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POLICY OUTLOOK

Africa's Digital Infrastructure Imperative

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Over the past five decades, African governments have developed policies, laws, and regulations to govern the continent's digital landscape. Across Africa, legal texts are setting direction and providing safeguards for interactions in the digital economy. To help illuminate this policy landscape in a new and more comprehensive way, Carnegie has created the Africa Technology Policy Tracker (AfTech). The tracker, the first of its kind, collates Africa's technology policy and legal instruments into one information repository—now with over 1000 data points (see table 1).

Table 1. Africa Technology Policy Tracker: Data Overview

Number of Documents	Number of Countries	Date Range	Classification	Digital Pillar Tag (% of Total)
1,034	54 plus the African Union	1971–2026	Regulation: 459 Law: 323 Policy: 252	Infrastructure: 90 Platforms: 40 Innovation: 13 Skills: 13

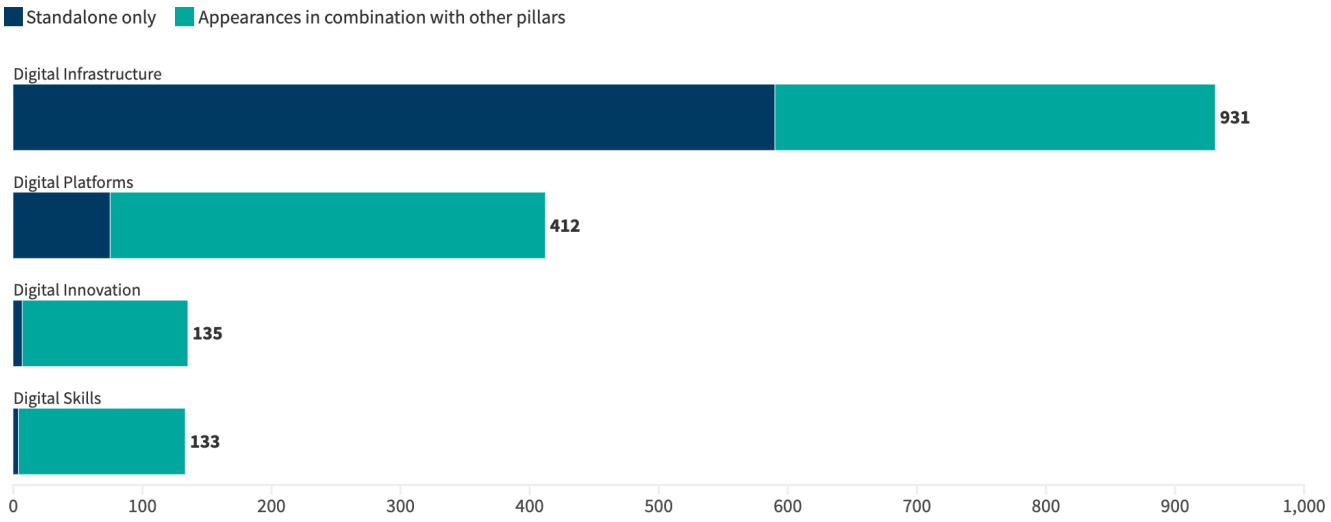
*Note: Some documents are tagged with more than one pillar.

The Africa Technology Policy Tracker (AfTech) is the first ever continent-wide aggregate of digital economy laws, policies and regulations in Africa developed by the Carnegie Africa Program, in collaboration with the African Telecommunications Union (ATU).

The rise of artificial intelligence (AI) and digital public infrastructure (DPI) has brought renewed focus on technology policy across a continent whose policy architecture is deeply fragmented. Fifty-five governance regimes offer diverse policy instruments, even as the technology they govern is increasingly interlinking economic and geographic ecosystems beyond borders. Efforts by the African Union, such as the Continental Artificial Intelligence Strategy and the Malabo Convention on cybersecurity, have sought to bring common frameworks and understanding. Despite these initiatives, disparate governance ecosystems abound. While this diversity is a natural result of national sovereignty, it does complicate efforts to identify broader continental narratives in Africa's digital landscape.

