
A SYSTEMS-LEVEL ATLAS

AFRICA

VOLUME VI

Technology, Digital Transformation & Future Systems

The Mobile & Fintech Revolution · Connectivity & Digital Infrastructure · Innovation Ecosystems & the Startup Economy · Artificial Intelligence, Emerging Tech & Data Sovereignty

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About This Volume

AFRICA: AN ENCYCLOPEDIC REFERENCE — 2026 EDITION

Volume VI of an eight-volume reference work compiled and edited by Marie-Soleil Seshat Landry and published by Landry Industries Inc. under the Marie Landry's Spy Shop imprint, Moncton, New Brunswick, Canada.

Volume V described Africa's people; **Volume VI describes the technologies reshaping how they live, bank, connect, and build.** It opens with the continent's genuine world-leading success — mobile money — then turns to the infrastructure beneath it, the startup economy growing atop it, and the artificial-intelligence future now being contested. A single tension runs through all four chapters and echoes Volume IV's argument about minerals: Africa repeatedly generates the raw ingredients of the digital economy — users, data, talent, demand — while the infrastructure, the refining, and much of the value remain owned elsewhere. The recurring question is therefore one of *digital sovereignty*.

A NOTE ON FIGURES AND CITATION INTEGRITY

Technology data move quickly and vary by methodology — startup-funding totals in particular differ depending on whether debt and undisclosed rounds are counted. Where reputable trackers disagree, the text gives the figure with its source and notes the range rather than presenting a single number as settled. All data was verified against an identifiable public source in June 2026; nothing is reproduced verbatim. Monetary values are in US dollars unless stated.

Series architecture:

I — FOUNDATIONS · II — CIVILIZATION LAYERS · III — MODERN STATES · IV — ECONOMIC & RESOURCE SYSTEMS · V — SOCIETY, DEMOGRAPHICS & CULTURE (*PUBLISHED*)

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VOLUME SIX

Technology, Digital Transformation & Future Systems

Africa did not catch up to the rich world's banking system — it leapfrogged it, moving US\$1.4 trillion a year through mobile phones. Yet the cables that carry its internet, the data centres that would store its information, and the AI models that will shape its economy are largely owned by others. This volume maps both the leap and its limits.

1. The Mobile and Fintech Revolution
2. Connectivity and Digital Infrastructure

3. Innovation Ecosystems and the Startup Economy

4. Artificial Intelligence, Emerging Tech, and Data Sovereignty

CHAPTER TWENTY-TWO

The Mobile and Fintech Revolution

Africa did not catch up to the rich world's banking system — it leapfrogged it. Mobile money turned an ordinary phone into a bank account for hundreds of millions of people, and the continent now leads the entire world in the technology.

The single most important technology story in modern Africa is also the clearest example of the continent solving its own problem in its own way. Faced with a population the formal banking system never reached — the cash-based, largely unbanked majority described in Volume IV — Africa skipped the bank branch entirely and built a financial system on the mobile phone. The result is not merely catching up; in this domain, Africa is ahead of the world.

The Leapfrog

The breakthrough was M-Pesa, launched in Kenya by the operator Safaricom in 2007 as a simple way to send money by text message. It became the template for the continent. By the financial year ending March 2025, M-Pesa had around 35.8 million monthly active users in Kenya alone, and Safaricom's group total — including Ethiopia, Mozambique, and other markets — reached 62.3 million customers, with the service moving on the order of a billion dollars a day.^{[5][6]} The genius of the model was its physical simplicity: instead of bank branches, a network of around 7.2 million human agents across Africa handles cash-in and cash-out, making mobile money roughly seven times more accessible than ATMs and ten times more than bank branches.^[6]

The Scale of It

The numbers are now staggering, and they are global records. According to the GSMA's 2026 industry report, some US\$1.4 trillion flowed through mobile-money systems in sub-Saharan Africa in 2025 — the majority of the roughly US\$2.1 trillion transacted worldwide.^{[1][3]} Sub-Saharan Africa now accounts for around two-thirds of global mobile-money transaction value, and the region's growth continues to outpace every other: transaction values rose 26 percent in 2025, and the average active user made 269 transactions in the year, far more than peers in South or East Asia.^[2]

