Empowering Africa through Education Technology: The Africa EdTech 2030 Vision

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EXECUTIVE SUMMARY

Africa's youthful population (over 60% under age 25) and rapid digital transformation present both opportunity and urgency. By 2030, African governments are expected to triple education spending to about $740 billion, with EdTech investment rising sharply. Yet today only ~40% of African primary schools have internet access, and up to 30 million school-age children in Sub-Saharan Africa remain out of school. If unaddressed, teacher shortages (an estimated 17 million additional teachers needed by 2030) and digital skills gaps (UNICEF finds ~75% of youth lack relevant digital skills) will widen learning divides.

The Africa EdTech 2030 Vision & Plan sets out a continental ambition to harness education technology (EdTech) to enhance learning outcomes, equity, inclusion, and resilience in African education systems. This strategic plan – aligned with Agenda 2063, STISA 2034, CESA (2026–2035) and the AU Digital Transformation Strategy (2020–2030) – charts a continental path to leverage education technology for inclusive, quality learning. Drawing on policy insights from the Kimotho Project, an AUDA-NEPAD initiative in developing a policy framework for advancing standards based vendor neutral EdTech for Africa, findings from the GEM 2023 Report, and Continental Digital Courseware Study coordinated by the mEducation Alliance and Spix Foundation, this Vision & Plan outlines a transformative path for the continent through EdTech. It uniquely positions AUDA-NEPAD to coordinate a Pan-African EdTech transformation grounded in continental leadership, local innovation, and shared learning.

Our **Vision** is that by 2030 every African learner will have equitable access to world-class, localized digital learning content on affordable, reliable devices, supported by an interoperable pan-African EdTech ecosystem. The **Mission** is to coordinate and catalyze public and private efforts – through harmonized policies, open standards, and capacity building – so that local innovators, educators, and communities can drive sustainable EdTech solutions continent-wide.

Key pillars include access to locally developed digital courseware; interoperability through vendor-neutral standards; public-private collaboration; inclusive teacher training; and leveraging mobile and offline-first technologies. It builds on the African Union Digital Education Strategy and Implementation Plan, 2023–2028 that was founded on the Continental Education Strategy for Africa (CESA 16-25). Our strategic approach envisions a robust **Digital Public Infrastructure** – affordable devices, open platforms and data hubs – that underpins every action. A Monitoring, Evaluation and Learning framework will track connectivity, content usage, learning outcomes and equity gaps to guide continual improvement. Partnerships will span governments, regional bodies, industry, academia and civil society, each playing defined roles. By mobilizing blended finance and leveraging continental institutions (e.g. AUDA-NEPAD, RECs), we will ensure long-term sustainability. A phased roadmap (2025–2030) sets milestones for policy adoption, systems deployment, and finally positioning Africa as a net exporter of EdTech innovations. In sum, this Vision & Plan aims for a leapfrogging transformation: harnessing EdTech to make Africa's education systems more inclusive, resilient and innovation-driven, as envisaged by Agenda 2063 and the AU Digital Education Strategy.

1 STRATEGIC CONTEXT AND RATIONALE

The continent's booming youth population – projected to reach 2.5 billion by 2050 with **>60% under 25** – could power sustained growth, *provided* they receive quality, relevant education. Yet persistent challenges undermine this potential. An estimated **30 million** primary-age children in Sub-Saharan Africa are out of school, and learning poverty remains high. COVID-19 exposed and widened these gaps: most countries lacked the infrastructure, content and trained staff to pivot to remote learning. Globally only ~40% of primary schools have internet access, a figure worse in rural Africa, and UNICEF reports ~75% of African youth lack the digital skills demanded by today's economy. Meanwhile, Africa will need **+17 million teachers by 2030** just to maintain universal access.

At the same time, the business and innovation case for EdTech is strong. The AU's *Digital Transformation Strategy* highlights that affordable connectivity and digital services can drive economic growth and inclusion. By 2030, mobile phone penetration could reach ~88% of Africans, and schools can harness offline and mobile-first technologies to reach marginalized learners. Across the continent, pioneering national initiatives (e.g. Kenya's Digital Literacy Programme, Rwanda's Smart Education Master Plan) are already demonstrating that coordinated EdTech can improve skills and outcomes.

The AU frameworks (Agenda 2063, CESA, STISA and the AU Digital Education Strategy) call for **education systems built on innovation, equity and sustainability**. This strategy responds to that call by consolidating lessons from COVID, sector studies (UNESCO GEM, World Bank, MasterCard Foundation, etc.), and African best practices into a unified, actionable plan for EdTech innovation and entrepreneurship. In short, it is time for a Pan-African EdTech transformation: one that turns connectivity and content investments into improved learning, inclusion and economic opportunity for every learner.