To provide a common analytical framework while accounting for national nuances, the AfTech platform organizes documents through four lenses. First, all legal and policy instruments are grouped into four digital economy pillars: digital infrastructure, digital platforms, digital innovation, and digital skills. Second, documents are categorized by type of legal instrument—policy or strategy, law, or regulation. Third, documents are classified by institutional origin, distinguishing between national governments and the African Union—the only continental institution captured in the tracker. Finally, the tracker applies twenty-five key data points to tag documents, revealing that they cluster in three thematic areas: foundational infrastructure, which includes the physical systems required for internet delivery, such as broadband expansion, sub-

Figure 1. Frequency of Digital Economy Pillars in AfTech



marine cables, terrestrial fiber, and data centers; digital platforms, including digital payments, digital identification, and e-government services; and safeguards, such as consumer protection, data protection, and cybersecurity (see glossary for the full list).

Each of these lenses provides a distinct view into the continent's digital economy landscape and allows new insights to emerge from the data. Within this framework, the pillar classification reveals a clear highest priority: Digital infrastructure dominates, appearing in 90 percent of documents in the AfTech repository. Notably, 57 percent of all documents tracked are solely focused on digital infrastructure, underscoring its role as the foundational anchor of Africa's digital economy. By contrast, the other three pillars are far less prominent as standalone priorities and appear predominantly in combination, indicating that digital platforms, innovation, and skills are interdependent elements of a thriving digital economy for Africa.

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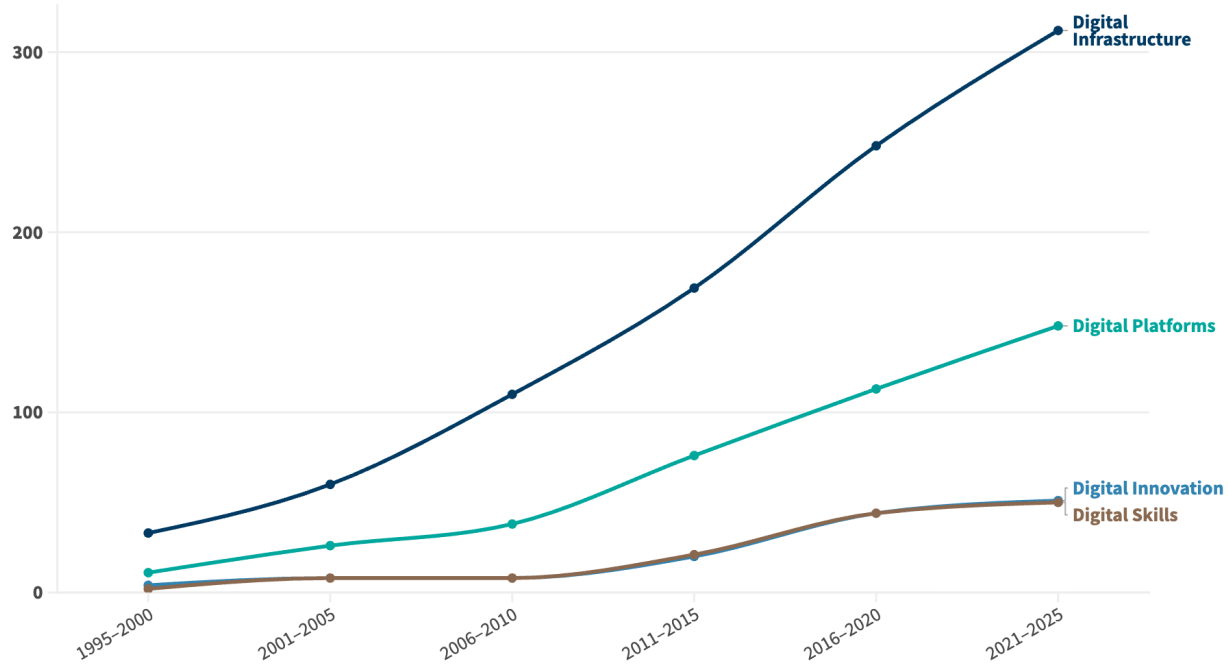
This brief examines Africa's policy focus on digital infrastructure—with a focus on the past three decades—in greater depth, drawing out critical nuances and distilling five key takeaways and three policy implications. Taken together, these insights show that Africa's most prominent technology policy feature—digital infrastructure—is not a narrow connectivity agenda. Rather, it is a complex policy domain with critical interlinkages that illuminate the broader purpose behind its prominence: building the foundations for inclusive participation in the continent's digital economy. This framing carries important implications for how governments, partners, investors, and researchers understand and engage with Africa's digital infrastructure agenda.