MOBILE MONEY BY THE NUMBERS (2025)

- Sub-Saharan Africa and North Africa together held about 1.2 billion registered mobile-money accounts — more than half the global total of 2.3 billion.^[1]
- The continent counted roughly 347 million active users; East Africa alone processed around US\$806 billion.^[3]
- It took the industry twenty years to pass US\$1 trillion in annual transaction value worldwide — and just four years to double it, between 2021 and 2025.^[1]
- Mobile money contributed an estimated US\$190 billion to sub-Saharan Africa's GDP in 2023, and around 80 percent of providers now operate profitably.^{[4][3]}

Beyond Payments

What began as person-to-person transfer has matured into a full financial ecosystem. Mobile-money platforms now offer savings, credit, insurance, and merchant payments — the last of these the fastest-growing use case — and in Kenya have even drawn ordinary users into the securities market.^{[1][3]} This deepening matters because it extends genuine financial inclusion, not just payments, to populations that traditional finance wrote off as unprofitable. The remaining frontier is cross-border: Africa receives roughly US\$100 billion in remittances a year, yet only about 4 percent of global remittances travel on mobile-money rails, even though mobile money cuts the cost of sending money to the region to around 3.5 percent against more than 7 percent through traditional channels.^[5]

Mobile money is, in short, the single clearest case of African technological leapfrogging — a homegrown solution to a homegrown problem that the rest of the world now studies and imitates. It is the foundation on which the startup economy of Chapter 24 is built, and the proof, returned to throughout this volume, that Africa can lead and not merely follow when the infrastructure is its own.

CHAPTER TWENTY-THREE

Connectivity and Digital Infrastructure

Beneath the mobile-money miracle lies a harder truth. Africa remains the least-connected continent on Earth, and the physical infrastructure carrying its internet is owned largely by others. The leapfrog has limits — and they are made of fibre and concrete.

If mobile money shows what Africa can do when the technology is its own, connectivity shows what happens when it is not. Beneath every app, payment, and AI ambition lies a physical layer of undersea cables, fibre networks, and data centres — and it is at this layer that the continent's digital dependency is most visible, and most consequential.

The Connectivity Gap

Africa is the least-connected continent: as of 2024, only about 38 percent of its population had internet access.^[7] That access is overwhelmingly mobile rather than fixed-line, and it is unevenly distributed, with deep divides by geography, gender, and income that mirror the inequalities described in Volume V. Costs have fallen — the price of a gigabyte of mobile data dropped to about US\$1.85 in 2023, a 42 percent reduction from 2020 — which has helped pull more of the population online, but affordability remains a barrier for hundreds of millions.^[7]

The Undersea Backbone

Africa's connection to the global internet runs through undersea cables, and here the build-out has been dramatic. At the start of 2025, 77 cable systems were active or under construction around the continent, and total international bandwidth had reached roughly 1,835 terabits per second — a four-year compound growth rate of 24 percent, the fastest of any world region.^[8] Two projects dominate: Google's Equiano, switched on in 2023 along the Atlantic coast with capacity roughly twenty times the previous regional average, and Meta's 2Africa, whose core was completed in November 2025 — at 45,000 kilometres, a system longer than the Earth's circumference, linking 33 countries across Africa, Europe, and Asia and reaching more than three billion people.^{[9][10]} Egypt and South Africa host the largest clusters of landings, with 19 and 11 systems respectively.^[8]

