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Report on the twenty years of the implementation of the World Summit on the Information Society in Africa - Advancing Africa's digital transformation: shaping the WSIS+20 agenda

Technology, Innovation, Connectivity,
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ACRONYMS & ABBREVIATIONS

3G	Third Generation Mobile Network Technology
4G	Fourth Generation Mobile Network Technology
5G	Fifth Generation Mobile Network Technology
ADC	Africa Digital Compact
AfCFTA	African Continental Free Trade Agreement
AI	Artificial Intelligence
AU/AUC	African Union/African Union Commission
CEMAC	Central African Economic and Monetary Community
CERT	Computer Emergency Response Team
COMESA	Common Market for Eastern and Southern Africa
DTSA	Digital Transformation Strategy for Africa
EAC	East African Community
E-agriculture	ICT Applications in Agriculture
E-business	ICT Applications in Business
ECA	United Nations Economic Commission for Africa
ECOWAS	Economic Community of West African States
E-environment	ICT Applications for Environmental Sustainability
E-government	ICT Applications in Government Services
E-health	ICT Applications in Healthcare
E-learning	ICT Applications in Education
E-science	ICT Applications in Scientific Research
GDC	Global Digital Compact
GDP	Gross Domestic Product
GSM	Global System for Mobile communication
ICT	Information and Communications Technology
IoT	Internet of Things
ITU	International Telecommunication Union

MNO	Mobile Network Operator
PPP	Public-Private Partnerships
REC	Regional Economic Community
SADC	Southern African Development Community
STEM	Science, Technology, Engineering, and Mathematics
UNESCO	United Nations Educational, Scientific and Cultural Organization
WSIS	World Summit on the Information Society

Structure of the Report

This report is structured to provide a concise yet comprehensive narrative of Africa's progress in implementing WSIS Action Lines and aligning with global frameworks like Agenda 2063 and the Global Digital Compact. Beginning with an Executive Summary that distils key findings, it progresses to an Introduction that sets the analytical tone and situates the study in a broader development context. The Main Sections 1 to 5 cover continental achievements, national case studies, emerging ICT trends, strategic priorities, and actionable recommendations, with each segment reinforcing the report's focus on inclusivity, innovation, and collaboration. Concluding with a short reflection on successes and challenges, the report offers a clear roadmap for policymakers, stakeholders, and practitioners to accelerate Africa's digital transformation and build an inclusive, ICT-driven future.

Executive Summary

This study on Advancing Africa's Digital Transformation: Shaping the WSIS+20 Agenda examines Africa's journey in implementing WSIS Action Lines, aligning these efforts with Agenda 2063, the Sustainable Development Goals (SDGs), and the Global Digital Compact (GDC). It provides a comprehensive analysis, highlighting milestones, challenges, and opportunities within the continent's digital transformation.

Africa's digital landscape has transformed significantly since the World Summit on the Information Society (WSIS) in 2005. Over the past two decades, most African countries have adopted national ICT strategies. Mobile-cellular subscriptions surged from about 380 million in 2010 to over 1.18 billion in 2024, reflecting the continent's rapid embrace of mobile technology. Advanced innovations are emerging – for example, nascent 5G networks already reach 21 million people – illustrating Africa's eagerness to adopt cutting-edge solutions. These developments have enabled new ICT applications across sectors such as e-commerce, healthcare, education, and agriculture, while emerging technologies like Artificial Intelligence (AI), Big Data, and the Internet of Things (IoT) offer fresh opportunities to leapfrog traditional development models.

Despite this progress, Africa still faces substantial challenges in building an inclusive digital society. Broadband connectivity gaps remain wide: although 76% of Africans have access to a mobile phone, around 71% are not connected to the Internet. This lack of basic connectivity severely limits access to online education, healthcare services, financial tools, and e-government platforms crucial to achieving WSIS goals. Digital development is uneven across and within countries. Only two-thirds of African nations have established effective multi-stakeholder coordination mechanisms for ICT, and fragmented policies and regulatory inconsistencies across borders hamper collective progress. Affordability barriers, infrastructure deficits – especially in rural areas – and digital skills shortages continue to impede universal access and effective use of ICTs. While many countries have expanded digital services and capacity-building programs, systemic gaps persist. Rural communities and marginalized groups remain at risk of being left behind, and efforts to improve cybersecurity, data protection, and local content creation have been fragmented and under-resourced.

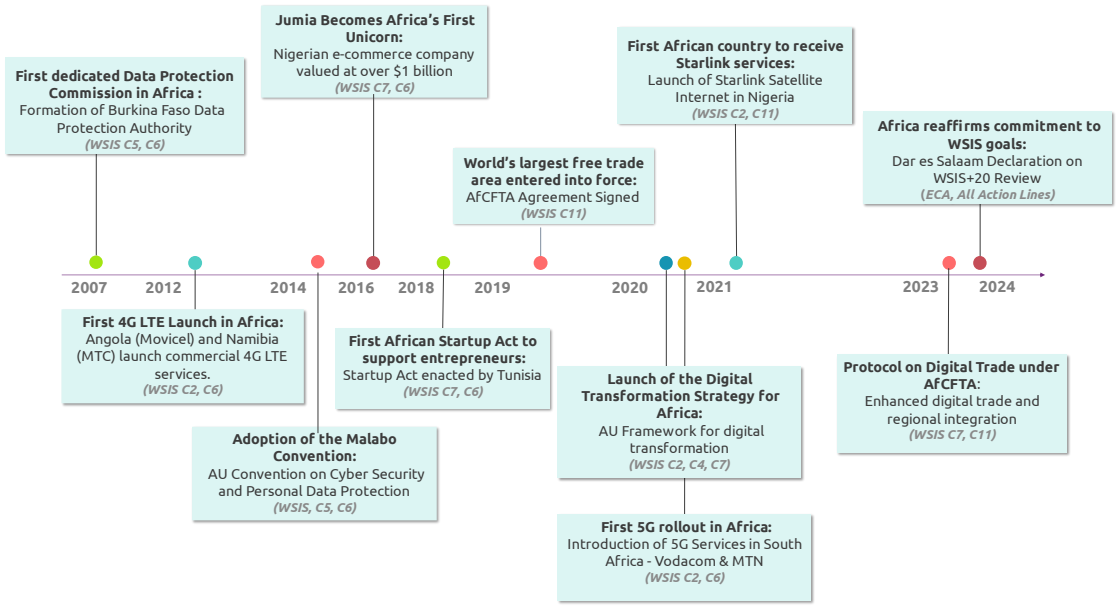
Accelerating Africa's digital transformation ahead of WSIS+20 will require bold, coordinated action from all stakeholders. Governments must prioritize rural broadband and harmonize policies, while private sector actors invest in infrastructure and innovation. Development agencies must support capacity-building initiatives and data governance, especially with emerging technologies on the horizon. Civil society must ensure inclusive digital policies reflect the needs of marginalized groups. By addressing these priorities collectively, Africa can achieve transformative digital growth that bridges divides, fosters equity, and positions the continent as a global leader in ICT-driven sustainable development.

SECTION ONE: PROGRESS REVIEW OF WSIS ACTION LINES IMPLEMENTATION IN AFRICA

This section provides a comprehensive review of Africa's progress in implementing WSIS Action Lines, highlighting achievements at continental and regional levels, impacts on women, youth, and marginalized groups, and implementation gaps. It also discusses lessons learned to inform future strategies.

Africa's implementation of the eleven WSIS Action Lines since 2005 has yielded a mix of notable achievements and enduring gaps. Continental frameworks and initiatives – from African Union strategies to regional infrastructure projects – have guided progress, while national case studies illustrate diverse outcomes across countries.

Figure 1: Timeline of Key Africa-Specific WSIS Milestones.



Over 2007–2024, Africa's digital journey was marked by milestones such as the establishment of the first data protection authority, the launch of commercial 4G and later 5G services, the emergence of the first African technology "unicorn" startup, and the adoption of landmark continental agreements. Each of these milestones, aligned with various WSIS Action Lines, demonstrates incremental progress and sets new benchmarks for the region's ICT development.

Below is a summary of Africa's progress under each Action Line (C1–C11), highlighting key accomplishments and remaining challenges:

C1: The Role of Governments and All Stakeholders in ICT for Development

African governments have increasingly embraced ICT as a development priority, establishing dedicated digital strategies and coordinating bodies to drive implementation. At the continental level, the African Union's Digital Transformation Strategy for Africa (2020–2030) provides a blueprint aligning ICT initiatives with broader development goals, emphasizing leadership, integration, and investment in digital governance. Pan-African forums such as the Africa Internet Governance Forum (AfIGF) and annual ECA-facilitated WSIS review workshops

enable inclusive dialogue and peer learning, reinforcing multi-stakeholder collaboration. Nationally, over 90% of countries have adopted ICT or digital economy policies that reflect WSIS principles. Countries like Ghana, Kenya, and Mauritius have aligned e-strategies with their development plans and the Sustainable Development Goals, while others (e.g. Tanzania, Cameroon, Morocco) have launched ambitious programs in digital infrastructure, innovation, and capacity-building under the WSIS framework. Several nations, supported by ECA and regional partners, are implementing digital governance initiatives — such as Ethiopia's forthcoming National Digital ID system and Botswana's "Smart Botswana" public service transformation — that aim to improve service delivery and citizen participation through technology.

Multi-stakeholder engagement underpins ICT Development across Africa. Public-private partnerships and consultations with civil society have become more common in developing ICT legislation and projects, fostering collective ownership of digital initiatives. Rwanda's Smart Africa alliance and Kenya's collaboration with telecom operators on its national broadband plan exemplify how inclusive governance can mobilize resources and expertise to expand connectivity and e-services. In many countries, ICT regulatory agencies and multi-sector advisory councils have been established to coordinate stakeholders — 66% of African states now report having a national ICT steering committee or equivalent. These mechanisms have helped to align efforts across government ministries, the private sector, academia, and NGOs, enhancing accountability for ICT commitments.

Notwithstanding progress, governance and coordination gaps persist. In some countries, digital strategies exist on paper but face implementation hurdles due to limited funding or institutional capacity. A disconnect between policy formulation and execution remains a common challenge, leading to uneven WSIS outcomes. Roughly one-third of African countries still lack effective multi-stakeholder coordination structures, resulting in fragmented ICT programs and duplicative investments. Cross-border policy harmonization is also limited, as regulatory differences impede the scaling of digital services region-wide. Addressing these shortfalls will require sustained political commitment, predictable financing and deeper regional harmonization to translate existing strategies into tangible socio-economic dividends.

C2: Information and Communication Infrastructure

ICT infrastructure remains central to Africa's digital agenda. Over the WSIS+20 period, basic connectivity expanded rapidly: most countries now enjoy near-universal 2G/3G/4G population coverage, and South Africa, Kenya and Nigeria have already introduced 5G networks that together cover about 21 million people. National programmes, frequently implemented through public-private partnerships, continued to densify backbone and last-mile links. Kenya's National Optic Fibre Backbone Infrastructure (NOFBI) now reaches all 47 counties; Morocco's National Broadband Plan focuses on underserved provinces; and South Africa's SA Connect has connected more than 7 000 public facilities and aims to reach 80 % of households by 2026.

South Africa's SA Connect Project: Bridging the Digital Divide

South Africa's SA Connect project is a flagship initiative aimed at bridging the digital divide by providing affordable, high-speed broadband to underserved communities. Launched in 2013, the project has connected over 7,000 government facilities, including schools and healthcare centres, and aims to reach 80% of households by 2026.[1] Phase 2 of the project, launched in 2023, focuses on expanding community Wi-Fi hotspots and household connectivity, particularly in rural areas. This initiative aligns with WSIS Action Lines C2 and C6, demonstrating the role of public-private partnerships in scaling digital infrastructure. By addressing connectivity gaps, SA Connect is enabling access to e-government services, e-learning, and telemedicine, contributing to South Africa's broader socio-economic development goals.

Continental initiatives reinforced these national efforts. The Programme for Infrastructure Development in Africa (PIDA), the NEPAD ICT Broadband Infrastructure Network, the East Africa Broadband ICT Infrastructure Network (EAC-BIN) and the SADC ICT Infrastructure Development Master Plan are mobilising cross-border fibre investment and regulatory harmonisation. Africa is linked to the global internet by 74 submarine cables, yet high wholesale charges, limited terrestrial distribution and insufficient investment in last-mile technologies constrain the developmental impact.

Infrastructure gains are nevertheless substantial. Mobile-cellular subscriptions jumped from around 380 million in 2010 to more than 1.18 billion in 2024, representing 113 % of the population, a figure inflated by widespread multiple-SIM usage. Active mobile-broadband lines soared from 23 million to 562 million. The surge in broadband traffic highlights Africa's increasing data consumption, with mobile-broadband traffic reaching 23 exabytes by 2024/].

Persistent gaps remain. About 71 % of Africans—roughly 860 million people—are still offline, and only 22 % of rural residents use the internet. Fixed-broadband penetration averages 1.5 subscriptions per 100 inhabitants, and data prices remain high relative to income, limiting uptake. Unreliable electricity compounds network costs and quality-of-service challenges.

Closing these gaps demands sustained capital mobilisation. Annual ICT-infrastructure requirements are estimated at US$ 170 billion, leaving a US$ 100 billion financing shortfall each year. Scalable solutions—market liberalisation, targeted Universal Service Funds, sub-regional investment vehicles and bankable public-private partnerships—are essential to extend affordable, high-quality connectivity to every African community.

C3: Access to Information and Knowledge

Access to information and knowledge has improved markedly during the WSIS+20 period, driven by expanding connectivity and the maturation of continental policy instruments such as the African Declaration on Internet Rights and Freedoms. These commitments translated into concrete investments in broadband backbones, community networks and digital-library initiatives, signalling a shift from pilot projects to scaled national programmes.

Internet users increased from fewer than 80 million in 2010 to 623 million (53 percent of the population) by 2024, while active mobile-broadband subscriptions climbed from 23 million to over 562 million, covering about 47 percent of Africans. Governments, often with multilateral support, extended access points beyond commercial markets: AfricaConnect and national research and education networks (NRENs) now interlink universities across borders, and open-data initiatives in Tunisia, Kenya and Uganda give citizens direct access to government information. Complementing these measures, the Egyptian Knowledge Bank offers a continent-leading portal to scholarly and educational resources.

Targeted inclusion programmes produced measurable impacts. Internet use among women in Least-Developed Countries rose from 18.6 percent in 2019 to 28.7 percent in 2024, narrowing the gender gap, while youth connectivity reached 51.6 percent in 2024, making 15–24-year-olds Africa's most connected demographic. Regional campaigns such as community coding camps and school-based connectivity projects proved effective entry points for first-time users. At the same time, local-language ventures remained nascent: although translation tools and crowdsourced projects are expanding Swahili, Hausa and Amharic materials, the continent's ≈2 000 indigenous languages remain overwhelmingly absent online.

Persistent barriers temper these gains. Data plans can cost up to 10 percent of monthly GNI per capita — five times the 2 percent affordability target — placing regular use beyond the reach of low-income households. Digital accessibility for persons with disabilities is limited, with few governments adopting WCAG-compliant service standards. These price and design constraints, coupled with infrastructure and literacy gaps in rural areas, mean that millions who live within signal range still cannot reap the informational benefits of connectivity. Addressing affordability, disability inclusion and local-content creation therefore remains central to closing Africa's information divide.