Key Takeaways

Digital Infrastructure Is a Persistent but Evolving Policy Priority

AfTech reveals that digital infrastructure has been a constant policy priority of African governments and institutions over time (see figure 2). The tracker defines digital infrastructure as the elements that provide the means for people, businesses, and governments to get online and access digital services—from physical assets such as subsea cables, telecommunications towers, fiber optic networks, and data centers to less visible enabling layers such as spectrum. In practice, however, this definition is dynamic and has broadened over time, as evidenced by the overlay of key data points across digital infrastructure–tagged documents.

Figure 2. Preeminence of Digital Infrastructure as a Policy Priority over Time



Digital Infrastructure Policy Is Multilayered and Expansive

The digital infrastructure pillar, when examined through key data point clusters—foundational infrastructure, digital platforms, and safeguards—emerges as inherently integrated and multilayered. Digital infrastructure policy is not limited to delivering on the internet delivery chain; rather, it extends to trust architecture and the digital applications and services that enable meaningful internet use. In practice, this reflects a broader policy objective across Africa's digital economy: building infrastructure that not only connects users but ensures they can benefit from it and that its use is governed effectively.

Digital Infrastructure Policy Priorities Are Shifting with Technological Change

The multilayered composition of digital infrastructure helps reveal how policy priorities across the continent are evolving over time, as illustrated in figure 3 and table 2.

Shifts in digital infrastructure underscore how Africa's digital economy is advancing in parallel with global technological change, including the recent focus on AI. Relatedly, there is evidence that Africa's digital infrastructure agenda has also incorporated the development of DPI rails. Beginning in the past decade, policy attention has increasingly focused on digital identification and digital payments—concepts now widely popularized by DPI advocates.

Digital Infrastructure Demand Is Cumulative and Expanding

Africa's digital infrastructure challenge is not policy neglect, but sequential and cumulative demand. As new technological layers emerge—including those required to support AI—they are added onto the continent's existing connectivity priorities. The result is an expanding infrastructure agenda, where new demands accumulate even as foundational gaps persist. This dynamic raises a central question for the continent: Can the current policy momentum translate into infrastructure delivery at the scale and pace required to support Africa's digital transformation ambitions?

This question is particularly consequential given the scale of Africa's digital divide. Current estimates suggest that only 36 percent of Africans use the internet, despite more than 80 percent