2 VISION AND MISSION

Vision (2030): Every African learner – regardless of gender, location, disability or background – has affordable access to high-quality, localized digital learning resources on reliable devices, within an inclusive ecosystem that fosters innovation and entrepreneurship. The continent will have a harmonized EdTech environment: common standards and platforms enabling seamless sharing of content and data across borders, and a vibrant network of local EdTech developers, research hubs and education institutions working together.

Mission: Coordinate continental efforts to build and sustain this EdTech ecosystem by: (a) aligning policies and standards that enable open, vendor-neutral technologies; (b) investing in digital infrastructure and platforms that scale affordably (e.g. broadband, solar power, offline networks, open learning repositories); (c) strengthening educator and leadership capacity in digital pedagogy; (d) encouraging local innovation through incubation, financing and partnerships; and (e) using data-driven monitoring and governance to continually improve equity and outcomes. This mission supports AU targets (e.g. reaching 80% of schools with ICT by 2030) and continental aspirations for *equity, innovation and sustainable development*.

3 STRATEGIC OBJECTIVES

The African Union EdTech 2030 Vision & Plan advances five strategic objectives; access and infrastructure, courseware and EdTech Apps development, digital skills for teachers and education managers, interoperability and vendor neutral standards, policy and governance.

3.1. **Access and Infrastructure**: Expand digital access via low-cost devices, solar solutions, and offline-first technologies. Smartphone ownership among teachers is rising rapidly — already exceeding 90% in South Africa and ranging between 30–65% in countries such as Ghana, Nigeria, and Kenya — providing a strong foundation for scalable mobile-first and teacher-focused EdTech interventions (Campbell et al., 2021; Sebeelo, 2020; Essel et al., 2022)[1]

3.2. **Courseware Development**: Promote locally made, curriculum-aligned, multilingual digital courseware such as Senegal's Wolof-language XamXam platform serving 1.2 million users.

3.3. **Teacher Capacity**: Upskill teachers in digital pedagogy, content curation, and data use with specific emphasis on fostering positive attitudes and building confidence in using technology for learning.

3.4. **Interoperability and Standards**: Institutionalize vendor-neutral interoperability frameworks.

3.5. **Policy and Governance**: Support data privacy, equitable funding, and regulatory harmonization.

3.6. **Data and Research**: Generate and use robust data and research to guide policy, monitor learning outcomes, and ensure continuous improvement

4 IMPLEMENTATION PILLARS

4.1 POLICY ALIGNMENT AND REGULATION

Policy alignment is critical for creating an enabling environment that ensures consistency, inclusivity, and scale across EdTech initiatives.

4.1.1. Operationalize AUDA-NEPAD's Standards based vendor-neutral EdTech policy framework. This ensures harmonization and quality assurance across countries, allowing equal consideration of Africa developed EdTech for use in any member state.

4.1.2. Promote adoption of open standards. These standards facilitate system interoperability and secured data portability for decision making. Data sharing and management governed by the AU conventions on cyber security.

4.1.3. Establish regional EdTech policy harmonization hubs leveraging existing Regional Economic Communities (RECs) or centres of excellence where

[1] Campbell, B., Choi, K., Neils, M., Canan, C., Moll, A., Dillingham, R., … & Shenoi, S. (2021). Mobile device usage by gender among high-risk hiv individuals in a rural, resource-limited setting. Telemedicine Journal and E-Health, 27(6), 615-624. https://doi.org/10.1089/tmj.2020.0218

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Sebeelo, T. (2020). Hashtag activism, politics and resistance in africa: examining #thisflag and #rhodesmustfall online movements. Insight on Africa, 13(1), 95-109. https://doi.org/10.1177/0975087820971514

appropriate. This supports countries to contextualize and implement policies efficiently, leading to seamless scaling.

4.1.4. Highlight best-practice countries such as Mauritius and aligning to aspirations in AU Agenda 2063 and STISA 2034. This demonstrates success in integrating EdTech into education strategy.

4.2 TECHNOLOGY AND INFRASTRUCTURE

The Vision & Plan envisages a robust Digital Public Infrastructure (DPI) that facilitates open access to digital courseware with unlimited interoperability with single log-in. Such robust infrastructure underpins any successful Apps implementation. This Africa EdTech 2030 Vision and Plan support progressive and reliable access to devices and the internet.

4.2.1 Advocate for mobile-first and offline-first models. Addresses access issues in low-connectivity environments. Paired with deployment of off-grid power solutions such as solar charging stations for schools and communities.

4.2.2 Expand broadband via partnerships with telecoms and satellite firms supported by regulatory incentives and public-private co-investment models where possible. Reduce regional disparities in connectivity.