C4: Capacity Building

Africa has placed significant emphasis on building human capacity in ICT, recognizing that digital infrastructure alone is insufficient without the skills to use it. Over the WSIS-plus-20 period, a diverse suite of capacity-building programmes — including the Connected African Girls Hybrid Coding Camp, the PRIDA Internet-Governance Course, the DigiTruck mobile-

lab project, Africa Code Week and the NEPAD e-Schools Initiative — has equipped citizens, especially youth, women and marginalized communities, to participate fully in the information society.

Governments have embedded ICT skills in formal education. Côte d'Ivoire's One Citizen, One Computer, One Internet Connection scheme expands device and connectivity access throughout the school system, while South Africa's National Digital and Future Skills Strategy (2021) targets training one million young people by 2030. Multilateral actors reinforce these efforts: UNESCO's ICT-Transforming Education in Africa and Korea Funds-in-Trust (KFIT) projects have boosted teacher and student digital skills in nine countries, from Mozambique to Uganda.

Continental and private-sector initiatives are scaling rapidly. Africa Code Week has reached more than 17 million learners since 2015, while Google's Africa Developer Scholarship and Microsoft's Africa Development Center programmes, begun in 2005, complement university-based schemes such as the Egypt University of Informatics. National strategies extend learning beyond classrooms: Kenya's Ajira Digital Programme has trained over 50 000 young freelancers and the Digital Literacy Project has delivered 1.2 million devices to primary schools. In Rwanda, the Smart Classrooms Initiative, now installed in 500 schools, has lifted STEM enrolment by 25 percent.

Rwanda's Smart Classrooms: Transforming STEM Education

Rwanda's Smart Classrooms initiative exemplifies the transformative power of ICT in education. By integrating ICT into 500 schools, the program has improved STEM enrolment by 25%, addressing critical gaps in science, technology, engineering, and mathematics education.[1] The initiative includes teacher training programs, ensuring that educators are equipped to deliver ICT-enhanced curricula effectively. This effort aligns with WSIS Action Lines C4 and C7, showcasing how digital tools can enhance educational outcomes and prepare students for the demands of a knowledge-based economy. Rwanda's commitment to leveraging ICT for education reflects its broader vision under the Smart Rwanda Master Plan, which aims to position the country as a regional leader in digital innovation.

Early evidence points to tangible socio-economic gains. Women's digital inclusion is advancing: internet use among women in African LDCs climbed from 18.6 percent in 2019 to 28.7 percent in 2024, supported by women-centred literacy programmes under C4. Youth are now the continent's most connected group, bolstered by coding camps and online courses. A growing cadre of digitally skilled graduates feeds start-ups and public-sector modernisation initiatives.

Nevertheless, substantial gaps remain. Only 13 countries submitted ICT-skills data between 2010 and 2020, limiting evidence-based policymaking. Advanced competencies in artificial intelligence, data science and cybersecurity lag behind demand, and rural training centres struggle with connectivity and staff shortages. Addressing these shortcomings will require

systematic monitoring frameworks, sustained financing and targeted support for frontier-technology skills development.

C5: Building Confidence and Security in the Use of ICTs

African governments have moved from ad-hoc cyber policies to a structured, legally anchored security agenda over the WSIS+20 period. Continental momentum accelerated when the African Union Convention on Cybersecurity and Personal Data Protection (Malabo Convention) entered into force on 8 June 2023 after the fifteenth ratification (Mauritania). Regional economic communities deepened this legal bedrock: ECOWAS adopted a Regional Cybersecurity and Cyber-crime Strategy in 2012, SADC issued a Harmonized Cybersecurity Legal and Regulatory Framework in 2014, and the EAC approved a Cybersecurity Strategy in 2017, creating convergent norms for cross-border incident response.

National implementation, however, remains uneven. Fewer than 30 countries operated a fully functional Computer Emergency Response Team (CERT) in 2025, and continental cybersecurity-maturity averaged just 29.1 per cent—less than half the benchmark for Asia and the Middle East. Nonetheless, coordinated drills, the Smart Africa-led African Network of Cybersecurity Authorities (ANCA), and ITU capacity-building initiatives have enabled Ghana, Kenya, Morocco and Egypt to sustain 24/7 national response centres and publish real-time advisories. Several states complemented technical measures with targeted legislation: South Africa's Cybercrimes Act 2020, Kenya's Data Protection Act 2019 and Rwanda's Child Online Protection Policy address offences, privacy and user safeguards within coherent statutory frameworks.

Public-facing programmes are expanding. Awareness drives such as Uganda's and Zambia's Internet Safety Campaigns, and Ghana's "Be Cyber Smart" initiative, demonstrate a strategic pivot towards citizen resilience and safe digital commerce. At continental level, the Digital Transformation Strategy for Africa 2020–2030 positions cybersecurity as a prerequisite for economic stability, ensuring that security considerations are integrated into connectivity, e-government and digital-payment rollouts. These efforts underpin rapid growth of secure on-line public services and strengthen trust in digital trade instruments such as the Pan-African Payment and Settlement System.

Yet substantial gaps persist. Although roughly 70 per cent of African states have enacted data-protection statutes, the report notes weak enforcement capacity and limited public awareness, leaving personal data—and critical infrastructure—exposed to ransomware, fraud and disinformation. Skills shortages, fragmented budgets and siloed reporting obligations continue to undermine incident-response speed, while only nascent mechanisms exist for joint investigations of transnational attacks. Nigeria's estimated annual cyber-crime losses of more than US $500 million illustrate the economic stakes of delayed remediation.

Looking ahead, the review stresses three priorities: (i) ratify and domesticate continental and regional instruments to close normative gaps; (ii) resource CERTs and judiciary cyber-units so they meet international response benchmarks; and (iii) institutionalize user-centred awareness programmes that mainstream child-online protection and gender-responsive safety measures.

Achieving these objectives will determine whether Africa can translate its proliferating digital services into a secure, trusted information society.

C6: Enabling Environment

Creating an enabling policy and regulatory environment for ICT development has been crucial to Africa's information-society progress. Over the WSIS+20 period, many governments modernised ICT statutes, created autonomous regulators and introduced competition-oriented reforms. Regulatory sandboxes in Kenya, South Africa, Ghana and Rwanda allow fintech and AI services to be piloted under controlled conditions, signalling a continent-wide embrace of evidence-based experimentation. Public-private partnerships within Morocco's Digital Economy Development Strategy demonstrate how clear rules can steer private investment toward nationwide broadband and e-service platforms.

At continental level, the COMESA–EU "Enhancement of Governance and Enabling Environment in the ICT Sector" (EGEE-ICT) Programme is harmonising e-commerce, spectrum and data-governance standards across 21 member States, complementing the African Union's Digital Transformation Strategy for Africa (2020-2030). ECA-led work on Good Digital ID principles is guiding countries towards interoperable, privacy-preserving identity systems that anchor secure online transactions. Supported by risk-based financial regulation, mobile-money subscriptions climbed to more than 1.1 billion by 2024, underscoring the market impact of pro-innovation policies. Investor confidence has likewise been bolstered by clearer licensing and spectrum frameworks such as Kenya's 2022 Digital National Master Plan, mirrored by long-term policies in Benin, Cameroon and Egypt.

Nonetheless, implementation gaps persist. Regulatory capacity differs widely, slowing enforcement of competition safeguards and quality-of-service rules. Divergent approaches to cross-border data flows, digital taxation and local-hosting mandates keep intra-African digital trade near 15 per cent of total commerce — well below other regions. Fragmented or outdated laws on data protection, cybersecurity and emerging technologies dilute gains achieved by frontrunners such as Kenya and South Africa. High permit fees, lengthy rights-of-way procedures and persistent surcharges on ICT equipment continue to discourage infrastructure roll-out in several markets.

Consolidating progress therefore requires sustained capacity-building for regulators, systematic monitoring of market outcomes and accelerated adoption of convergent instruments — notably the EGEE-ICT good-practice toolkit and Smart Africa's model regulations — to deliver a predictable, innovation-friendly environment that benefits all stakeholders.

C7: ICT applications

African countries continue to deploy ICT applications across multiple sectors, yet progress under WSIS Action Line C7 is decidedly uneven. E-government platforms have multiplied, but only 22.4 per cent of Africans presently benefit from national e-government strategies. Among the more advanced examples, Rwanda's IremboGov has digitised 100 + services and processed more than 25 million transactions, while Ghana.gov underpins near-universal (96 %) financial inclusion.

Digital finance and e-business are the standout success stories. Mobile-money accounts rose from 396 million in 2019 to over 1.1 billion in 2024, with annual transactions exceeding US$1 trillion. Kenya's M-Pesa now reaches 90 % of adults and has lifted 194 000 households out of extreme poverty, while Cameroon leads Central Africa with 40 % adult adoption of mobile money by 2023. E-commerce momentum is strong—the continent's internet economy is projected at US$180 billion by 2025 — yet logistics and trust barriers persist.

Kenya's M-Pesa: A Global Benchmark for Financial Inclusion

Kenya's M-Pesa, launched in 2007 by Safaricom, has revolutionized financial inclusion by transforming mobile phones into digital wallets. With over 50 million users across seven African nations, M-Pesa has become a global benchmark for mobile-first financial solutions. By 2024, the platform had achieved 90% adult usage in Kenya, lifting an estimated 194,000 households, or 2% of the population, out of extreme poverty and significantly reducing gender disparities in financial access.1 M-Pesa's success lies in its ability to provide secure, affordable, and accessible financial services to the unbanked population, particularly in rural areas. Its replication in Tanzania and Mozambique underscores its scalability, driven by public-private partnerships and supportive regulatory frameworks. This initiative aligns with WSIS Action Lines C3 and C7, demonstrating how ICTs can empower marginalized communities and drive socio-economic development.

Other application areas show mixed results. E-learning remains constrained: by 2022 only 22 % of schools had computers and 11 % had internet access, despite continent-wide coding camps and smart-classroom pilots. E-health adoption is similarly patchy; electronic health records cover fewer than 30 % of public facilities, and telemedicine growth is slowed by connectivity and data-security gaps. E-employment is expanding—African participation on global freelancing platforms rose 300 % between 2016 and 2024—but 70 % of digital work remains informal and just 22 % of the workforce possesses requisite skills.

Environmental and scientific applications are emerging but limited. Forty-five per cent of countries report multi-hazard early-warning systems that reach only 40 % of the population. AfricaConnect projects have raised research-network capacity above 100 Gbps and enabled 42 countries to create 200 + open-access repositories, yet the continent still hosts < 3 % of global scientific datasets. E-agriculture tools—ranging from market-price SMS alerts to climate-risk dashboards—cover fewer than one-fifth of farmers, and scale-up is hindered by device costs and limited rural broadband.

Cross-cutting challenges temper these gains. Low public awareness, fragmented data standards and persistent rural connectivity gaps limit uptake of even the most advanced services. Cyber-security concerns further dampen user trust, reinforcing the need for stronger C5 safeguards. Aligning C7 success with improvements in infrastructure (C2), skills (C4) and enabling regulation (C6) therefore remains critical. Where political leadership, private-sector partnership and inclusive design converge, ICT applications demonstrably boost transparency,

productivity and financial inclusion; where they do not, the digital-service promise is yet to be realised.

C8: Cultural Diversity and Identity, Linguistic Diversity and Local Content

The promotion of cultural and linguistic diversity in cyberspace remains limited and highly fragmented in Africa's information-society agenda. Since 2005 the African Union and UNESCO have anchored flagship digitisation programmes. The Zamani and e-Heritage projects, for example, employ 3-D laser scanning to record sites such as Lalibela and Great Zimbabwe, creating a continental digital library. UNESCO's online database has already catalogued 1,000 artefacts, yet this covers only a fraction of museum holdings. Nationally, South Africa, Nigeria and Ethiopia enforce local-content or cultural-industries policies that oblige broadcasters and platforms to carry domestic works and promote indigenous languages. Private ‑ sector participation is evident: Googles 2024 Translate release added eight African languages, while the African Languages Technology Initiative and WikiAfrica Education support corpus building and vernacular Wikipedia editing. Collectively, these interventions have modestly broadened the pool of vernacular content.

Structural gaps nevertheless eclipse successes. Most national ICT strategies still omit explicit provisions on cultural preservation or multilingualism, leaving implementation to ad-hoc projects and donor funding. High localisation costs and dialectal complexity hinder software developers and publishers from targeting minority languages. Where digitised assets exist, discoverability is limited by low bandwidth, weak cataloguing and scarce integration with e-government or education portals. Digital-media skilling schemes have trained reporters and community producers, but coverage remains patchy and urban-centred. English and French therefore continue to dominate most African websites, reinforcing informational exclusion and constraining the growth of local creative industries.

Continental instruments now point to avenues for coherence. The African Union Data Policy Framework treats cultural data as a strategic asset and encourages interoperable repositories that respect intellectual-property norms while enabling reuse. Governments coupling such guidance with fiscal incentives for digitisation, open licensing and vernacular AI research already report increases in locally produced video-on-demand catalogues and in citizen uptake of mother-tongue interfaces for public portals.

Africa's record under C8 is therefore mixed: pioneering digitisation pilots coexist with systemic under-representation of the continent's more than 2,000 languages, and—without sustained policy alignment — the risk of further cultural marginalisation in the global information society remains acute

C9: Media

The role of media in the information society – encompassing press, broadcasting and online platforms – has evolved in Africa with the digital revolution, but progress under C9 remains mixed. On one hand, digital technology has broadened news distribution. Many countries host vibrant social-media communities and online outlets that supplement traditional radio, television and print, giving rise to more pluralistic voices; citizen journalism via blogs and

messaging apps enables the public to expose wrongdoing and debate policy. UN agencies, including ECA and UNESCO, strengthen respect for fundamental freedoms in the digital sphere and champion policies that uphold media independence and pluralism, reinforcing the sector's watchdog role. Media across the continent also promotes indigenous narratives, ensuring that local cultures are visible within both digital and legacy channels.

However, fundamental challenges continue to hamper a free, independent and diverse media environment. Only 10 percent of African states are classified by the World Press Freedom Index as offering a satisfactory setting for media freedom; the rest fall into "problematic", "difficult" or facing a "very serious situation" categories. Journalists and outlets still confront restrictive legislation, censorship and economic pressure that chill investigative reporting. The rapid transition to digital platforms has eroded traditional revenue models and intensified exposure to misinformation and disinformation. Efforts to build media-literacy and responsible-journalism skills remain fragmented, limiting audiences' ability to assess content critically. Some governments continue to impose disproportionate controls, such as blanket internet shutdowns, which further narrow civic space.

Overall, while more information than ever circulates online, the quality, diversity and freedom of that information are not yet assured. C9 has delivered clear signals of the media's democratic value, but structural deficits in legal protections, financial sustainability and audience preparedness continue to curb its full contribution to Africa's digital transformation. The continent's media environment demonstrates a mix of progress and enduring gaps, reflecting uneven translation of digital opportunity into sustainable outlets. Sustained attention to these chronic constraints is therefore essential if the information society is to benefit from a robust, plural and credible African media sector.

C10: Ethical Dimensions of the Information Society

African governments and academic institutions have shifted from sporadic engagement to structured policy reform on the ethical use of ICTs. Seventy per cent of member States have now promulgated a stand-alone data-protection statute or regulation, led by Nigeria's two-tier framework — the 2019 Data Protection Regulation and the 2023 Data Protection Act — and by South Africa's Protection of Personal Information Act (2020). Kenya, Botswana, Cameroon, Ethiopia and Malawi adopted or amended comparable laws between 2021 and 2024, while Tanzania, Togo and the Democratic Republic of the Congo established independent supervisory authorities. These instruments converge on consent, purpose-limitation and security obligations, aligning continental practice with global standards. African experts helped shape UNESCO's 2021 Recommendation on the Ethics of Artificial Intelligence, and information-ethics centres have emerged in several universities, signalling academic consolidation.