Figure 3. Digital Infrastructure Thematic Layers and Policy Focus Shifts

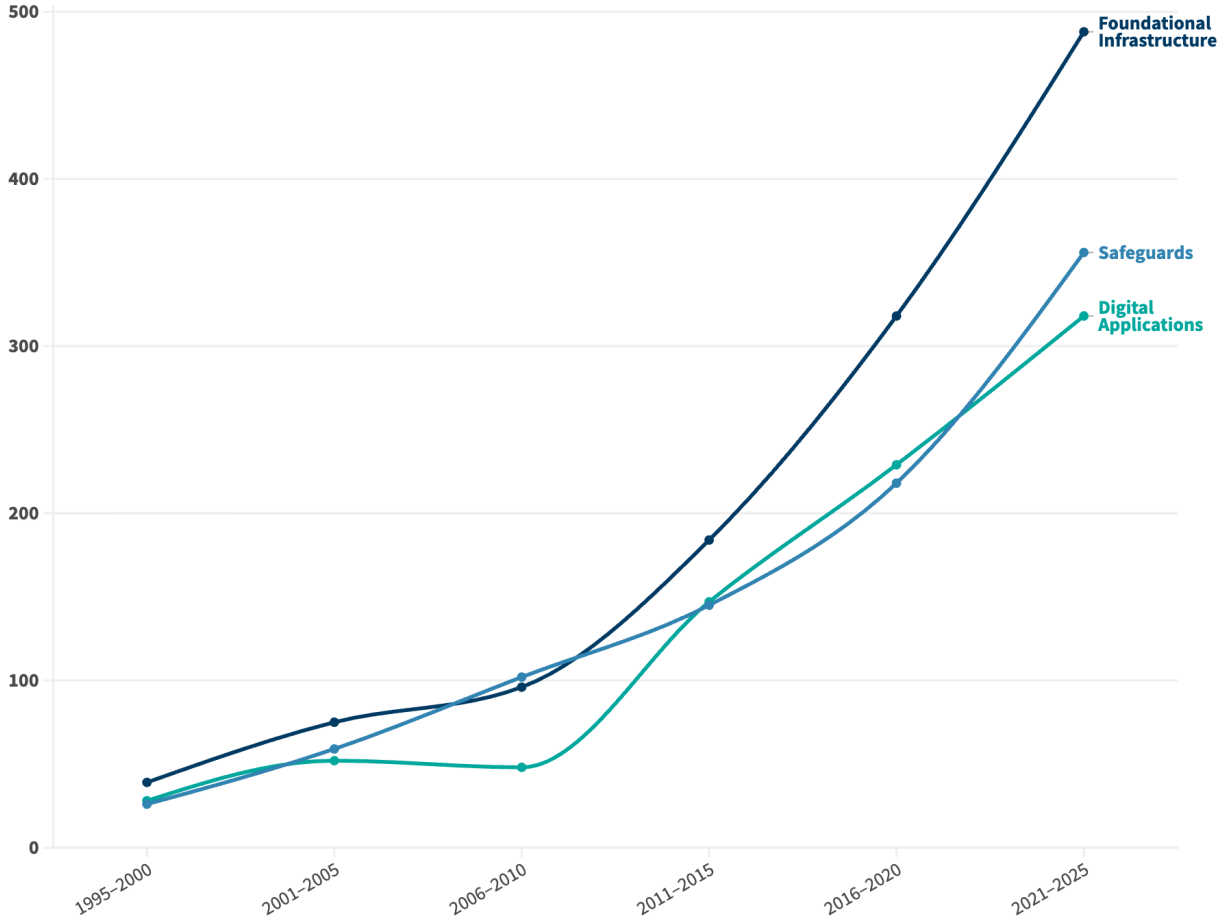


Table 2. How Africa's Digital Infrastructure Policy Priorities Have Evolved

	1995–2005	2006–2015	2016–2025
Phase	Access and Service Expansion	Digital Economy Foundations	Interconnected Digital Ecosystem and Emergence of AI
Key Insight	Digital policy focuses primarily on building basic connectivity.	Policy attention expands to building trust frameworks and enabling a digital economy.	Policy shifts toward a data-driven, interconnected ecosystem with emerging AI capabilities.
Policy Attention	Emphasis on extending connectivity and ensuring basic service delivery. Universal access, last-mile infrastructure, and quality of service dominates, alongside legacy systems such as broadcasting and postal services.	Transition from connectivity provision to system-building. Greater attention to trust frameworks—cybersecurity and data protection—and digital enablers such as digital identity, payments, and e-commerce.	The policy landscape evolves into a more complex, layered system. Data emerges as a central focus, alongside continued expansion of trust frameworks and digital enablers. AI, data centers, and cloud infrastructure begin to appear as new layers within digital infrastructure.

of the population living within reach of a broadband signal. This usage gap is driven primarily by socioeconomic barriers such as skills and costs—particularly handset affordability and data prices. This surfaces a critical imperative for Africa's digital infrastructure agenda: Infrastructure must not only be built but also be affordable. Policy must encompass last-mile initiatives that expand access and seek to reduce costs.

