bodies: Codify Level-5 requirements (impact assessments, bias audits, provenance disclosure, human-in-the-loop for high-risk uses) and Level-6 requirements (interoperability profiles, incident reporting formats, post-deployment monitoring). Place regulatory sandboxes at NREN and RREN facilities to lower compliance costs.

Development partners: Align funding support to HE-AI model stage-gates that mirror the Strategy's commitments on investment. For example, Level 0-2 to literacy and pilots; Level 3 to infrastructure and data; Level 4 to R&D and local benchmarks; Level 5 to ethics, safety, and regulatory capacity; Level 6 to regional observability and resilience; and Level 7 to standards participation.

Conclusion

The AU AI Strategy's ambitions are executable if implementation follows a staged, evidence-based pathway. The HE-AI model supplies that pathway, combining inclusion and ethics with infrastructure, innovation and scale. With RRENs and NRENs as neutral enablers, and an AU-level MEL system grounded in HE-AI level-based indicators, Africa can move from vision to impact.

References

African Union. (2024). Continental Artificial Intelligence Strategy. Addis Ababa: African Union Commission. https://au.int/en/documents/20240809/continental-artificial-intelligence-strategy

Ogot, M. (2025). A Maslow-Inspired Hierarchy of Engagement with AI Model. https://doi.org/10.48550/arXiv.2509.07032. *Under journal review.*

Authors

Prof Madara Ogot
UbuntuNet Alliance for Research and Education Networking
madara.ogot@ubuntunet.net