Implementation, however, remains fragile. Data-protection authorities often lack dedicated budgets and technical staff, limiting their ability to conduct inspections, issue guidance and raise public awareness. Ethical risks associated with artificial-intelligence bias, biometric surveillance, opaque data-localization requirements and the commercial use of personal information are seldom subjected to systematic review. Child online safety is similarly uneven; only a handful of countries have issued enforceable standards for protecting minors in digital

spaces, and even where such policies exist operational resources are scarce. Low levels of digital-rights literacy exacerbate these gaps, leaving citizens with limited capacity to exercise consent or seek redress when violations occur.

The review identifies three priority interventions to close the compliance gap. First, earmarked funding and specialized training should be provided to regulators and oversight bodies in order to strengthen enforcement and advisory functions. Second, human-rights and child-protection safeguards must be embedded across all ICT policies from the outset rather than treated as separate initiatives. Third, multi-stakeholder research on emerging technologies — particularly artificial intelligence — needs to progress from academic discourse to practical guidance that informs procurement, standards and industry self-regulation. Where such measures are fully resourced, legislative progress can mature into accountable digital ecosystems; where they are not, privacy breaches proliferate and the benefits of digital transformation remain unevenly distributed across societies. Embedding these safeguards is thus presented as a prerequisite for a rights-respecting, inclusive and sustainable information society in Africa.

C11: International and Regional Cooperation

International and regional co-operation remains the organising principle of Africa's WSIS follow-up. UNECA and the African Union Commission, working with the International Telecommunication Union (ITU), co-ordinate continent-wide monitoring and reporting of WSIS commitments. The WSIS+20 Africa Review meeting in Dar es Salaam (October 2024) convened 150 stakeholders from 37 member States and produced a consolidated African submission for the forthcoming Global Digital Compact (GDC).

Regional Economic Communities (RECs) deepen this architecture by drafting model laws and joint policy frameworks that narrow regulatory divergences in areas such as data protection, roaming tariffs and spectrum management. Continental instruments, notably the African Continental Free Trade Area (AfCFTA) Protocol on Digital Trade adopted in 2023, illustrate how collective rule-making can enable cross-border e-commerce and trusted data flows. Africa also advances shared positions in multilateral negotiations — most visibly at ITU conferences — so that emerging global norms on connectivity financing, technology transfer and digital-rights safeguards reflect regional priorities.

Operational collaboration is visible in joint spectrum-coordination groups, reciprocal recognition of computer-emergency-response teams and pooled technical-assistance programmes that help smaller states align with continental cyber-resilience standards. Progress is reinforced through knowledge-exchange platforms that publish comparative metrics and circulate good-practice toolkits on governance, financing and skills development.

Challenges persist. Protracted ratification cycles, fragmented institutional mandates and uneven resource mobilisation delay the entry into force—and subsequent enforcement—of continental and regional instruments. Capacity gaps, particularly in specialised domains such as cyber-forensics and spectrum engineering, restrict many administrations to ad-hoc project participation rather than sustained programme leadership. These weaknesses impede the translation of high-level commitments into affordable connectivity, secure services and inclusive digital-trade growth.

The WSIS+20 review identifies two immediate levers for closing the co-operation gap. First, align REC and continental monitoring systems so that progress data feed a single African dashboard linked to the GDC review cycle. Second, establish a pooled technical-assistance fund — administered by UNECA and the AU Digital Centre of Excellence — to finance rapid deployment of legal, regulatory and engineering expertise where national capacity is thin. If implemented, these measures would strengthen Africa's collective voice in global digital governance and accelerate delivery of WSIS outcomes across all Action Lines.

SECTION TWO: NATIONAL WSIS IMPLEMENTATION PROGRESS

This section examines the progress of five African nations—Benin, Cameroon, Egypt, Kenya, and South Africa—in implementing WSIS Action Lines. These countries were selected through a consultative process with the ECA team, ensuring that the case studies reflect diverse experiences from different sub-regions across the continent. Selection criteria included data availability, demonstrated WSIS engagement, and alignment with broader digital priorities under WSIS, Agenda 2063, and the SDGs. While these five countries showcase varying levels of digital transformation, their implementation challenges and successes highlight common issues that most African nations face. From connectivity gaps and digital literacy challenges to policy harmonization and infrastructure financing, their experiences provide insights into regional trends, offering lessons that can guide digital inclusion efforts across the continent.

2.1 Benin (Western Africa)

Benin's progress in implementing WSIS Action Lines between 2010 and 2025 highlights steady strides in leveraging ICTs for socio-economic development and inclusion. This ongoing journey aligns partially with WSIS principles, Agenda 2063, and the Global Digital Compact (GDC).By 2025, the number of active mobile connections reached 16.7 million, equivalent to 114% of the population, with rural areas witnessing mobile coverage growth from 45% in 2010 to 76% in 2024.[1] Internet penetration has steadily risen, from just 3.13% in 2010 to 49.7% in 2023, driven by advancements in mobile networks. However, fixed broadband access remains limited, with a modest increase from 0.04 to 0.58 subscriptions per 100 inhabitants over the same period.[2]

Strategic initiatives such as the Digital Benin Strategy (2022–2026)[3] and the Digital Code of 2018, amended in 2022,[4] have fostered a mildly competitive ICT environment, supported by ARCEP-Benin's regulatory oversight. Programs under the Smart Gouv initiative (2020)[5] digitized public services, introducing an e-Visa platform,[6] digital tax systems, and modernized property registries.[7] These advancements reflect Benin's intent to leverage ICTs for governance improvements and align with WSIS principles.

Efforts to address the digital skills gap include targeted training of over 20,000 youth through the Digital Skills Program (2018–2024) and gender inclusion via Girls in ICT.[8] However,

[1] DataReportal (2025) *The "state of digital" in Benin in 2025* (Available at https://datareportal.com/reports/digital-2025-benin#:~:text=A%20total%20of%2016.7%20million,percent%20of%20the%20total%20population. Accessed April 16, 2025)
[2] ITU (2023), ITU Telecommunication Indicator database
[3] https://digitalbenin.org/documentation/introduction
[4] https://www.village-justice.com/articles/overview-the-digital-code-amendment-act-benin-republic,38850.html
[5] INCLUDE (2022) *Digitalisation of public services in Benin: challenges and opportunities* (Available at https://includeplatform.net/wp-content/uploads/2022/11/Digitalisation-of-public-services-in-Benin-challenges-and-opportunities.pdf Accessed April 16, 2025)
[6] https://www.africatourvisa.com/benin/visa-validation/#:~:text=The%20Republic%20of%20Benin%20e%2DVisa&text=The%20e%2DVisa%20program%20was,passport%20data%20and%20personal%20information.
[7] https://www.fig.net/resources/proceedings/fig_proceedings/fig2024/papers/ts10g/TS10G_kossou_n_abs.pdf#:~:text=With%20financial%20support%20from%20the%20Netherlands%2C%20the,boundary%20stones%2C%20involving%20the%20local%20population%20in
[8] https://smartafrica.org/sada-rolls-out-its-national-digital-academy-in-benin/#:~:text=SADA%20initiative%20in%20Benin%20will%20be%20an,necessary%20capacities%20to%20drive%20Benin's%20sustainable%20development.&text=The%20objective%20is%20to%20reach%20over%2022%2C000,supported%20by%20the%20SADA%20In%2Dcountry%20implementation%20wave.

educational technology access remains uneven, particularly in rural areas. Cybersecurity has also improved with the establishment of the National Information Systems Security Agency (ANSSI) and CERT-Bénin,[9] alongside ratification of the Malabo Convention on Cybersecurity. Specialized bodies like the Special Prosecutor and the Office Central de Répression de la Cybercriminalité (OCRC) have also been set up to address cybercrime and electronic evidence.[10]

The digital economy is growing but nascent, with mobile money reaching 45% of adults by 2024[11] and e-commerce is experiencing a 300% growth in online businesses (2018–2024).[12] Emergent tech startups demonstrate the country's entrepreneurial potential. Despite notable progress, Benin faces persistent obstacles, including affordability barriers, with data costs accounting for 5.2% of GNI per capita.[13] The rural-urban divide continues to challenge equitable connectivity, and the lack of advanced digital skills limits innovation.

Through investments in digital infrastructure and gender-focused programs, Benin is taking steps to align with the aspirations of Agenda 2063 for inclusive and sustainable development. These initiatives also reflect Global Digital Compact principles, emphasizing inclusion and affordability. Participation in ECOWAS digital programs highlights the country's commitment to regional integration.

Benin's journey underscores determination and potential, laying a foundation for future alignment with global standards. By addressing connectivity gaps, affordability barriers, and skill shortages, strengthening institutional capacities and scaling up cybersecurity measures, Benin can position itself as a key player in West Africa's digital ecosystem.

2.2 Cameroon (Central Africa)

Cameroon's steady implementation of WSIS Action Lines from 2010 to 2025 highlights its commitment to leveraging ICTs for socio-economic development, despite the challenges posed by the country's political landscape, geographical diversity, and rural access gaps. Through targeted policy interventions, infrastructure investments, and capacity-building initiatives, Cameroon aligns strongly with WSIS principles, Agenda 2063, and the Global Digital Compact (GDC).

Mobile penetration increased from 41.6% in 2010 to 85.3% by 2023,[14] while internet usage rose from 4.3% to 37.2% within the same period. The expansion of the National Backbone Network was completed by 2023, connecting all administrative regions and strengthening international bandwidth through links to the South Atlantic 3/West Africa Submarine Cable

[9] https://www.cert.tn/fr/publication/show/benin
[10] https://www.coe.int/en/web/octopus/-/benin#:~:text=Specialised%20institutions,to%20other%20units%20if%20necessary.
[11] GSMA (2025), The State of the Industry Report on Mobile Money 2025, London.
[12] DataReportal (2025) *The "state of digital" in Benin in 2025* (Available at https://datareportal.com/reports/digital-2025-benin#:~:text=A%20total%20of%2016.7%20million,percent%20of%20the%20total%20population. Accessed April 16, 2025)
[13] https://www.statista.com/statistics/1272925/price-for-mobile-data-in-benin/
[14] https://datareportal.com/reports/digital-2023-cameroon#:~:text=Mobile%20connections%20in%20Cameroon%20in,percent)%20between%202022%20and%202023.

(SAT-3/WACS) and the South Atlantic Inter Link (SAIL) systems.[15] However, fixed broadband access remains limited, with subscriptions reaching only 0.5 per 100 inhabitants.[16]

Cameroon's policies, including the Digital Cameroon 2020 Strategic Plan,[17] National Broadband Network Development Strategy (2016–2025),[18] and Digital Economy Law (2020),[19] have laid the groundwork for ICT integration and innovation. E-government initiatives, such as the Online Tax Declaration System[20] and digitized land registries,[21] have improved transparency and public service delivery, demonstrating alignment with WSIS principles.

Cameroon has several digital literacy programs, including those focused on empowering women and youth with online entrepreneurship skills.[22] These efforts are complemented by increasing access to information through open data portals and e-learning platforms, which further promote knowledge sharing. Cybersecurity frameworks, including the National Agency for Information and Communication Technologies (ANTIC) and the National Computer Emergency Response Team (CAMCERT), safeguard online activities and critical infrastructure. Legal measures such as the Law No. 2010/012, which focuses on cybersecurity and cybercrime,[23] reinforce digital trust, aligning with WSIS Action Line goals for ICT confidence.

The digital economy has grown steadily, with mobile money adoption expected to surpass 40% of adults by 2023, positioning Cameroon as the leader in mobile money usage within the Central African Economic and Monetary Community (CEMAC) region.[24] ICTs contribute around 5% to GDP as of 2024.[25] E-commerce has flourished, with online businesses growing 180% between 2018 and 2024,[26] while tech hubs in Douala and Yaoundé highlight Cameroon's innovation potential. Yet, challenges persist, including the widening urban-rural digital divide, high data costs (6.4% of GNI per capita),[27] and infrastructure gaps in remote regions.

Cameroon's implementation of WSIS Action Lines reflects deliberate efforts to advance governance, economic growth, and digital inclusion. With sustained investments in

[15] https://mapafrica.afdb.org/en/projects/46002-P-CG-GB0-002#:~:text=The%20Congo%20Component%20for%20the,)%20Optical%20Fibre%20Infrastructure;%20B)
[16] ITU (2023), ITU Telecommunication Indicator database
[17] https://www.minpostel.gov.cm/index.php/en/les-grands-chantiers/138-cameroon-digital-strategic-plan-2020
[18] https://www.minpostel.gov.cm/index.php/fr/les-grands-chantiers/292-broadband-infrastructure-for-a-digital-cameroon-by-2020
[19] https://pubdocs.worldbank.org/en/379941605627277587/DE4A-Cameroon-Country-Diagnostic-Jun-26.pdf
[20] https://www.impots.cm/en/document/registration-online
[21] https://www.businessincameroon.com/public-management/2607-9384-cameroon-about-to-digitalize-480-000-public-land-titles
[22] https://www.foretiafoundation.org/digital-literacy-and-online-entrepreneurship-empowering-women-and-youth-in-cameroon/
[23] https://www.coe.int/en/web/octopus/country-wiki-ap/-/asset_publisher/CmDb7M4RGb4Z/content/cameroon/pop_up#:~:text=The%20main%20legislative%20text%20regarding,as%20grooming%20(sections%2083).
[24] http://trendsnafrica.com/cameroon-emerges-as-mobile-money-powerhouse-contributing-over-5-to-national-gdp/#:~:text=In%20Cameroon%2C%20mobile%20money%20usage,Power%20Rice%2DProcessing%20in%20Nigeria
[25] CSEA (2024) *Data Governance Snapshot* (Available at https://cseaafrica.org/images/posts/6589794683485194.pdf. Accessed April 21, 2025)
[26] https://www.afsic.net/the-rise-of-ecommerce-in-cameroon/#:~:text=and%20improve%20lives.-,Internet%20Penetration%20and%20Mobile%20Usage,online%20transactions%2C%20further%20boosting%20ecommerce.
[27] https://tradingeconomics.com/cameroon/gni-per-capita-ppp-us-dollar-wb-data.html#:~:text=GNI%20per%20capita%2C%20PPP%20(current%20international%20$),the%20World%20Bank%20on%20April%20of%202025.

connectivity and skills development, Cameroon is poised to solidify its role as a regional leader in Central Africa's digital transformation.

2.3 Egypt (Northern Africa)

Egypt's strategic implementation of WSIS Action Lines between 2010 and 2025 demonstrates a commitment to digital transformation and socio-economic development. Mobile subscriptions increased from 16.8 per 100 inhabitants in 2005 to 92.8 by 2023,[28] while internet penetration more than doubled from 31.4% to 72.2%.[29] Broadband accessibility has improved significantly, driven by infrastructure investments like the eMisr National Broadband Plan and fibre-optic expansion.[30]

Egypt's policies reflect a comprehensive approach to ICT development. The Digital Egypt Strategy (2020)[31] integrates ICTs into governance, education, and business, complemented by the ICT 2030 Strategy's focus on sustainable ICT growth.[32] Legislative reforms, such as the updated Telecom Regulatory Law of 2018 and its amendments,[33] have encouraged private-sector participation. Initiatives like Egypt Makes Electronics emphasize innovation and local manufacturing, aligning with WSIS principles.