Digital Infrastructure Policy Is Shifting Toward a Data-Centric Model

To better understand current policy priorities in digital infrastructure, this analysis examines the ten most prevalent data points for the period 2021–2025 (see figure 4).

These data points confirm that Africa's digital infrastructure agenda continues to prioritize foundational infrastructure, layered with safeguards and applications (see figure 5). The emphasis on connectivity remains at the forefront, but with a growing focus on data, applications—particularly digital commerce—and the trust and security architecture that underpins them.

Universal and Quality Access

The prominence of both broadband and last mile—understood as how internet arrives in the hands of the end-user, encompassing socioeconomic factors of affordability and skills—shows that policymakers are focused on both the technical and socioeconomic aspects of universal access. Additionally, the prominence of quality of service—defined by the International Telecommunication Union (ITU) as "the totality of characteristics of a telecommunications service that bear on its ability to satisfy stated and implied needs of the user of the service"—alongside last mile and broadband indicates that policymakers are concerned not only with the ability to connect, but also with the quality of the end-user experience. In practice, this includes addressing issues such as dropped calls and unreliable access to high-speed internet. This is particularly critical in Africa, where higher network bands such

Figure 4. Top Ten Digital Infrastructure Policy Focus Areas (2021–2025)

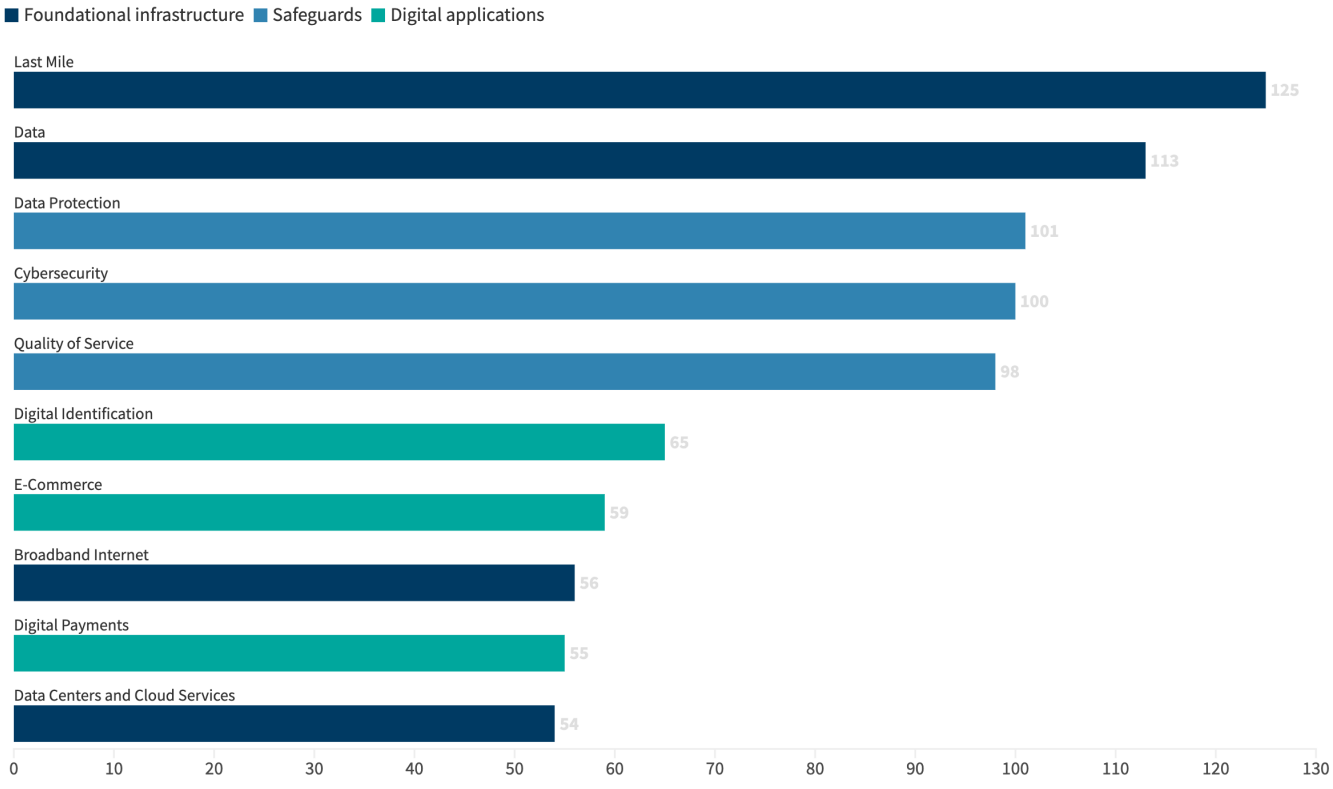
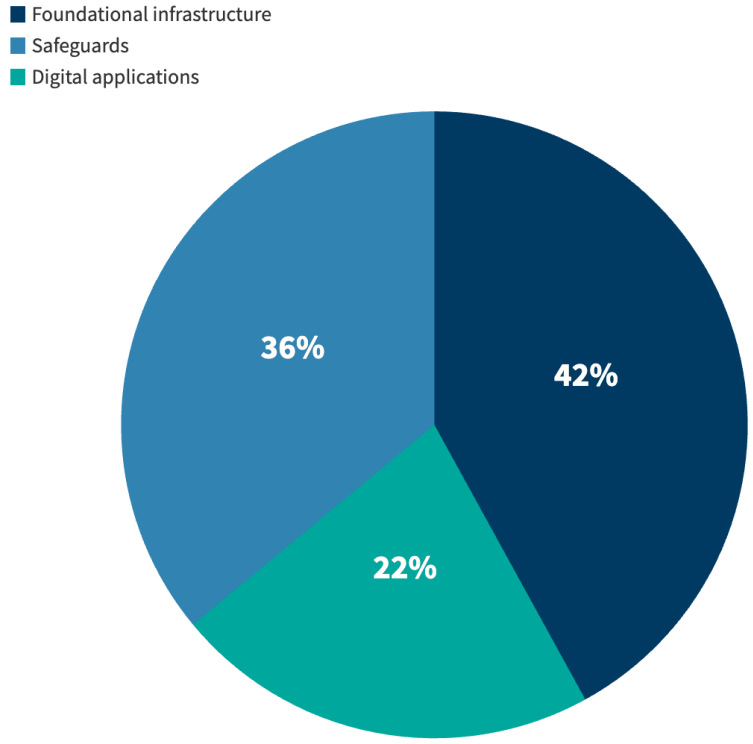


Figure 5. Digital Infrastructure Focus Areas 2021–2025



Note: Foundational infrastructure includes data, last mile, broadband internet, and data centers and cloud services. Safeguards includes cybersecurity, data protection, and QoS. Digital applications includes digital ID, digital payments, and e-commerce.

as 5G are often concentrated in urban areas, creating significant gaps in the quality of engagement with broadband between users in different regions.

AI-Data Era

Data—widely regarded as the foundation for AI—emerges as a dominant policy focus beginning in 2021 alongside data centers and cloud services, signaling that African technology policy has shifted to embrace the AI era. This aligns with the steady growth of AI policies and strategies across African countries—noted in related research—which position data as a key foundation for building AI capabilities. Additionally, this shift reflects a broader reorientation of Africa's digital infrastructure agenda toward a data-centric model, where the focus extends beyond infrastructure itself to the asset that flows through it.

For partners seeking to invest in Africa's digital infrastructure, the implication is clear: Infrastructure and data governance are no longer separable—they are co-constitutive.