4.2.3 Deploy local caching, mesh networks, and data compression solutions. Enhances access to content while minimizing data usage.

4.3 DIGITAL COURSEWARE

The Vision & Plan advocates for Digital Courseware that is locally relevant, pedagogically sound, and available in multiple formats and languages.

4.3.1 Establish an Africa-wide open courseware library/platform. Increases access and reduces duplication of efforts.

4.3.2 Establish clear quality assurance and content curation processes to maintain high pedagogical and cultural relevance.

4.3.3 Incentivize local developers to produce EdTech Apps and localize high-quality courseware. Incentives may include innovation grants, public procurement opportunities, competitions, and incubation support. Provide technical support to innovations that lead to developer's economic growth.

4.3.4 Embed formative assessments and learning analytics in digital courseware. This facilitates personalized and adaptive learning.

4.3.5 Ensure data collection for learning analytics adheres to ethical standards and robust data privacy protections aligned with continental frameworks.

4.4 TEACHER PROFESSIONAL DEVELOPMENT

Teachers are pivotal to the success of EdTech. They must be equipped to use digital tools effectively, including building teacher confidence, fostering positive attitudes towards digital learning, and promoting peer support. This Vision & Plan envisages to:

4.4.1 Embed EdTech in pre-service teacher training. It prepares teachers from the outset to integrate technology.

4.4.2 Offer modular, mobile-accessible Teacher Professional Development (TPD) programs. This ensures scalability and continuous professional growth.

4.4.3 Promote Communities of Practice (COPs) among teachers and education managers to support peer learning and innovation. This builds sustainable peer support.

4.5 DATA, MONITORING AND RESEARCH

Evidence is needed to drive policy, ensure accountability, and refine EdTech investments. In observance of data sharing protocols, privacy & sovereignty, and in compliance with continental conventions and member states data protection laws, the Vision and Plan advances to:

4.5.1 Build data infrastructure aligned with SDG 4 benchmarking. Complement infrastructure investments with national and regional capacity building for education data analysis and use. This supports global comparability and policy responsiveness.
4.5.2 Implement educational data standards respecting sovereignty. Ensure that robust data privacy, security, and sovereignty protections are embedded in all data governance processes and standards. Strategize to balance data utility with ethical governance.
4.5.3 Fund longitudinal studies on EdTech efficacy. Strengthens decision-making with evidence.

5 BARRIERS AND ENABLERS

The Vision & Plan acknowledges and appreciates the barriers and enablers of success drawn from regional and global experiences, and various studies including the Digital Courseware report (2024), STISA 2034, GEM 2024 Report, SGD monitoring Report (2024), the 2024 eLearning Report among others.

5.1 BARRIERS:

5.1.1 Infrastructure deficits and electricity unreliability. These hinder equitable access to EdTech, especially in rural areas.
5.1.2 Low teacher digital literacy. Limits the ability to integrate and sustain EdTech tools.
5.1.3 Limited EdTech budgets. Undermines scaling and innovation due to resource constraints.
5.1.4 Fragmented governance. Reduces coherence and coordination of national efforts.
5.1.5 Gender disparities in digital access and skills, particularly among girls and women.
5.1.6 Language diversity, with limited availability of localized content in African languages.

5.2 ENABLERS:

1. Mobile penetration (over 65% via 3G/4G and this is fast growing). Expands possibilities for mobile learning solutions.
2. Youthful population (60% under 25). Presents a digitally adaptable audience for EdTech.
3. Growing local EdTech sector. Catalyses innovation and local economic development.
4. Regional initiatives (e.g., MasterCard Foundation). Provide technical, financial, and policy support.

5. Strong political will and leadership commitment to education transformation through digital innovation

6 STAKEHOLDER ROLES

The Vision & Plan recognizes that each stakeholder group has a distinct role in advancing the EdTech agenda.

6.1 Governments: Lead in policy formulation, funding, and alignment with national curricula. Their commitment anchors long-term sustainability.
6.2 Private Sector: Develop infrastructure, devices, and platforms suited to African contexts. They bring innovation and scale.
6.3 NGOs/Foundations: Pilot models, build capacity, and conduct impact assessments. This sector has agility that fills gaps and tests scalable solutions.
6.4 Communities: Advocate for EdTech and support student engagement. Local buy-in ensures effective implementation and self-driven sustainability.
6.5 Regional Bodies: Coordinate standards, research, and shared platforms. This will facilitate alignment and knowledge exchange.
6.6 Development Partners: Provide catalytic funding and technical expertise. The partners help reduce the burden on national budgets.