E-government efforts have transformed service delivery. By 2025, the Digital Egypt Platform offered over 170 government services, streamlining processes and improving accessibility.[34] The Egyptian Knowledge Bank supports lifelong learning,[35] while telemedicine initiatives enhance healthcare access in remote areas. Digitized financial systems and court processes further exemplify Egypt's use of ICT for public benefit.

Capacity-building initiatives have enhanced ICT skills nationwide. Programs like the Digital Egypt Builders Initiative train Egyptian youths in advanced technologies,[36] while the Next Technology Leaders Initiative provides internationally recognized training.[37] Women-focused programs and the Egypt University of Informatics promote gender inclusion and educational advancement.[38] The Knowledge City Program further enhances access to technology and information.[39]

Furthermore, Egypt's cybersecurity measures safeguard digital systems and data. EG-CERT addresses numerous cybersecurity incidents,[40] supported by the Anti-Cybercrime Law (2018)[41]

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[28] https://www.statista.com/statistics/502043/mobile-cellular-subscriptions-per-100-inhabitants-in-egypt/#:~:text=There%20were%2092.8%20mobile%20subscriptions%20per%20100,inhabitants%20in%20Egypt%20from%201997%20to%202023.
[29] https://www.statista.com/statistics/484939/internet-user-reach-egypt/
[30] http://www.ist-africa.org/home/default.asp?page=doc-by-id&docid=5186
[31] https://aedic.eu/en/non-categorised/digital-egypt-2030-the-strategy-that-transforms-legacy-into-a-global-technology-hub/
[32] https://mcit.gov.eg/en/ICT_Strategy
[33] https://www.tra.gov.eg/en/regulations/laws-and-legislations/
[34] https://www.undp.org/egypt/stories/5-facts-you-need-know-about-digital-public-infrastructure
[35] https://www.ekb.eg/
[36] https://debi.gov.eg/StaticContent/AboutDebi#:~:text=The%20initiative%20is%20a%20completely,/%20leadership%20development%20/%20language%20skills.
[37] https://itida.gov.eg/English/Pages/Next-Technology-Leaders.aspx
[38] https://eui.edu.eg/
[39] https://www.egyptindependent.com/knowledge-citys-2nd-phase-underway-at-new-administrative-capital/
[40] Positive Technologies (2025) Cyberattacks on Egypt's infrastructure in 2024 (Available at https://global.ptsecurity.com/analytics/cyberattacks-on-egypt-s-infrastructure-in-2024. Accessed April 21, 2025)
[41] https://www.wipo.int/wipolex/en/legislation/details/19959

and Data Protection Law (2020).[42] The National Cybersecurity Strategy (2022–2027)[43] reinforces resilience against emerging threats, aligning with WSIS goals for building confidence in ICT systems.

Arising from these strategic actions, Egypt's digital economy continues to flourish, with ICT's GDP contribution rising from 3.2% in 2010 to 5.8% in 2024.[44] IT exports grew from US$1.1 billion to US$4.9 billion, driven by 700+ tech startups established since 2015.[45] Digital payments adoption increased by 60% between 2020 and 2024, showcasing ICT's impact on commerce.[46] Innovation hubs further solidify Egypt's role as a regional leader in digital transformation.

Despite notable achievements, Egypt faces persistent challenges. Rural areas experience gaps in digital literacy and internet access, emphasizing the need for targeted interventions. Cybersecurity threats require sustained investments in resilience and awareness. Additionally, the development of local digital content in Arabic remains an area for growth. Balancing regulation with innovation will be key to sustaining momentum.

In conclusion, Egypt's WSIS implementation reflects forward-thinking policies, inclusive programs, and robust infrastructure investments. These efforts position Egypt as a regional leader in ICT and align closely with the WSIS principles, Agenda 2063, and the Global Digital Compact.

2.4 Kenya (Eastern Africa)

Kenya's remarkable progress in implementing the WSIS Action Lines between 2010 and 2025 establishes it as a leader in digital transformation in Eastern Africa. Mobile penetration rose from 63.2% in 2010[47] to 138.5% by 2024,[48] while internet penetration surged from 14% to 85.2% during the same period,[49] driven by investments in the National Optic Fibre Backbone Infrastructure (NOFBI), which connected all 47 counties and expanded fibre-optic coverage to

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42 https://natlex.ilo.org/dyn/natlex2/r/natlex/fe/details?p3_isn=111246&cs=1cC2P3AfHgLTzjaCaGdWFAqxMoyyVTno2m6emtknnETzOR4L35fstMiJNV2Ld5berdxzVg1ra8tYsrtqkzSg7-g

43 https://dig.watch/resource/the-national-cybersecurity-strategy-of-egypt-2023-2027

44 https://english.ahram.org.eg/NewsContent/3/1239/534854/Business/Tech/ICT-sector-contribution-to-Egypt%E2%80%99s-GDP-rises-to--i.aspx#:~:text=ICT%20sector%20contribution%20to%20Egypt's%20GDP%20rises%20to%205.8%%20in%20FY2023/2024.&text=The%20contribution%20of%20the%20information%20and%20communications,Information%20Technology%20Amr%20Talaat%20announced%20on%20Wednesday.

45 https://www.arabnews.com/node/2340506/business-economy#:~:text=RIYADH:%20Egypt%20is%20aiming%20to%20reach%20$9,review%20meeting%20held%20on%20Tuesday%2C%20Prime%20Minister

46 https://www.cbe.org.eg/en/news-publications/news/2025/02/25/10/02/financial-inclusion-rates-in-egypt-continue-to-rise,-reaching-74,-d-,8-by-the-end-of-2024#:~:text=Use%20Transaction%20Accounts-,Financial%20Inclusion%20Rates%20in%20Egypt%20Continue%20to%20Rise%2C%20Reaching%2074.8,period%20from%202016%20to%202024.

47 CCK (2010) Quarterly Sector Statistics Report 2nd Quarter October-December 2010/2011 (Available at https://www.ca.go.ke/sites/default/files/2023-09/Sector%20Statistics%20Report%20Q2%202010-2011.pdf#:~:text=As%20illustrated%20in%20figure%204%2C%20mobile%20penetration,per%20100%20inhabitants%20in%20the%20last%20quarter1. Accessed April 21, 2025)

48 https://english.news.cn/africa/20250318/31508c2fcef64e7d92af16f31783fa74/c.html#:~:text=According%20to%20the%20quarterly%20report,telecommunication%20services%20continues%20to%20expand.

49 https://allafrica.com/view/group/main/main/id/00059577.html#:~:text=The%20latest%20world%20internet%20users,highest%20after%20North%E2%80%A6%20Read%20more%20%C2%BB

over 60% by 2024.[50] Fixed broadband subscriptions grew from 0.2 per 100 inhabitants in 2010 to 2.8 by 2023, underscoring the shift towards high-speed connectivity.[51]

Kenya's visionary policies[52] include the Vision 2030, National Digital Master Plan (2020–2032), and the Digital Economy Blueprint (2019), which position ICT as a key driver of growth. The National ICT Policy (2020) promotes universal access and emerging technologies, while the Bottom-up Economic Transformation Agenda (2022)[53] emphasizes the digital superhighway as a growth pillar. Together, these frameworks exemplify alignment with WSIS principles and Agenda 2063.

E-government initiatives have revolutionized service delivery. By 2025, the E-Citizen Portal integrated over 1,600 government services online, including tax payments and licensing,[54] while Huduma Centers provided inclusive access across counties. The Digital Health Strategy is facilitating the adoption of Electronic Health Records (EHRs) in public hospitals, and the Digital Learning Program is integrating ICT into primary education.

Capacity-building efforts have bridged Kenya's digital skills gap. The Ajira Digital Program trained over 50,000 youth,[55] the Digital Literacy Program distributed 1.2 million devices to primary schools,[56] and the Presidential Digital Talent Program trained over 2,000 ICT graduates.[57] Gender-responsive initiatives and programs targeting marginalized communities further demonstrate Kenya's commitment to digital inclusion.

Kenya's focus on cybersecurity has built trust in its digital systems. The National Cybersecurity Strategy (2022) and the Data Protection Act (2019) provide frameworks for addressing emerging threats and safeguarding privacy. The Kenyan National Computer Incident Response Team (KE-CIRT/CC) reported handling over 840 million cyberthreats from October to December 2024.[58]

Kenya's digital economy thrives, led by innovative platforms like M-Pesa, which transformed financial inclusion (Section 2.5.2 - *Case Study*). ICT's contribution to GDP rose steadily, supported by the growth of e-commerce and the acceleration of startups. Rural connectivity,

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50 https://ts2.tech/en/internet-access-services-in-kenya/#:~:text=The%20government's%20National%20Optic%20Fibre%20Backbone%20Infrastructure,operators%20have%20also%20built%20metropolitan%20fiber%20networks

51 https://go.gale.com/ps/i.do?id=GALE%7CA693152125&sid=googleScholar&v=2.1&it=r&linkaccess=abs&issn=00134589&p=AONE&sw=w&userGroupName=anon%7E218b60d0&aty=open-web-entry#:~:text=Kenya%20is%20currently%20experiencing%20rapid%20growth%20in,lot%20of%20homes%20are%20being%20connected.%20'

52 https://ict.go.ke/policy-documents

53 https://repository.kippra.or.ke/items/a1ea8cab-ff8c-4127-9e45-81a9eaed0bcd

54 https://accounts.ecitizen.go.ke/

55 https://www.decentjobsforyouth.org/commitment/382#:~:text=This%20programme%20aims%20to%20empower,%2C%20and%20community%2Dbased%20institutions.

56 https://www.icta.go.ke/news?node=295&type=news#:~:text=Chief%20Executive%20Officer%2C%20ICT%20Authority,1%2D3%20across%20the%20country.

57 https://tech-ish.com/2023/09/12/presidential-digital-talent-cohort-viii/#:~:text=Since%20its%20inception%2C%20the%20Presidential%20Digital%20Talent,to%20the%20growth%20of%20Kenya's%20digital%20landscape.&text=The%20launch%20of%20Cohort%20VIII%20of%20the,country%20to%20thrive%20in%20the%20digital%20era.

58 https://nairobibusinessmonthly.com/kenya-sees-surge-in-cyber-threats-with-840-million-attacks-in-3-months/#:~:text=In%20Q2%20FY2024%2D25%2C%20the%20period%20from%20October,Response%20Team%20%E2%80%93%20Coordination%20Centre%20(National%20KE%2DCIRT/CC).

digital payment adoption, and innovation hubs reflect Kenya's alignment with WSIS Action Lines for economic progress.

Despite achievements, challenges persist. The urban-rural digital divide remains significant, with a 315% gap in internet penetration.[59] Data costs, at 3.1% of GNI per capita,[60] pose affordability barriers, while gaps in advanced digital skills and evolving cybersecurity threats require sustained investment.

Kenya's WSIS Action Line implementation reflects its dedication to leveraging ICTs for socio-economic development. Through bold policies, robust infrastructure, and inclusive programs, Kenya has solidified its leadership in digital transformation, aligning with WSIS principles, Agenda 2063, and the Global Digital Compact.

2.5 South Africa (Southern Africa)

South Africa's robust implementation of WSIS Action Lines from 2010 to 2025 highlights its leadership in driving digital transformation across Africa. Through forward-thinking policies, significant infrastructure investments, and a coordinated multi-stakeholder approach, South Africa exemplifies comprehensive alignment with WSIS principles, Agenda 2063, and the Global Digital Compact (GDC).

South Africa's robust implementation of WSIS Action Lines between 2010 and 2025 underscores its leadership in digital transformation across Africa. Mobile network coverage reached near universality, with 99.79% of the population connected to 3G, 99.07% to 4G/LTE, and 46.64% to 5G by 2024—urban areas in Western Cape reported 78% 5G penetration.[61] Broadband infrastructure has been extended to 82.06% of South Africa's landmass, while international bandwidth has surged from 5.8 Tbps in 2010 to over 40 Tbps by 2024.[62] Fixed internet access, averaging 14.5% nationally, revealed sharp disparities, ranging from 40.1% in the Western Cape to 3.1% in Mpumalanga.[63]

South Africa's policies, such as the National Integrated ICT Policy White Paper (2016)[64] and South Africa Connect (2013, revised 2022),[65] promote inclusivity and innovation. The Digital South Africa Strategy (2020) positions the country as a leader in the Fourth Industrial Revolution (4IR), while the National Digital and Future Skills Strategy (2021)[66] aims to train one million youth in digital competencies by 2030. Regulatory efforts by the Independent Communications Authority of South Africa (ICASA) foster competition and consumer protection, aligning with WSIS principles.

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[59] https://www.kictanet.or.ke/digital-divide-in-kenya-ict-access-and-usage-data-reveals-disparities/#:~:text=The%20report%20revealed%20significant%20disparities%20in%20internet,(25.0%)%2C%20with%20the%20national%20average%20at%2035.0%.
[60] https://tradingeconomics.com/kenya/gni-per-capita-ppp-us-dollar-wb-data.html#:~:text=GNI%20per%20capita%2C%20PPP%20(current%20international%20$),the%20World%20Bank%20on%20April%20of%202025.
[61] ICASA (2025) State of the ICT Sector Report of 2025 (Available at https://www.icasa.org.za/uploads/files/The-State-of-the-ICT-Sector-Report-of-South-Africa-2025.pdf. Accessed April 21, 2025)
[62] Ibid.
[63] Ibid.
[64] https://www.gov.za/sites/default/files/gcis_document/201610/40325gon1212.pdf
[65] https://www.dcdt.gov.za/sa-connect-document.html
[66] https://www.gov.za/sites/default/files/gcis_document/202009/43730gen513.pdf

E-government efforts have transformed service delivery with over 225 services digitized by 2025, up from 40 in 2010.[67] The National e-Government Strategy (2017)[68] and the National Digital Health Strategy (2019)[69] have enhanced access to public services and digitized health records across public hospitals. Service hubs in rural areas ensure more equitable access to these advancements.

South Africa has addressed cybersecurity risks through the Cybercrimes Act (2020)[70] and the Protection of Personal Information Act (POPIA),[71] which ensure trust in digital systems. The National Cybersecurity Policy Framework (2012)[72] and investments in safeguarding critical information infrastructure further enhance resilience against evolving threats.

The digital economy has grown significantly, with ICT's GDP contribution rising from 3.5% in 2010 to 8.7% by 2024.[73] E-commerce revenue surged from R2 billion in 2010 to R71 billion in 2023,[74] driven by broader connectivity initiatives. Efforts to promote cultural diversity, supported by the Film and Publication Board, ensure the representation of South Africa's vast heritage on digital platforms.

While South Africa's ICT landscape showcases remarkable progress, challenges persist. Rural connectivity gaps and significant provincial disparities in fixed internet access highlight the need for targeted interventions. Accelerating digital skills deployment and addressing digital disruption in the postal and broadcasting sectors remain key priorities. Sustainable strategies to address these challenges will further strengthen South Africa's leadership in digital transformation.

In summary, South Africa's implementation of WSIS Action Lines demonstrates its commitment to leveraging ICTs for socio-economic development and inclusion. Through coordinated policymaking, extensive infrastructure investment, and proactive capacity-building, South Africa exemplifies alignment with WSIS principles, the GDC, and Agenda 2063, setting a benchmark for other nations in Southern Africa.