Digital infrastructure determines not only how data flows, but also how it is generated, moved, and governed. The prominence of data protection and cybersecurity reinforces this shift toward AI. This is a consequential development, as data governance now presses directly onto digital infrastructure, effectively defining the terms of engagement for infrastructure itself. For partners seeking to invest in Africa's digital infrastructure, the implication is clear: Infrastructure and data governance are no longer separable—they are co-constitutive.

DPI and AI Linkage

The DPI approach outlined earlier in this brief is reinforced by the prominence of digital identification, digital payments, and data among policy priorities for 2021–2025—signaling the growing alignment of DPI and AI as complementary policy approaches.

Policy Imperatives

Partnerships Must Extend Beyond Connectivity

Africa's digital infrastructure policy agenda is layered, dynamic, and cumulative, with new technological layers building on existing connectivity foundations. This creates significant opportunities for digital partnerships that extend beyond connectivity alone—from foundational infrastructure to digital platforms and services. Partners that can engage across multiple layers of the digital ecosystem will be best positioned to support Africa's digital transformation and scale impact.

At the same time, the increasing interdependence between digital infrastructure and governance requires a shift in approach. Infrastructure investments can no longer be treated as purely technical. Instead, they must be aligned with the data governance environments in which they operate. Digital infrastructure is shaped by the rules governing the data that flow through it. In practice, this means that effective engagement in digital infrastructure must be anchored in data governance; without this alignment, investments risk system integrity, friction, or even failure.

Global Digital Agendas Must Keep Connectivity at the Center

African governments continue to prioritize the development of digital infrastructure to bring more people online and unlock digital dividends. Achieving this goal will require sustained global support from multilateral institutions, development funders, and other key stakeholders in global digital forums. As international policy conversations increasingly shift toward AI and frontier technological risks, the foundational challenge of connectivity must not be deprioritized. Sustained policy dialogue on connectivity in global forums such as the World Economic Forum, ITU, and the World Bank Group (among others), and regional forums such as the African Union and Smart Africa, is required to ensure that the imperative of connecting the unconnected remains central to global digital agendas.

Africa's Digital Policy Landscape Is More Integrated Than It Appears

While Africa's policy environment can appear fragmented at the national level, AfTech data reveal underlying policy narratives that are more integrated across the continent. This highlights the need for deeper analysis of Africa's digital transformation, particularly as the continent advances initiatives such as the African Continental Free Trade Area's vision of a single digital market. Country-level studies remain important, but aggregated continental analysis can surface insights that are invisible at the national level and critical to understanding policy trends and dynamics on the continent.

As the continent's technology policy landscape evolves, AfTech provides a critical tool for situational awareness, illuminating how policies, laws, and regulations are shaping the terms and conditions for engagement across digital infrastructure, applications, and the broader digital economy. This visibility is essential for stakeholders within and beyond the continent—including governments, development partners, and multilateral institutions—seeking to engage effectively.

As international policy conversations increasingly shift toward AI and frontier technological risks, the foundational challenge of connectivity must not be deprioritized.

Looking ahead, AfTech will continue to expand its analytical capabilities, with subsequent briefs building on its multidimensional design to enable analysis across countries, themes, and pillars—strengthening understanding of Africa's digital economy and facilitating more strategic, coordinated, and high-impact engagement for digital transformation.

About the Author

Jane Munga is a fellow in the Africa Program at the Carnegie Endowment for International Peace, where she leads research on technology policy. Her work addresses how African countries can harness digital technologies to advance inclusive and sustainable growth. Her work focuses on the nexus of digital policy, digital partnerships, and developing the foundational elements of digital development.

Before joining Carnegie, Jane served in the Kenyan government as an advisor and economic expert, shaping national and regional digital policies and frameworks. Her policy work supported policy interventions, multilateral and public-private partnerships, and strategic thinking around digital transformation.

At Carnegie, she spearheads the Africa Technology Policy Tracker project, a platform mapping ICT and AI policies across the continent, and convenes high-level dialogues with governments, regional bodies, and global partners. She is contributing expert analysis as a member to the International Advisory Body on Submarine Cable Resilience, and as a senior advisor on the International AI Safety Report, foregrounding African priorities in global digital governance.

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