7 FUNDING AND SUSTAINABILITY

The Vision & Plan appreciates the resource status in the Continent and advances that the long-term EdTech success relies on sustainable financing models. Therefore, it:

1. Encourages blended finance models that combines grants, equity, and subsidies to mitigate risks including exploring innovative mechanisms such as education impact bonds and outcome-based financing.
2. Promotes DPI investment to promote shared, scalable infrastructure that reduces long-term costs.
3. Advocates to lower total cost of smartphone ownership for example through local manufacturing/assembly and maintenance ecosystems. Consider complementing this with tax exemptions or reduced import duties on educational devices to further lower costs
4. Encourages partnerships with GPE, UNICEF, UNESCO among others to enable contextualized alignment with global priorities and additional funding sources.

8 ROADMAP (2025–2030)

The Africa EdTech 2030 Vision and Plan presents a five phase implementation roadmap; Foundation Building (2024-2026), System Integration (2026-2028), and Consolidation & Export (2029-2030).

8.1 PHASE I (2024–2026): FOUNDATION BUILDING

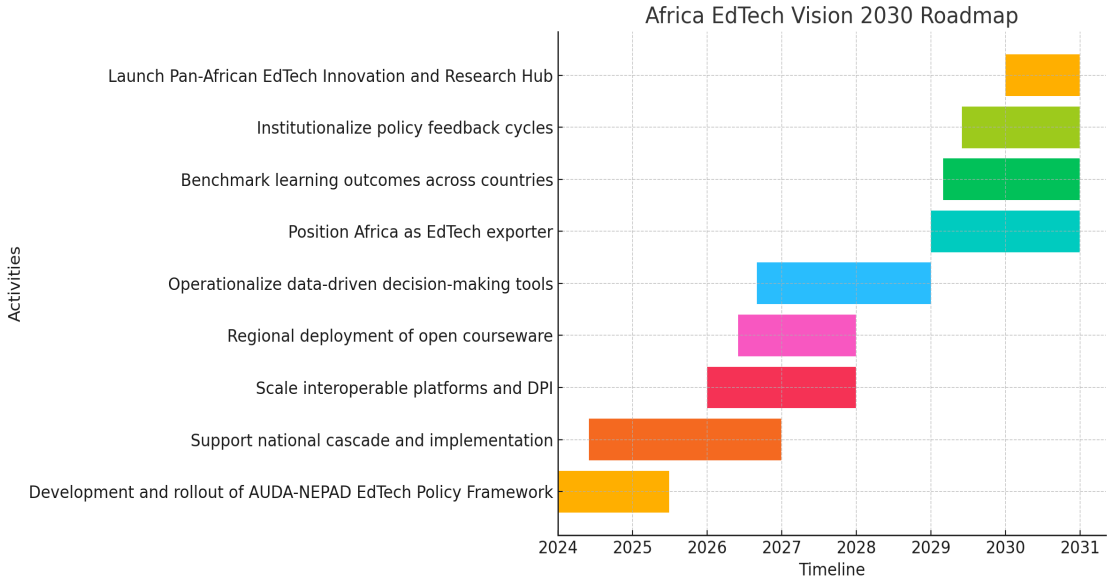
1. Development and rollout of AUDA-NEPAD Policy Framework for Advancing Standards Based and Vendor Neutral EdTech in Africa.
2. Support national cascade and implementation of the policy framework including national capacity-building workshops and technical assistance to align country policies with the continental framework.

8.2 PHASE II (2026–2028): SYSTEM INTEGRATION

1. Scale interoperable platforms and Digital Public Infrastructure (DPI) such as open-source learning platforms, national EMIS systems, and educational content repositories.
2. Regional deployment of open courseware.
3. Operationalize data-driven decision-making tools.
4. Implement nationwide teacher digital training programs aligned with the AUDA-NEPAD Policy Framework and emerging EdTech systems

8.3 PHASE III (2029–2030): CONSOLIDATION AND EXPORT

1. Position Africa as EdTech exporter, with targeted strengths in offline-first solutions, African language content, and innovative mobile learning applications.
2. Benchmark learning outcomes across countries.
3. Institutionalize policy feedback and improvement cycles.
4. Launch the Pan-African EdTech Innovation and Research Hub.



9 CONCLUSION

The Africa EdTech 2030 Vision & Plan represents a turning point in harnessing technology for inclusive, relevant, and resilient education. Through coordinated policy, local innovation, and equitable infrastructure, Africa can leapfrog legacy education barriers and build a globally competitive digital learning ecosystem. By learning from frontrunners like Kenya, Rwanda, and Mauritius and sharing lessons across borders, Africa can lead a new era in global EdTech. All stakeholders — governments, educators, private sector actors, communities, and partners — are invited to commit actively to the collaborative implementation of this Vision, ensuring its promises are realized for every African learner. This is the clear and achievable impact driving result of implementing this Vision & Plan.

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