[67] DCDT (2024) South Africa's Significant Improvement in the United Nations e-Government Index 2024 (Available at https://www.dcdt.gov.za/media-statements-releases/532-south-africa-s-significant-improvement-in-the-united-nations-e-government-index-2024.html#:~:text=The%20objective%20was%20to%20automate,the%20journey%20of%20this%20interaction.&text=In%20welcoming%20this%20great%20improvement,South%20Africa%20can%20leverage%20on". Accessed April 21, 2025)
[6868] https://www.gov.za/sites/default/files/gcis_document/201711/41241gen886.pdf
[69] https://knowledgehub.health.gov.za/elibrary/national-digital-health-strategy-south-africa-2019-2024
[70] https://www.gov.za/documents/acts/cybercrimes-act-19-2020-english-afrikaans-01-jun-2021
[71] https://www.gov.za/sites/default/files/gcis_document/201409/3706726-11act4of2013protectionofpersonalinforcorrect.pdf
[72] https://www.gov.za/sites/default/files/gcis_document/201512/39475gon609.pdf
[73] GSMA (2024), *Driving Digital Transformation of the Economy in South Africa Opportunities, Policy Reforms and the Role of Mobile*, London.
[74] Mastercard (2024) SA online retail passes 6% of total retail (Available at https://www.mastercard.com/news/eemea/en/newsroom/press-releases/en/2024/may/sa-online-retail-passes-6-of-total-retail/#:~:text=Johannesburg%2C%20South%20Africa%2C%2009%20May,R100%20billion%20mark%20by%202026. Accessed April 21, 2025)

SECTION THREE: AFRICA'S ROLE IN THE GLOBAL DIGITAL COMPACT

The Global Digital Compact (GDC), adopted under the United Nations' Pact for the Future, presents a vision for an inclusive, secure, and sustainable digital future. It prioritizes universal connectivity, digital inclusion, data governance, human rights online, and ethical technology regulation, serving as a global framework for guiding digital transformation efforts. As Africa deepens its engagement with the GDC, the continent strives to align its digital strategies with these priorities while leveraging the unique opportunities and challenges of its peculiar and evolving digital landscape.

This section examines Africa's contributions to Agenda 2063 and the SDGs, its alignment with WSIS and GDC objectives, and the opportunities for regional collaboration, as the continent advances its role in global digital governance.

3.1 Africa's Contributions Toward Agenda 2063 and SDGs

In preparation for the World Summit on the Information Society (WSIS) +20 review in December 2025, Africa stands at a pivotal moment to shape its digital future within the global framework of the Global Digital Compact (GDC).[75] Adopted in September 2024 under the United Nations' Pact for the Future, the GDC outlines a vision for an *"inclusive, secure, and sustainable digital future, emphasizing universal connectivity, digital inclusion, data governance, human rights online, and ethical technology regulation."* African countries have actively contributed to this compact through national submissions and the landmark African Digital Compact (ADC),[76] adopted by the African Union (AU) on August 9, 2024. The ADC emphasizes rural broadband expansion, digital rights protection, and capacity building, reinforcing Africa's role as a proactive stakeholder in global digital governance.

Africa's contributions to digital transformation are deeply rooted in the WSIS Action Lines, Agenda 2063, and the Sustainable Development Goals (SDGs). By embedding WSIS principles into national and regional strategies, African countries are leveraging ICTs to foster inclusive growth, gender empowerment, and sustainable development. These efforts reflect a shared commitment to harnessing digital innovations to address socio-economic challenges and unlock transformative opportunities across the continent.

Numerous examples can be cited of these contributions. Ethiopia's SchoolNet Program, for instance, connects Ethiopian schools to digital resources by providing students and teachers with access to e-learning platforms and educational materials, thereby advancing SDG 4 (Quality Education) and aligning with Agenda 2063's education aspirations. Senegal's Jiggen Ci TIC Initiative[77] is training Senegalese women in digital skills and entrepreneurship, tackling gender disparities and aligning with SDG 5 (Gender Equality). South Africa's IoT-Enabled Smart Grids[78] offer a good example of leveraging emerging ICTs for sustainable development through its quest to reduce energy waste by 15% per capita, contributing to SDG 9 (Industry,

[75] https://www.un.org/digital-emerging-technologies/global-digital-compact#:~:text=The%20Global%20Digital%20Compact%20is,includes%20a%20Global%20Digital%20Compact.
[76] https://au.int/sites/default/files/documents/44005-doc-AU_Digital_Compact_V4.pdf
[77] https://www.gsif.it/jiggen-joggal-women-rise-up-promoting-the-financial-inclusion-of-senegalese-women/#:~:text=By%20developing%20specific%20technical%20and,benefits%20it%20as%20a%20whole.
[78] https://sanedi.org.za/projects/smart-grid/#:~:text=South%20African%20Smart%20Grids%20Initiative%20(SASGI)%20is%20a%20stakeholder%20participation,be%20sustainable%20for%20future%20generations.

Innovation, and Infrastructure). This type of program, found across nearly all countries, collectively highlights Africa's innovative use of ICTs to address diverse socio-economic challenges. They demonstrate the continent's commitment to leveraging digital tools to empower marginalized communities, strengthen governance, and drive sustainable development. However, persistent barriers such as infrastructure deficits, limited funding, and inconsistent data continue to impede full alignment. Addressing these challenges is essential to fully leverage the synergies between WSIS, Agenda 2063, and the SDGs.

3.2 Africa's Contributions to the Global Digital Compact

As highlighted, the African Digital Compact (ADC) demonstrates a strategic alignment with the WSIS Action Lines by addressing foundational pillars, including ICT infrastructure, digital inclusion, capacity building, and cybersecurity. By focusing on initiatives like affordable broadband rollout, gender-responsive digital literacy programs, and harmonized data governance frameworks, the ADC operationalizes WSIS priorities such as expanding access to information (C3), enhancing capacity building (C4), and building confidence in ICTs (C5). Furthermore, the ADC's commitment to fostering innovation through ethical governance of emerging technologies reflects its alignment with WSIS Action Line C6 (Enabling Environment), making it a robust framework to accelerate the implementation of WSIS goals in Africa's unique socio-economic contexts.

Africa's contributions to the Global Digital Compact (GDC) reflect the continent's proactive engagement in shaping global digital governance. Through national submissions, regional consultations, and the adoption of the African Digital Compact (ADC), African countries have articulated a unified vision for leveraging digital technologies to foster socio-economic development, bridge digital divides, and promote inclusivity.

African submissions to the GDC emphasize several key priorities:[79]

1. **Universal Connectivity:** Africa is recognizing the need to prioritize affordable broadband access as fundamental to economic growth, with initiatives like Kenya's Last Mile Connectivity Project[80] and Nigeria's broadband expansion plan[81] targeting underserved rural areas. These efforts align with the GDC's principle of connecting the unconnected and WSIS Action Line C2 (ICT Infrastructure).

2. **Digital Inclusion:** Programs such as Rwanda's Digital Ambassadors Program[82] focus on empowering marginalized groups, particularly women and rural communities, through digital literacy and capacity building. These initiatives resonate with the GDC's emphasis on addressing the digital divide and WSIS Action Lines C3 (Access to Information) and C4 (Capacity Building).

3. **Ethical Technology Governance:** African countries have advocated for frameworks that ensure the responsible use of emerging technologies like AI, blockchain, and IoT.

[79] https://au.int/sites/default/files/documents/44005-doc-AU_Digital_Compact_V4.pdf
[80] https://www.afdb.org/sites/default/files/documents/projects-and-operations/kenya_last_mile_connectivity_project_-_project_appraisal_report.pdf
[81] https://ngfrepository.org.ng:8443/handle/123456789/3349
[82] https://www.risa.gov.rw/projects/digital-ambassadors-program

Egypt's National AI Strategy[83] and Rwanda's IoT-enabled Smart Cities exemplify this commitment.[84] These efforts align with the GDC's call for ethical governance and WSIS Action Line C6 (Enabling Environment).

4. **Human Rights Online:** African submissions highlight the importance of protecting digital rights and combating cyber-based violence. Initiatives like the Malabo Convention aim to address these concerns. These align with the GDC's principles of human rights online and WSIS Action Line C5 (Confidence and Security in ICTs).

5. **Multistakeholder Collaboration:** Africa is also recognizing the need for partnerships between governments, private sectors, civil society, and academia to drive digital transformation. The ADC itself is a product of such collaboration, bringing together diverse stakeholders to shape a unified digital agenda.

In summary, Africa has played its role in shaping the GDC through submissions at national, regional, and continental levels. These contributions emphasize universal connectivity, ethical technology governance, human rights online, and multistakeholder collaboration, and have positioned the continent as a main player in global digital governance. Organizations like UNECA and the AU have highlighted actionable strategies such as affordable broadband deployment, ethical AI governance frameworks, and digital skills training.

3.3 Alignment Between WSIS, GDC, and Africa's Digital Priorities

As demonstrated, Africa's digital transformation agenda is deeply interconnected with global and regional frameworks, including the WSIS Action Lines, the Global Digital Compact (GDC), and Agenda 2063. These frameworks collectively emphasize universal connectivity, digital inclusion, ethical governance, and sustainable development. The Africa Digital Compact (ADC) serves as a unifying framework that aligns Africa's digital priorities with these global and regional aspirations.

Table 1 below provides a detailed analysis of how the ADC aligns with the GDC, WSIS Action Lines, and Agenda 2063. It highlights areas of synergy, such as broadband expansion, digital inclusion, and ethical technology governance, while also identifying areas of misalignment. This structured perspective underscores the progress made and the challenges that remain in achieving a digitally inclusive and sustainable future for Africa.

[83] https://ai.gov.eg/SynchedFiles/en/Resources/AIstrategy%20English%2016-1-2025-1.pdf
[84] Ocity (2022), *The Best Smart Cities in Africa* (Available at https://www.o-city.com/blog/the-best-smart-cities-in-africa. Accessed April 19, 202)

Table 1: Mapping WSIS Outcomes to Africa's Priorities[85]

Priority Area	Alignment with GDC	Alignment with WSIS Action Lines	Alignment with Agenda 2063	Key Misalignments
Universal Connectivity	Prioritizes affordable broadband for all, especially underserved areas, resonating with GDC's principle of universal connectivity.	Strongly reflects WSIS Action Line C2 (ICT Infrastructure) through initiatives like the Last Mile Connectivity Project.	Supports Agenda 2063's aspiration for modern infrastructure and transformed economies.	High mobile data costs and inadequate infrastructure in rural areas continues to hinder progress toward universal access. The absence of sustainable broadband financing models adds to the challenge.
Digital Inclusion	Stresses gender-responsive policies, digital literacy programs, and marginalized groups' inclusion, directly tied to GDC's focus on digital equity.	Closely aligns with WSIS Action Lines C3 and C4 (Access and Capacity Building) through initiatives like the Digital Ambassadors Program.	Aligns with Agenda 2063's focus on inclusive growth and gender equality.	Limited outreach to disability groups, informal workers, and rural areas reduces the broader effectiveness of inclusion initiatives. A lack of localized content in indigenous languages further restricts accessibility.
Data Governance and Privacy	Advocates for trust-building frameworks and ethical AI use, paralleling GDC's emphasis on secure and transparent digital systems.	Aligns with WSIS Action Line C5 (Confidence and Security in ICTs) through policies like Data Protector and Cybersecurity legislations.	Reinforces good governance and accountability aspirations under Agenda 2063.	Lack of harmonized data protection frameworks and siloed national strategies weaken regional coordination and implementation. Slow adoption of regional data-sharing frameworks limits cross-border collaboration.
Emerging Technologies	Promotes ethical governance of AI, IoT, and blockchain to foster innovation while addressing ethical considerations, in line with GDC's call for responsible technology use.	Aligns with WSIS Action Line C6 (Enabling Environment) through initiatives like Egypt's AI strategy and Rwanda's IoT-enabled Smart City.	Advances Agenda 2063's goal of building a technology-driven society underpinned by science and innovation.	Ethical frameworks for AI, IoT, and blockchain remain underdeveloped, and environmental impacts of these technologies are often overlooked in implementation. Insufficient capacity-building for ethical AI governance accentuates these gaps.
Human Rights Online	Encourages protection against cyber-based violence and promotes online accountability, strongly tied to	Resonates with WSIS cross-cutting principles of inclusivity and empowerment.	Aligns with Agenda 2063's aspirations for inclusive and rights-based governance.	Insufficient enforcement of online safety frameworks and limited regional collaboration in tackling cross-border cybercrimes. Comprehensive legal frameworks for

[85] Source: Author's analysis

	GDC's principle of human rights in digital spaces.			misinformation and hate speech are also lacking.
Economic Sustainability	Focuses on fostering sustainable digital economies through initiatives like PPPs and regional e-commerce protocols, echoing GDC's principles of economic inclusion.	Aligns with WSIS Action Lines C7 and C8 (E-business and Cultural Diversity) through initiatives like AfCFTA agreements and protocols.	Advances Agenda 2063's goals for a digitally enabled trade ecosystem and shared prosperity.	Funding gaps and slow uptake of regional e-commerce standards impede the digital economy's scalability and inclusivity. Poor digitalization and integration of MSMEs and informal economies reduces inclusivity in digital trade and the AfCTA.

Bridging Africa's WSIS Action Line misalignments is critical to unlocking the region's digital potential and ensuring that nations fully capitalize on the opportunities presented by WSIS, GDC, and Agenda 2063. Addressing these gaps will not only accelerate progress but also lay the foundation for a more inclusive, sustainable, and globally competitive digital future for Africa. A key dimension of this alignment is ensuring that Africa's digital transformation efforts are well-integrated with global Sustainable Development Goals (SDGs)

3.4 SDG Alignment with WSIS Outcomes

The alignment between WSIS outcomes and Africa's digital priorities is further mapped in Appendix B, offering a structured breakdown of SDG linkages. Below is an overview of how Africa's digital transformation efforts intersect with the Sustainable Development Goals (SDGs).

- **Universal Connectivity** supports SDG 9 (Industry, Innovation, and Infrastructure) by driving broadband expansion, and SDG 17 (Partnerships for the Goals) by encouraging cross-sector collaboration for infrastructure financing and deployment.
- **Digital Inclusion** is directly tied to SDG 4 (Quality Education) through digital literacy programs and SDG 5 (Gender Equality) by fostering equal access to digital resources for women and marginalized groups.
- **Data Governance and Privacy** reinforces SDG 16 (Peace, Justice, and Strong Institutions) by advocating for robust trust-building frameworks, ethical AI governance, and legal protections for data privacy.
- **Emerging Technologies** advance SDG 8 (Decent Work and Economic Growth) by enabling innovation-driven employment and SDG 12 (Responsible Consumption and Production) through sustainable AI, IoT, and blockchain adoption.
- **Human Rights Online** strengthens SDG 10 (Reduced Inequalities) by ensuring protection for vulnerable populations against digital exclusion and cyber-based harms, while also supporting SDG 16 through improved digital accountability.

- **Economic Sustainability** contributes to SDG 1 (No Poverty) by driving financial inclusion through digital services and SDG 8 by expanding e-commerce, trade digitalization, and regional fintech ecosystems.

3.5 Opportunities for Regional Collaboration

Given Africa's unique socio-economic landscape, regional collaboration is pivotal in scaling infrastructure, harmonizing digital policies, and driving inclusive growth. To resolve shared challenges and capitalize on emerging opportunities, a coordinated approach among African nations is essential. Organizations such as UNECA, the African Union Commission, and Regional Economic Communities (RECs) continue to play critical roles in facilitating WSIS implementation, strengthening partnerships, and advancing Africa's broader digital priorities.

The analysis highlights several critical opportunities for regional collaboration that align with the 11 WSIS Action Lines and Africa's broader digital transformation goals. These opportunities stem from shared regional challenges and the need to scale successful initiatives across borders to maximize their impact.

