Accelerating digital inclusion in Africa

Editor's note: This viewpoint is part of Chapter 5 of Foresight Africa 2025-2030, a report with cutting-edge insights and actionable strategies for Africa's inclusive and sustainable development in the run-up to 2030. Read the full chapter on AI and emerging technologies.

By taking a strategic, inclusive approach, African countries can harness digital technologies to foster intelligent economies that are sustainable and transformative.

Digital technologies have significant potential to address many of Africa's pressing challenges, but their adoption and impact face several obstacles that need to be overcome to ensure that nobody is left behind.

Technologies such as the Internet of Things and big data analytics have incredible potential to drive Africa's economic growth, contributing up to $1.5 trillion in GDP by 2030 by increasing productivity and efficiency across industries,1 creating new jobs and business opportunities, especially for youth, and empowering citizens through increased access to information, thereby creating intelligent economies.2

By taking a strategic, inclusive approach, African countries can harness digital technologies to foster intelligent economies that are sustainable and transformative. However, African countries must address several key challenges related to digital inclusion for an intelligent economy to emerge.

Accelerating digital access

As of 2023, approximately 37% of the African population used the internet, with high costs of internet cited as the main barriers to usage, especially in low-income and rural areas.3 Notably, Africa's fixed broadband access rates are the highest globally, averaging 14.8% of gross national income, far exceeding International Telecommunication Union's recommended 2%.4 As a result, mobile connectivity is the primary means of accessing the internet in Africa. As of 2023, mobile penetration in sub-Saharan Africa was 44% and mobile internet penetration was 27%.5 Key barriers to mobile internet adoption include affordability (smartphones can cost up to 95% of monthly income for the poorest 20%),6 lack of digital skills, limited locally relevant content, and

language barriers. Given that smartphone penetration is expected to reach 88% by 2030, mobile-based digital tech solutions may offer a practical way to tap into and expand digital technology capabilities in Africa.7

The most pressing issue, however, is access to electricity. Only about 43% of Africans have a reliable supply of electricity.8 Digital technologies significantly impact energy and electricity consumption, particularly through the rapid growth of data centers and increased computing demands. Generative AI systems already use around 33 times more energy to complete a task than task-specific software.9

Estimates suggest $400 billion is needed for electricity transmission and distribution improvements by 2050.10 Without this investment, most countries in the region will not have the necessary baseload electricity to benefit from digital technologies.

Addressing Africa's digital infrastructure

Africa accounts for less than 1% of total available global data center capacity, despite being home to 18% of the world's population.11 There are currently around 150 data centers across Africa, with most concentrated in South Africa, Nigeria, and Kenya. Analysts suggest that Africa needs at least 700 new data centers to meet its connectivity and data storage requirements over the medium term.12

Furthermore, the continent will need to make significant investments in high-performance supercomputers that can power deep learning models, train and run complex AI models efficiently, and analyze vast amounts of data quickly, all of which are essential for extracting meaningful insights from large datasets.

Africa currently has only a few supercomputers: "Toubkal" in Morocco—currently Africa's most powerful supercomputer,13 "Lengau" in South Africa — the next fastest,14 and CHPC—also in South Africa.15 Given Africa's size, population, and diverse needs, the continent needs multiple supercomputing centers strategically located in different regions to serve various countries, research communities, and entrepreneurs.

Mitigating risks and biases related to digital technologies through effective regulation

While regulation related to digital technologies in Africa is still in its early stages, there are growing efforts at both the national and continental levels to develop appropriate strategies and frameworks for ethical development of digital technologies. Still, many African countries lack robust regulatory frameworks and policies to address the ethical and societal implications, which can leave vulnerable populations exposed to potential harms and exploitation from uncontrolled AI deployment. Digital technologies have the potential to exacerbate existing inequalities and widen the digital divide. For example, AI systems are trained on historical data, which often reflect societal biases and inequalities, and, if not carefully designed and monitored, can perpetuate and amplify these biases leading to discriminatory outcomes.16

Africa's path to developing an intelligent economy must focus on ensuring digital inclusion by addressing these challenges related to digital access, digital infrastructure, and robust regulatory reform. If successful, Africa has the potential to drive significant socioeconomic change and emerge as a key player in the global digital landscape.