1. **Expanding Infrastructure Through Shared Regional Projects**
   The first key opportunity lies in expanding infrastructure through regional projects that align with WSIS Action Line C2 (ICT Infrastructure). Collaborative ventures like the Central African Backbone[86] offer a roadmap for reducing connectivity costs and bridging infrastructure gaps in underserved areas. By pooling resources and sharing infrastructure among neighbouring countries, African nations can accelerate progress toward universal connectivity while addressing common technical and financial constraints.

2. **Harmonizing Policy Frameworks for Secure and Unified Systems**
   The harmonization of policy frameworks presents another significant opportunity, particularly in the areas of cybersecurity, data governance, and digital trade. Regional Economic Communities (RECs) such as ECOWAS and SADC have facilitated initial efforts to align policies, supporting WSIS Action Lines C5 (Building Confidence and Security in ICTs) and C6 (Enabling Environment). However, greater alignment is needed to enable seamless data sharing, cross-border e-commerce, and robust protections against cybercrime. This would create a more predictable regulatory environment, facilitating investment and collaboration across the continent.

3. **Scaling Regional Capacity Building Initiatives**
   Capacity building is also a prominent area of opportunity, particularly in addressing the digital skills gap that affects many African nations. WSIS Action Line C4 (Capacity Building) underscores the importance of regional training initiatives, which can be scaled up to address shortages in critical ICT skills. Programs like the Smart Africa Alliance's skills development workshops highlight the potential for regional cooperation to empower youth, women, and marginalized communities, ensuring that digital transformation is inclusive and equitable.

[86] https://ppp.worldbank.org/library/central-african-backbone-project

4. **Unlocking Digital Trade Potential Under AfCFTA**
   One of the most promising forward opportunities lies in leveraging the African Continental Free Trade Area (AfCFTA) to embed e-commerce standards and digital trade protocols into the broader framework of the Global Digital Compact (GDC) in alignment with WSIS Action Line C7 (ICT Applications – E-business). By enabling the digital trade components of the AfCFTA, Africa can unlock new avenues for regional commerce, enabling small and medium enterprises (SMEs) to access larger markets and benefit from streamlined cross-border transactions. However, this requires targeted investments in digital infrastructure entailing the expansion of broadband networks, digital literacy and interoperability between national systems to ensure seamless connectivity across the continent. Beyond digital trade, AfCFTA opportunities for the continent's digital transformation extend across multiple socio-economic sectors l

5. **Fostering Multi-Stakeholder Collaboration for Collective Progress**
   Finally, fostering inclusive participation through multi-stakeholder partnerships offers an avenue for deepening collaboration. WSIS cross-cutting principles emphasize the importance of bringing together governments, private sector actors, civil society, and academia to address shared challenges. The Dar es Salaam Declaration of 2024 reflects this spirit of collaboration, reinforcing the need for collective action to achieve Africa's digital transformation goals.

These opportunities reflect the critical role of regional cooperation in addressing Africa's unique challenges while amplifying its strengths. Harnessing these avenues effectively requires sustained commitment, coordination, and alignment with the continent's broader development objectives.

SECTION FOUR: WSIS+20 AND BEYOND - AFRICA'S DIGITAL AGENDA

This section examines Africa's digital agenda for WSIS+20 and beyond, focusing on emerging ICT trends, strategic priorities, and challenges shaping the continent's transformative journey.

4.1 Emerging ICT Trends AI, Big Data, and the Internet of Things

The ADC submissions and emerging policy documents reveal that African countries are actively examining the transformative potential of Artificial Intelligence (AI), Big Data, and the Internet of Things (IoT) as part of their digital agendas. These technologies are increasingly recognised as vital tools to address development challenges, enhance service delivery, and promote socio-economic growth. While progress varies across countries, the initiatives outlined signal a growing recognition of the need to integrate these trends into governance, infrastructure, and capacity-building efforts. However, gaps in implementation and regulatory frameworks remain, highlighting the work still required to harness their potential fully

4.2 Artificial Intelligence (AI): A Catalyst for Leapfrogging Development

AI is increasingly being explored across Africa for its ability to leapfrog traditional development constraints. In agriculture, AI-powered tools like Safaricom's chatbot provide Kenyan farmers with actionable insights on crop health and weather patterns, enabling precision farming.[87] In healthcare, AI supports diagnostics and predictive analytics, improving patient outcomes in resource-constrained environments. Similarly, in education, AI facilitates personalized learning experiences, tailoring content to individual student needs. By 2025, AI is projected to contribute an estimated US$1.2 trillion to Africa's GDP through targeted adoption., with global estimates suggesting AI could add US$15.7 trillion to the world economy by 2030.[88]

4.3 Big Data: Enabling Evidence-Based Policymaking

Big Data analytics is emerging as a cornerstone for evidence-based policymaking and tailored service delivery. Governments and businesses are leveraging data to design policies that address local needs effectively. For instance, Big Data is being used to optimize urban planning, monitor public health trends, and enhance disaster response systems. However, Africa's data infrastructure remains underdeveloped, with only 38% of the continent's population having access to reliable broadband.[89] Investments in data centres, cloud computing, and analytics platforms are essential to unlocking the full potential of Big Data.

[87] TechAfrica (2025) *AI Meets Agriculture as Safaricom and Opportunity International Unveil FarmerAI* (Available at https://techafricanews.com/2025/02/11/ai-meets-agriculture-as-safaricom-and-opportunity-international-unveil-farmerai. Accessed April 21, 2025)
[88] ACET (2025) *Digital public infrastructure (DPI) will drive AI for Africa's economic transformation* (Available at https://acetforafrica.org/research-and-analysis/insights-ideas/digital-public-infrastructure-dpi-will-drive-ai-for-africas-economic-transformation. Accessed April 21, 2025)
[89] ITU (2025) *Measuring Digital Development: Facts and Figures 2024* (Available at https://www.itu.int/hub/publication/D-IND-ICT_MDD-2024-4. Accessed April 16, 2025)

4.4 Internet of Things (IoT): Building Smarter Ecosystems

IoT is revolutionizing sectors such as agriculture, urban planning, and energy management. In South Africa's mining industry, IoT-enabled sensors and edge computing are reducing operational downtime through predictive maintenance. In agriculture, IoT devices monitor soil conditions and weather patterns, optimizing resource use and improving yields—a critical application for a continent where agriculture employs over 50% of the workforce.[90] By 2025, IoT is expected to generate US$11.1 trillion globally,[91] with Africa poised to benefit through localized applications that address its unique challenges.

4.5 Edge Computing and Real-Time Applications

Edge computing is emerging as a transformative technology in Africa's digital landscape, enabling faster data processing by reducing reliance on centralized cloud systems. This is particularly valuable in regions with connectivity constraints, where real-time insights can enhance operational efficiency. In South Africa's mining sector, edge-powered sensors facilitate predictive maintenance, minimizing downtime and improving safety.[92] Similarly, in agriculture, IoT-enabled sensors track soil conditions, weather patterns, and crop health, allowing farmers to make swift decisions that optimize yields and resource management. With Africa increasingly integrating AI, IoT, and Big Data into its digital strategies, edge computing offers a critical advantage, ensuring seamless access to real-time analytics while addressing infrastructure limitations.

4.6 Implications for Africa's Digital Development

These emerging technologies carry profound implications for Africa's digital development trajectory. First, they offer opportunities to leapfrog traditional development stages, particularly in sectors like healthcare, agriculture, and financial services. Smart, connected systems can bypass infrastructure constraints, bringing essential services to underserved populations faster and more efficiently.

Second, at the same time, these technologies create new workforce demands, requiring educational systems and training programs to evolve accordingly. Preparing youth for careers in IoT, edge computing, AI, and data-driven industries will necessitate deeper collaboration between universities, vocational institutions, and the private sector.

Third, policymakers face the rather urgent challenge of creating enabling regulatory environments that strike a balance between fostering innovation and protecting citizens. Outdated frameworks would need to be replaced with newer, progressive systems that enable

[90] World Baak (2018) *In Africa, more not fewer people will work in agriculture* (Available at https://blogs.worldbank.org/en/jobs/africa-more-not-fewer-people-will-work-agriculture#:~:text=Many%20people%20in%20Sub-Saharan,on%20job%20creation%20outside%20agriculture. Accessed April 21, 2025)
[91] McKinsey (2015) *Unlocking the potential of the Internet of Things* (Available at https://www.mckinsey.org/capabilities/mckinsey-digital/our-insights/the-internet-of-things-the-value-of-digitizing-the-physical-world. Accessed April 20, 2025)
[92] IoT Business (2025) *The IoT trends shaping a smarter, more connected future in Africa* (Available at https://iotbusinessnews.com/2025/01/31/69559-the-iot-trends-shaping-a-smarter-more-connected-future-in-africa. Accessed April 20, 2025)

data privacy, security, and equitable access. As connected devices proliferate and generate increasing volumes of potentially sensitive data, robust governance frameworks become essential to maintaining public trust and protecting citizens' rights. to ensure a balance between fostering innovation and protecting citizens

Finally, the adoption of these technologies presents a unique opportunity for Africa to shape its own innovation landscape rather than merely importing foreign-developed solutions. By strengthening indigenous tech ecosystems and prioritizing solutions tailored to local challenges—from precision agriculture to decentralized financial tools—Africa can drive a more sustainable and inclusive digital transformation.

4.7 Challenges and Opportunities

Building on the transformative potential outlined in the previous section, emerging technologies present immense opportunities for Africa's economic growth, job creation, and digital inclusion. AI, Big Data, IoT, and edge computing offer new avenues for innovation, enabling industries to optimize operations, increase efficiency, and improve service delivery. For instance, AI-driven predictive analytics can enhance precision agriculture,[93] helping farmers boost crop yields, while IoT-powered health monitoring systems can revolutionize healthcare accessibility across remote regions.[94] Additionally, digital platforms and automation are reshaping labour markets, generating new types of employment opportunities in areas such as data science, cybersecurity, and AI development.

At the same time, strategic efforts are needed to mitigate key challenges associated with technology adoption, including privacy concerns, job displacement, and regulatory gaps. A study involving 40 African nations found that a 10% increase in cybersecurity maturity can lead to GDP per capita growth of 0.66–5.4%,[95] underscoring the economic benefits of robust digital governance. The same research also noted that countries with higher cybersecurity maturity experienced lower cyber financial losses per capita, reinforcing the importance of strong digital safeguards.

Moreover, bridging infrastructure disparities and enhancing regional collaboration will be key to scaling digital transformation. By addressing these structural challenges, African nations can unlock the full potential of AI, Big Data, and IoT, leveraging them not only for economic growth but also as powerful solutions to pressing development issues. With the right investments in infrastructure, cybersecurity, skills development, research and development (R&D), among other areas of critical thematic need, with any forward initiatives modulated by policy coherence, the continent can drive innovation that directly responds to local needs—whether in precision agriculture, smart healthcare, or digital financial inclusion. Strategically integrating these technologies into national and regional agendas will be key to positioning Africa as a competitive player in the global digital economy. Without such interventions, the

[93] Gupta, G., Kumar Pal, S. *Applications of AI in precision agriculture*. *Discov Agric* **3**, 61 (2025). https://doi.org/10.1007/s44279-025-00220-9

[94] Technostacks (2025) *The Connected Cure: How IoT is Revolutionizing Healthcare in 2025* (Available at https://technostacks.com/blog/how-iot-is-revolutionizing-healthcare/#:~:text=Remote%20patient%20monitoring%20(RPM)%20powered,in%20remote%20or%20underserved%20areas. Accessed May 2, 2025)

[95] https://aficta.africa/webinar/q1-2023#:~:text=The%20research%20which%20was%20conducted,GDP%20per%20capita%20in%20Africa.

continent risks missing the opportunity to integrate emerging technologies into its development trajectory in a manner that aligns with Global Digital Compact principles for an inclusive digital future.

4.8 Strategic Priorities for WSIS+20 and Beyond

Drawing on a comprehensive review and analysis of the data collected in conducting this study, including African submissions to the GDC, the African Digital Compact (ADC), policy documents, and the WSIS framework, this subsection identifies strategic priorities critical to advancing Africa's digital agenda. These priorities reflect key themes from the data, aligning with Africa's unique opportunities and challenges as the continent charts its digital future for WSIS+20 and beyond.

As Africa looks to the future, the strategic priorities for WSIS+20 and beyond must focus on harnessing ICTs to drive inclusive and sustainable development. Building on the momentum of past efforts and aligning with Agenda 2063 and the Global Digital Compact (GDC), these priorities must reflect the continent's unique opportunities and challenges while positioning Africa as a leader in global digital transformation.

1. **Closing the Digital Divide**

   Ensuring universal access to ICT infrastructure remains a foundational priority. Despite progress, significant disparities persist between urban and rural areas, with connectivity gaps limiting opportunities for millions. Strategic investments in broadband infrastructure, particularly in underserved regions, are essential. The adoption of innovative financing mechanisms, such as public-private partnerships (PPPs) can accelerate progress in achieving universal connectivity.

2. **Promoting Digital Inclusion**

   Digital transformation must prioritize inclusivity, ensuring that marginalized groups—including women, youth, and persons with disabilities—benefit from ICT advancements. Targeted programs that specifically address gender gaps in digital literacy and access are crucial, as are initiatives that integrate ICTs into education systems to equip the next generation with essential digital skills. Tailored interventions for vulnerable populations can foster social equity and economic empowerment.

3. **Strengthening Governance and Regulatory Frameworks**

   Africa’s regulatory environments must evolve to support innovation while addressing challenges such as data privacy, cybersecurity, and ethical AI adoption. Strong, harmonized policies across nations can foster cross-border collaboration and facilitate the safe deployment of emerging technologies like Artificial Intelligence (AI), the Internet of Things (IoT), and Big Data. A focus on enabling environments will also attract investment and drive technological advancements.

4. Advancing AI for Economic and Social Development

Artificial Intelligence (AI) has emerged as a transformative force, offering opportunities for automation, efficiency, and predictive analytics across multiple sectors. AI-powered solutions are revolutionizing industries, from precision agriculture and climate adaptation to healthcare diagnostics and digital financial inclusion. Africa must develop ethical AI governance frameworks, investment strategies, and capacity-building initiatives to ensure that AI adoption is responsible, inclusive, and aligned with local development needs. Strengthening AI research and fostering innovation hubs dedicated to AI-driven solutions will be critical to shaping Africa's competitiveness in the global digital economy.

5. Fostering Innovation Ecosystems

Investing in local innovation ecosystems is key to addressing Africa's development challenges through context-specific solutions. Support for tech startups, research and development (R&D), and innovation hubs can unleash the continent's creative potential. Programs that bridge the gap between academia, industry, and government will encourage the creation of technologies designed for African contexts, fostering self-reliance and global competitiveness.

6. Enhancing Capacity-Building Initiatives

Addressing skill gaps is imperative for realizing Africa's digital aspirations. Educational institutions must partner with industries to align curricula with the evolving demands of the digital economy. Programs focused on advanced technologies, such as AI and IoT, alongside efforts to develop foundational digital literacy, will ensure that Africa's workforce is prepared for future challenges and opportunities.

7. Leveraging Emerging Technologies for Development

The growth of IoT, Big Data, blockchain, and edge computing offers Africa opportunities to boost industrial efficiency, enhance disaster resilience, and modernize governance. IoT smart grids can improve energy access in underserved areas, while blockchain can increase land registry transparency to reduce fraud.[96] Big Data can optimize traffic management in urban centres.[97] To maximize these benefits, Africa needs supportive policies, investment in digital infrastructure, and capacity-building programs for equitable technology deployment.

8. Deepening Regional Integration and Cooperation

Collaboration across African nations will amplify the impact of individual efforts. Initiatives such as the African Continental Free Trade Area (AfCFTA)

[96] Okoli, F.U. et al (2024) *Blockchain Technology for Land Registration in Nigeria: A Review of Opportunities and Challenges*, FUDMA Journal of Sciences 8(6):252-257 DOI: 10.33003/fjs-2024-0806-2919

[97] Ogunkan, D.V. & Ogunkan, S.K. (2025) *Exploring big data applications in sustainable urban infrastructure: A review*, https://doi.org/10.1016/j.ugj.2025.02.003

provide a platform for harmonizing digital policies, boosting intra-African trade, and fostering collective innovation. Shared infrastructure projects and regional ICT initiatives will strengthen connectivity and integration.

Africa's strategic priorities for WSIS+20 must embody these priorities governed by the principles of inclusivity, sustainability, and innovation. By addressing persistent barriers and maximizing opportunities, these priorities can position the continent as a global leader in the digital age, paving the way for a future where technology catalyzes equitable growth and development.

SECTION FIVE: POLICY RECOMMENDATIONS AND ROADMAP

5.1 Policy Recommendations for Strengthening WSIS Implementations

We outline the policy recommendations for strengthening WSIS Action Line implementation by stakeholders in Table 2. It is drawn from the research and reflects the practical and actionable insights needed to drive ICT advancements on the African continent.

Table 2: Policy Recommendations

Stakeholders	Recommendations	Key WSIS Action Lines
Governments	1. Conduct a comprehensive review of national digital strategies to ensure alignment with all WSIS Action Lines, the Global Digital Compact and Agenda 2063.	C1, C11
	2. Prioritize rural connectivity and subsidize device costs to bridge access gaps.	C2, C3
	3. Strengthen cybersecurity frameworks and adopt AU's Malabo Convention for regional harmonization.	C5, C6
	4. Establish robust M&E frameworks using WSIS targets and indicators to track progress, identify gaps, and ensure accountability.	
	5. Foster an enabling environment for digital innovation and local ICT industries through supportive policies.	C7, C1
Development Agencies	6. Actively promote policy harmonization through multistakeholder coordination.	C11
	7. Strengthen the capacity of national and regional bodies to implement WSIS Action Lines effectively through training programs and technical support.	
	8. Scale digital skills programs, particularly in emerging technologies, aligned with labour market needs and ensure gender inclusion.	C3, C4
	9. Facilitate resource mobilization for infrastructure and capacity-building through innovative funding models.	C1, C2
	10. Support African countries in addressing ethical AI and data governance challenges through capacity building.	C8, C9
Private Sector	11. Invest in broadband and mobile network development to close the connectivity gap, particularly in underserved rural regions.	C2, C6
	12. Collaborate with governments to scale locally relevant digital solutions (e.g., AI and IoT initiatives) and support tech startups.	C7, C8
	13. Adhere to high standards of data protection and cybersecurity to build public trust.	C5, C9
	14. Actively support workforce development by participating in digital literacy and skills initiatives.	C4, C3
Academia	15. Launch pan-African AI research hubs linked to ethical frameworks like the GDC's guidelines.	C4, C8
	16. Scale language-specific digital skills programs aligned with labour market needs.	C3, C4
	17. Strengthen partnerships with governments and industries to drive indigenous innovation ecosystems.	C1, C7
Civil Society	18. Advocate for disability and gender inclusion in digital policies through partnerships.	C3, C4
	19. Promote digital literacy among citizens to empower them socially and economically.	C4, C3
	20. Actively engage in multi-stakeholder dialogues for WSIS progress, internet governance, and digital rights.	C11
	21. Support community-driven ICT initiatives that reflect local priorities and needs.	C8, C3

5.2 Actionable Strategies for Identified Challenges

Building on the Strategic Priorities outlined in Section 4.4, this subsection identifies practical, immediate actions to overcome key barriers to WSIS implementation. These strategies focus on translating long-term visions into targeted, problem-solving initiatives to accelerate Africa's digital transformation journey.

1. **Bridging the Digital Divide**
    - Expand broadband and mobile connectivity to underserved areas, particularly rural regions, using innovative financing mechanisms like Universal Service Funds (USFs) and public-private partnerships (PPPs).
    - Collaborate with the private sector to ensure the affordability of devices and data services, prioritizing vulnerable populations.
2. **Strengthening Cybersecurity**
    - Align regional cybersecurity frameworks to safeguard critical information infrastructure and ensure digital trust.
    - Establish cybersecurity awareness campaigns and capacity-building initiatives to address evolving threats, particularly in resource-constrained environments.
3. **Developing Digital Skills**
    - Launch targeted digital literacy programs with measurable goals, such as training 1 million youth annually by 2030.
    - Promote gender-responsive ICT initiatives and rural outreach to ensure inclusivity across all educational levels.
4. **Encouraging Indigenous Innovation**
    - Foster locally driven ICT solutions by supporting R&D hubs, tech startups, and innovation ecosystems.
    - Introduce tax incentives and grants for SMEs developing technologies that address Africa's unique challenges, such as precision farming tools and affordable IoT solutions.
5. **Improving Data Infrastructure**
    - Build state-of-the-art data centres and analytics platforms to strengthen Big Data utilization for policymaking.
    - Leverage AI-powered dashboards for real-time monitoring and evaluation of WSIS Action Line implementation.
    - Develop Digital Public Infrastructure (DPI) frameworks to enhance interoperability, data governance, and accessibility for all citizens.

These strategies aim to address the pressing challenges identified in Africa's WSIS journey, complementing the Strategic Priorities[98] with practical steps to drive immediate impact. By focusing on inclusivity, security, and innovation, African nations can lay a strong foundation for long-term digital transformation.

5.3 Framework for Future WSIS Annual Reviews and GDC Alignment

As Africa advances its digital transformation agenda, a structured framework for monitoring WSIS implementation and aligning it with the Global Digital Compact (GDC) is essential. The framework proposed in this section ensures accountability, facilitates knowledge-sharing and enables continuous policy refinement in response to emerging challenges and opportunities. Institutionalizing annual reviews, strengthening regional collaboration, and integrating tailored indicators will help stakeholders track progress effectively while fostering inclusive and sustainable digital development across the continent.

1. **Strengthening the Institutionalized WSIS Annual Reviews**
    - Support African nations in establishing standardized national reporting structures for tracking WSIS implementation, ensuring consistent data collection, classification, and submission across countries.
    - Address data retrieval challenges by fostering stronger institutional mechanisms, incentivizing timely reporting, and ensuring that national statistical organizations and responsible ICT departments and agencies are equipped with the capacity to compile and submit accurate WSIS-related data.
2. **Global Knowledge Sharing**
    - Promote African participation in global WSIS forums to exchange best practices, share implementation challenges, and foster mutual learning. Strengthening Africa's engagement in international digital governance discussions will ensure its priorities are well represented in global policy debates.
3. **Customized Indicators for Africa**
    - Develop region-specific WSIS indicators tailored to Africa's unique challenges, focusing on tracking rural connectivity gaps, cybersecurity maturity, and digital literacy disparities to provide more accurate insights for policy refinement.
    - Utilize ECA-supported participatory data collection frameworks that enhance the relevance and accuracy of WSIS progress assessments across African nations.
4. **Enhanced Reporting Mechanisms**

[98] It should be noted that while there are thematic connections between 4.4 Strategic Priorities and 5.2 Actionable Strategies, they serve complementary purposes. 4.4 establishes a framework for Africa's WSIS+20 trajectory, while 5.2 tackles the immediate, practical actions needed to address current challenges.

- Leverage AI and Big Data tools for real-time tracking of WSIS implementation, ensuring transparent progress reporting and accountability.
- Encourage the inclusion of marginalized groups in policy reviews ensuring that WSIS-related strategies reflect diverse societal perspectives.

5. **Alignment with GDC Principles**
    - Ensure WSIS policies prioritize inclusion, trust, and sustainability, reinforcing Africa's commitment to equitable digital transformation.
    - Promote ethical AI governance and equitable access to digital infrastructure, with ECA providing policy guidance to harmonize digital governance frameworks across the continent.

By tailoring these recommendations to stakeholder roles and integrating a robust monitoring framework—bolstered by ECA's convening capabilities and facilitation efforts—African policymakers can advance WSIS+20 goals effectively while fostering innovation, inclusivity, and sustainable development across the continent.

6. CONCLUSION

The implementation of WSIS Action Lines in Africa over the past two decades has painted a multifaceted picture of progress, innovation, and enduring challenges. While achievements in areas like digital infrastructure development, policy formulation, and transformative ICT initiatives are commendable, gaps in universal digital inclusion, equitable access, and sustainable governance persist.

The success stories discussed throughout this report highlight the immense potential for ICT-driven transformation when initiatives are grounded in local contexts, supported by dynamic multi-stakeholder partnerships, and linked to tangible economic and social opportunities. These examples serve as models for scaling digital inclusion across the continent. The clear synergies between WSIS principles, Agenda 2063, and the SDGs provide an invaluable foundation for Africa's coordinated approach to digital development.

However, fully realizing the continent's digital aspirations demands greater integration of implementation strategies, coordinated measurement frameworks, and targeted resource mobilization. Strengthening the annual WSIS reviews will be key to accountability and knowledge-sharing, and ensure that African nations are assisted to establish standardized national reporting structures to track progress effectively. Addressing data retrieval challenges and expanding customized WSIS indicators will allow a more precise assessment of all pertinent ICT indicators and ensure that policies remain evidence-driven and responsive to local needs.

At the same time, promoting global knowledge-sharing and strengthening regional alignment mechanisms will enhance Africa's voice in international digital governance debates and foster cross-country collaboration on digital transformation strategies. Additionally, leveraging AI and Big Data tools for real-time tracking (as may be necessary) and policy refinement, alongside ensuring alignment with GDC principles, will reinforce Africa's commitment to inclusive, trust-based, and sustainable digital growth. These efforts, underpinned by ECA's facilitation and coordination, will provide African policymakers with the necessary frameworks and resources to translate WSIS+20 goals into actionable and measurable results.

Looking ahead to WSIS+20 and beyond, Africa's digital future will depend on the concerted efforts of governments, development agencies, private sector actors, academia, and civil society. Addressing affordability barriers, bridging the urban-rural connectivity divide, fostering inclusive education in digital skills, and advancing policy coherence are imperatives for accelerating progress. Strengthened collaboration among African countries—underpinned by shared values of inclusivity, innovation, and sustainability—will be key to achieving the vision of an inclusive and information-rich society.

By learning from successes and challenges alike, Africa is positioned to chart a path toward a digital future that not only drives socio-economic growth but also fosters equity, empowerment, and resilience for all its citizens. WSIS+20 represents a pivotal moment to reaffirm commitments, amplify collaborations, and ensure that ICTs become a transformative force for sustainable development across the continent.

APPENDIX A: Progress Review by Action Line (2005 – 2025)

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
C1: The role of public governance authorities and all stakeholders in the promotion of ICTs for development	1. The African Union's Digital Transformation Strategy (2020–2030) serves as a continental blueprint for digital development. 2. The Africa Information Society Initiative (AISI) provides a foundational framework for ICT development, policy harmonization and infrastructure expansion. 3. The Africa Internet Governance Forum (AfIGF) fosters inclusive discussions on internet governance. 4. The Africa WSIS Annual Review Workshop, facilitated by ECA, serves as a key platform for assessing progress and setting priorities. 5. ECA has been instrumental in advancing foundational digital ID systems, enhancing governance and service delivery across multiple African nations. 6. Through Global Digital Compact (GDC) consultations, ECA ensures Africa's perspectives are integrated into global digital governance frameworks.	1. Several countries, including Ghana, Kenya, and Mauritius, have developed and aligned national e-strategies with SDGs and national development goals. 2. Others including, Tanzania, Cameroon, and Morocco are aligning with the WSIS framework by investing in digital infrastructure, innovation, and capacity-building. 3. Ethiopia, with ECA support, is developing a National Digital ID System & Services (DIDS) to improve governance and streamline service delivery. 4. Botswana is rolling out its SmartBots Digital Transformation Strategy, leveraging ECA's expertise to enhance digital governance and innovation. 5. Nigeria (Kaduna State) is implementing a digital ID use case, improving access to essential services and strengthening identity management frameworks. 6. The Gambia is developing its Digital Transformation Strategy with ECA support.

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
C2: Information and communication infrastructure	1. The AU-EU Digital Economy Task Force drives collaboration on digital infrastructure and regulatory harmonization across Africa and Europe. 2. The Programme for Infrastructure Development in Africa (PIDA) integrates ICT initiatives into broader continental infrastructure projects. 3. The NEPAD ICT Broadband Infrastructure Network enhances Africa's digital backbone by facilitating high-speed, cross-border broadband deployment. 4. The East Africa Broadband ICT Infrastructure Network (EAC-BIN) strengthens regional digital connectivity, reducing infrastructure gaps within the East African Community (EAC). 5. The Southern African Development Community (SADC) ICT Infrastructure Development Master Plan provides a strategic roadmap for improving digital access across Southern Africa. 6. The West Africa Network – ECOWAN enhances connectivity among ECOWAS offices, promoting seamless communication across member states. 7. ECA supports the harmonization of subregional broadband plans,	1. Most countries have achieved near-universal population coverage of mobile networks (2G3G/4G/LTE), while simultaneously expanding fibre optic connectivity. 2. South Africa, Kenya, and Nigeria have been early adopters of 5G, accelerating digital economy growth and enhancing connectivity in urban centres. 3. Morocco has implemented its National Broadband Plan, prioritizing broadband expansion in underserved regions. 4. South Africa's SA Connect Project aims to bridge digital access gaps, with projections estimating the digital economy will contribute 24% of GDP by 2025. 5. Senegal is executing its Digital Senegal 2025 strategy, focusing on infrastructure, cybersecurity, and e-governance improvements. 6. Egypt continues rolling out the eMisr National Broadband Plan, integrating fibre connectivity and policy reforms to enhance digital inclusion. 7. Mauritius introduced its National Broadband Policy

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	ensuring consistency in infrastructure development strategies across different economic blocs.	(2021–2024), advancing regulatory frameworks and network infrastructure. 8. Nigeria's National Broadband Plan (2020–2025) supports expanding high-speed internet access and rural digital inclusion. 9. Mauritania has deployed fiber optic cables to improve connectivity, especially in remote areas, demonstrating progress in digital infrastructure expansion.
C3: Access to information and knowledge	1. Africa has witnessed a steady increase in internet users, driven by expanding broadband infrastructure and mobile connectivity. 2. The African Declaration on Internet Rights and Freedoms provides a foundational framework for digital rights advocacy across the continent. 3. The Economic Commission for Africa (ECA) supports access to information through various initiatives, including digital literacy programs and policy frameworks that enhance knowledge-sharing. 4. African National Research and Education Networks (NRENs) play a critical role in expanding academic and research	1. Several African nations have achieved near-universal network coverage, with broadband penetration steadily increasing. 2. Many countries are actively promoting access to information and knowledge by supporting digital inclusion in academic institutions, public libraries, and community access points. 3. Rwanda has long leveraged national IDs to digitize government services, streamlining access to essential public resources. 4. Tunisia's Open Data Initiative fosters transparency and public access to government datasets.

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	collaboration, improving access to high-speed internet for universities and research institutions. 5. UNESCO promotes open licensing and digital knowledge-sharing through the Global Open Access Portal (GOAP), ensuring equitable access to research and educational materials. 6. UNESCO is also actively engaged in digital heritage preservation, ensuring that Africa's cultural and historical records are safeguarded for future generations. 7. AfricaConnect strengthens research and education networks, facilitating cross-border academic collaboration. 8. The African Virtual University expands digital learning opportunities, bridging gaps in higher education access. 9. The Africa Open Data Network promotes transparency and data-driven decision-making across sectors. 10. The African Digital Library Support Network enhances access to digital resources for academic institutions and public libraries.	5. Kenya's Open Data Portal provides publicly accessible datasets to support innovation and policy development. 6. Uganda's Community Information Centres serve as hubs for digital literacy and local knowledge-sharing. 7. Ghana's eTransform Project advances digital infrastructure and e-governance initiatives. 8. Morocco's Digital Documentation Centres enhance access to archival and research materials. 9. Mozambique's Community Multimedia Centres facilitate local content creation and digital engagement. 10. South Africa's National Library Digital Collections preserve and digitize historical and academic resources.
C4: Capacity building	1. The Connected African Girls Hybrid Coding Camp, PRIDA Internet Governance Course,	1. Many African countries are integrating ICT into different levels of education, ensuring

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	ISOC Capacity Building Initiatives, DigiTruck Initiative, Africa Code Week, and NEPAD e-Schools Initiative all contribute to skill-building programs that strengthen Africa's digital workforce. 2. ECA supports the implementation of Good Digital ID Framework Principles, promoting secure and inclusive digital identity systems. 3. UNESCO's ICT Transforming Education in Africa project accelerates digital skills development, improving ICT integration in education systems. 4. ITU and ECA collaborate with Giga and Smart Africa to expand internet connectivity in schools, ensuring digital inclusion for students across the continent. 5. The African Capacity Building Foundation (ACBF) builds human and institutional capacity for ICT-driven development, supporting skills enhancement and leadership training. 6. ITU assists member states in developing specialized digital skills for persons with disabilities, ensuring accessibility and equity in digital learning. 7. ITU's ICT Skills Indicators provide valuable insights for policymakers to assess digital	digital literacy becomes a core component of national curricula. 2. Kenya's Digital National Master Plan places a strong emphasis on digital skills, supporting long-term workforce development. 3. The Connected African Girls Hybrid Coding Camp operates across multiple nations, providing a consistent platform for skill enhancement. 4. The UNESCO-KFIT project is actively shaping digital education in Mozambique, Rwanda, Zimbabwe, Côte d'Ivoire, Ghana, Senegal, Namibia, Tanzania, and Uganda, fostering equitable digital learning. 5. Rwanda's Smart Classrooms Initiative enhances digital learning through ICT-enabled educational tools. 6. South Africa's National Digital and Future Skills Strategy provides a structured approach to ensuring digital proficiency among citizens. 7. Ghana's ICT in Education Policy enhances e-learning structures across the country. 8. Nigeria's Digital Literacy Framework aligns workforce

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	literacy levels and tailor education initiatives accordingly.	training programs with evolving market demands. 9. Ethiopia's National Digital Literacy Program fosters ICT training across different demographic groups. 10. Tunisia's Digital Certification Program ensures standardized skill validation in digital education. 11. Côte d'Ivoire's One Citizen, One Computer, One Internet Connection Initiative expands access to ICT tools and connectivity for broader inclusion.
C5: Building confidence and security in the use of ICTs	1. The Digital Transformation Strategy for Africa (2020–2030) prioritizes cybersecurity as a fundamental pillar for digital trust and economic stability. 2. The African Union Convention on Cybersecurity and Personal Data Protection (Malabo Convention) has come into force, providing a continental legal framework for cybersecurity and data protection. 3. African countries are increasingly participating in global cybersecurity activities, strengthening cross-border collaboration on cyber threats and governance.	1. Several African countries have formulated national cybersecurity strategies, reinforcing legal and technical defenses against cyber threats. 2. South Africa enacted the Computer Misuse and Cybercrime Act, strengthening its legal response to cyber threats. 3. Morocco (ma-CERT), Kenya (KE-CIRT/CC), and Egypt (EG-CERT) have established National Computer Security Incident Response Teams, ensuring rapid responses to cybersecurity incidents.

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	4. ECA supports member states in building capacity to address emerging digital challenges, including cybersecurity policy development. 5. The African Union Cybersecurity Expert Group (AUCSEG) provides specialized guidance on security measures and cyber resilience. 6. Smart Africa's African Network of Cybersecurity Authorities (ANCA) has been established to promote coordinated cybersecurity strategies across the continent. 7. ITU assists African member states in developing policies and strategies for cybersecurity and data protection. 8. ECOWAS initiatives, including the Regional Cybersecurity & Cybercrime Strategy, ECOWAS Cyber Drill, and ECOWAS Data Protection Regulation, reinforce cybersecurity preparedness in West Africa. 9. SADC and EAC cybersecurity frameworks guide regional policy harmonization, ensuring a coordinated approach to digital security. 10. The Lomé Declaration on Cybersecurity (2022) calls for heightened efforts to combat	4. A growing number of Cybersecurity legislation are being enacted to provide national legal frameworks for digital protection. 5. Rwanda's Child Online Protection Policy and Kenya's Child Online Safety Initiative prioritize safeguarding young internet users from digital risks. 6. Uganda and Zambia's Internet Safety Campaign promotes awareness and responsible digital behaviour. 7. Ghana's Be Cyber Smart Campaign and South Africa's Cybercrimes Act continue to drive national efforts in public cybersecurity awareness and enforcement. 8. There is an urgent need for capacity development for the protection of Critical Infrastructure (CI) and Critical Information Infrastructure (CII) across multiple nations.

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	cybercrime and promote regional cooperation. 11. The WePROTECT Global Alliance Threat Assessment (2021) underscores the need for proactive measures to safeguard vulnerable populations, especially children, online.	
C6: Enabling environment	1. The Economic Commission for Africa (ECA) actively supports numerous African countries in developing their digital transformation agendas, ensuring alignment with regional and global frameworks. 2. ECA also facilitates the implementation of Good Digital ID Framework Principles, promoting secure and inclusive digital identity systems as a foundation for digital transformation. 3. The COMESA-EU Enhancement of Governance and Enabling Environment in the ICT Sector (EGEE-ICT) Programme strengthens regulatory frameworks and governance structures to foster a more competitive digital economy. 4. Smart Africa continues to promote harmonized regulation across African countries, ensuring policy coherence and	1. Several African nations are aligning national e-strategies with national development goals and SDGs, ensuring ICT-driven socio-economic growth. 2. A few countries are making significant strides toward becoming major innovation hotspots, leveraging digital policies and infrastructure to attract investment and foster technological advancements. 3. Kenya launched its Digital National Master Plan in 2022, outlining strategic priorities for digital transformation, including infrastructure expansion, skills development, and regulatory improvements. 4. Many African nations are actively developing national ICT policies, ensuring regulatory frameworks support innovation,

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	interoperability in digital governance.	cybersecurity, and digital inclusion.
C7: ICT Applications	1. Digital financial services have seen significant growth across Africa, with mobile payment solutions and e-commerce platforms expanding rapidly. 2. E-government initiatives remain a priority for African governments, with increasing adoption of digital platforms for public service delivery. 3. The Economic Commission for Africa (ECA) continues to support the development and implementation of foundational digital ID systems, ensuring secure and inclusive digital identity frameworks. 4. The Digital Economy for Africa (DE4A) initiative, led by the World Bank, aims to digitally enable every individual, business, and government in Africa by 2030, improving broadband access and affordability. 5. The Food and Agriculture Organization (FAO) facilitates WSIS Action Line C7: E-Agriculture, promoting digital solutions for agricultural productivity and food security. 6. The World Health Organization (WHO) leads WSIS Action Line C7: E-Health, supporting digital	1. Mobile money services, such as M-PESA in Kenya, have revolutionized financial inclusion, enabling millions to access banking services without traditional infrastructure. 2. Telemedicine initiatives, including the IKON Tele-radiology program in Mali, are expanding healthcare access, particularly in remote areas. 3. E-agriculture platforms, such as Kilimo Salama in Kenya, leverage digital tools to enhance farming efficiency and climate resilience. 4. Several governments are launching integrated e-service portals, streamlining access to public services and improving administrative efficiency.

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	health initiatives to improve healthcare access and efficiency.	
C8: Cultural diversity and identity, linguistic diversity and local content	1. UNESCO actively promotes and preserves cultural diversity in the digital landscape. 2. UNESCO supports local content creation and linguistic diversity, advocating for policies that encourage multilingualism in cyberspace. 3. The African Union Data Policy Framework aims to empower African countries to maximize the benefits of a data-driven economy, ensuring that local data governance supports cultural preservation and innovation.	1. Many African nations are encouraging the use of local languages in digital content development, ensuring that indigenous languages remain relevant in the digital age. 2. Governments and institutions are supporting locally based development of IT applications and multimedia content, fostering innovation that reflects Africa's diverse cultural heritage. 3. Several initiatives aim to increase the online presence of indigenous African languages, promoting linguistic diversity and ensuring that African languages are well-represented in digital spaces.
C9: Media	1. UNESCO actively promotes the free flow of ideas, fostering intercultural dialogue and sustainable development. 2. African media plays a critical role in deepening and institutionalizing democracy, serving as a platform for civic engagement and public discourse. 3. UNESCO works to counter disinformation and hate speech	1. Media across Africa acts as a watchdog, uncovering corruption and holding governments accountable, reinforcing transparency and governance integrity. 2. The media in many countries promote local content development, ensuring that indigenous narratives and cultural expressions are well

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	online, ensuring that digital spaces remain safe and inclusive. 4. UN agencies including ECA and UNESCO strengthen respect for the rule of law and fundamental freedoms in the digital sphere, advocating for policies that uphold media independence and pluralism.	represented in digital and traditional media spaces.
C10: Ethical dimensions of the Information Society	1. Information Ethics in Africa is a growing academic field, with universities and research institutions increasingly focusing on digital ethics, AI governance, and responsible technology use. 2. UNESCO actively addresses the growing digital convergence, ensuring that AI development aligns with ethical principles and human rights and has adopted the Recommendation on the Ethics of Artificial Intelligence, the first global standard-setting instrument on AI ethics to guide countries in building legal frameworks for responsible AI deployment. 3. UNESCO is also working on the ethics of neurotechnology and the Internet of Things, identifying frontier challenges in emerging technologies.	1. Several African nations are engaging in initiatives and discussions around ethical AI development, ensuring that AI systems are transparent, fair, and aligned with societal values. 2. Ensuring children's safety online is a growing priority, with various national initiatives aimed at strengthening digital protections and responsible internet use.
C11: International and regional cooperation	1. The Economic Commission for Africa (ECA) collaborates with	1. African countries are increasingly participating in

WSIS Action Line	Continental and Regional Implementation Activities	National Implementation Activities
	partners to organize annual regional reviews of Africa's progress on WSIS outcomes, ensuring alignment with global digital development goals. 2. ECA also plays a pivotal role in supporting consultations for the Global Digital Compact (GDC), ensuring Africa's perspectives are integrated into global digital governance frameworks. 3. Regional Economic Communities (RECs), including ECOWAS, SADC, and EAC, are deeply involved in ICT policy development and harmonization, ensuring coordinated digital strategies across African nations. 4. The ITU coordinates efforts among UN agencies to align WSIS implementation with the 2030 Agenda, reinforcing Africa's digital transformation priorities. 5. Smart Africa, an alliance of African countries, continues to drive collaborative digital transformation efforts, promoting innovation, infrastructure development, and policy harmonization.	global cybersecurity activities, strengthening cross-border collaboration on cyber threats and governance. 2. Several nations emphasize international cooperation in their cybersecurity strategies, ensuring alignment with global best practices and regional security frameworks.

APPENDIX B Mapping WSIS Outcomes to Africa's Priorities and SDG Linkages

Priority Area	Alignment with GDC	Alignment with WSIS Action Lines	Alignment with Agenda 2063	SDG Linkages	Key Misalignments
Universal Connectivity	Prioritizes affordable broadband for all, especially underserved areas, resonating with GDC's principle of universal connectivity.	Strongly reflects WSIS Action Line C2 (ICT Infrastructure) through initiatives like the Last Mile Connectivity Project.	Supports Agenda 2063's aspiration for modern infrastructure and transformed economies.	SDG 9 (Industry, Innovation, and Infrastructure), SDG 17 (Partnerships for the Goals)	High mobile data costs and inadequate infrastructure in rural areas continue to hinder progress toward universal access. The absence of sustainable broadband financing models adds to the challenge.
Digital Inclusion	Stresses gender-responsive policies, digital literacy programs, and marginalized groups' inclusion, directly tied to GDC's focus on digital equity.	Closely aligns with WSIS Action Lines C3 and C4 (Access and Capacity Building) through initiatives like the Digital Ambassadors Program.	Aligns with Agenda 2063's focus on inclusive growth and gender equality.	SDG 4 (Quality Education), SDG 5 (Gender Equality)	Limited outreach to disability groups, informal workers, and rural areas reduces the broader effectiveness of inclusion initiatives. A lack of localized content in indigenous languages further restricts accessibility.
Data Governance and Privacy	Advocates for trust-building frameworks and ethical AI use, paralleling GDC's emphasis on secure and transparent digital systems.	Aligns with WSIS Action Line C5 (Confidence and Security in ICTs) through policies like Data Protector and Cybersecurity legislations.	Reinforces good governance and accountability aspirations under Agenda 2063.	SDG 16 (Peace, Justice, and Strong Institutions)	The lack of harmonized data protection frameworks and siloed national strategies weaken regional coordination and implementation. The slow adoption of regional data-sharing frameworks limits cross-border collaboration.

Emerging Technologies	Promotes ethical governance of AI, IoT, and blockchain to foster innovation while addressing ethical considerations, in line with GDC's call for responsible technology use.	Aligns with WSIS Action Line C6 (Enabling Environment) through initiatives like Egypt's AI strategy and Rwanda's IoT-enabled Smart City.	Advances Agenda 2063's goal of building a technology-driven society underpinned by science and innovation.	SDG 8 (Decent Work and Economic Growth), SDG 12 (Responsible Consumption and Production)	Ethical frameworks for AI, IoT, and blockchain remain underdeveloped, and the environmental impacts of these technologies are often overlooked in implementation. Insufficient capacity-building for ethical AI governance accentuates these gaps.
Human Rights Online	Encourages protection against cyber-based violence and promotes online accountability, strongly tied to GDC's principle of human rights in digital spaces.	Resonates with WSIS cross-cutting principles of inclusivity and empowerment.	Aligns with Agenda 2063's aspirations for inclusive and rights-based governance.	SDG 10 (Reduced Inequalities), SDG 16 (Peace, Justice, and Strong Institutions)	Insufficient enforcement of online safety frameworks and limited regional collaboration in tackling cross-border cybercrimes. Comprehensive legal frameworks for misinformation and hate speech are also lacking.
Economic Sustainability	Focuses on fostering sustainable digital economies through initiatives like PPPs and regional e-commerce protocols, echoing GDC's principles of economic inclusion.	Aligns with WSIS Action Lines C7 and C8 (E-business and Cultural Diversity) through initiatives like AfCFTA agreements and protocols.	Advances Agenda 2063's goals for a digitally enabled trade ecosystem and shared prosperity.	SDG 1 (No Poverty), SDG 8 (Decent Work and Economic Growth)	Funding gaps and slow uptake of regional e-commerce standards impede the digital economy's scalability and inclusivity. Poor digitalization and integration of MSMEs and informal economies reduce inclusivity in digital trade and AfCFTA.