The Shoreline Problem and Digital Sovereignty

This abundance conceals a dependency. The major cables are owned and financed not by African states but by foreign technology giants — Google and Meta foremost — whose infrastructure carries close to 90 percent of the continent’s internet traffic, and which lease capacity to local operators rather than the reverse.^[7] Critics note that these cables encircle Africa rather than interconnecting it internally, echoing colonial trade routes, and that the boom in international bandwidth has not been matched by domestic and urban networks — so that, in one apt phrase, the internet boom “stops at the shoreline.”^[8] The same value-capture problem identified in the minerals chapter recurs here: Africa hosts less than one percent of the world’s data centres, meaning much of its data is stored, processed, and monetised abroad.^[21]

VULNERABILITY AND NEW ENTRANTS

- Concentration brings fragility: cable cuts in the Red Sea in September 2025 disrupted internet services across parts of Africa, the Middle East, and Asia.^[12]
- Low-Earth-orbit satellite services such as Starlink are entering African markets, beginning with Nigeria and others, extending reach into hard-to-serve areas.^[12]
- New routes are multiplying: Google has announced Umoja, a first direct fibre link between Africa and Australia, while China’s PEACE cable reflects intensifying geopolitical competition over African connectivity.^{[12][8]}
- 2Africa’s consortium itself spans Meta, MTN’s Bayobab, Saudi Arabia’s center3, China Mobile, Orange, Telecom Egypt, Vodafone, and WIOCC — a map of who now wires the continent.^[9]

Connectivity, then, is rising fast but remains externally controlled and unevenly shared — the infrastructure layer on which every other digital ambition in this volume, from startups to artificial intelligence, ultimately rests. Who owns that layer is a question of sovereignty as much as of engineering, and it is taken up again in the geopolitics of Volume VII.

CHAPTER TWENTY-FOUR

Innovation Ecosystems and the Startup Economy

A generation of African founders is building companies to solve distinctly African problems — and drawing global capital to do it. The ecosystem is maturing and concentrating at once, having just weathered a hard funding correction.

The youthful, connected population of the previous volumes has produced a wave of entrepreneurship, as African founders build technology businesses tailored to local realities — payments for the unbanked, logistics for informal markets, off-grid power, e-commerce for cash economies. Concentrated in a handful of hubs and increasingly visible to global investors, this startup economy is where the continent's demographic and digital potential is being turned into companies.

Hubs and the Funding Cycle

Innovation clusters have formed around a few major cities — Lagos, Nairobi (long dubbed the “Silicon Savannah”), Cape Town, and Cairo — supported by hundreds of tech hubs, accelerators, and a digital economy that the UN Economic Commission for Africa projects to reach around US\$360 billion by 2025.^[26] Funding has followed a boom-and-bust arc. After peaking near US\$6.5 billion in 2022, venture investment fell sharply during the global “funding winter,” bottoming around US\$2.9 billion in 2024 by one widely used tracker.^[14] In 2025 the market rebounded: by the authoritative Partech count, African tech start-ups raised US\$4.1 billion, up 25 percent and the strongest year since 2022, split between US\$2.4 billion of equity and a record US\$1.6 billion of debt — the rising role of debt being itself a sign of a maturing, more asset-backed ecosystem.^[13]

THE SHAPE OF AFRICAN VENTURE CAPITAL

- Four countries — Nigeria, Kenya, Egypt, and South Africa, the “Big Four” — consistently capture on the order of 72 to 83 percent of all funding.^{[13][15]}
- In 2025 Kenya led the continent with about US\$1.04 billion raised, while South Africa ranked first in equity funding and deal count for the first time since 2017.^[13]
- Fintech remains dominant, drawing more than 40 percent of all capital — over US\$1 billion by September 2025.^[16]
- The number of active investors has fallen to around 330, down from 987 at the 2022 peak — a market that is leaner but stabilising.^[18]

Unicorns and the Concentration Problem

The ecosystem has produced billion-dollar companies — “unicorns” — concentrated in financial technology, the field that builds directly on the mobile-money revolution of Chapter 22. Nigeria’s Moniepoint crossed a one-billion-dollar valuation in late 2024, and South Africa’s Tyme Group reached unicorn status the same year, joining established names such as Flutterwave.^[16] Yet the same data reveal real structural weaknesses. Capital is heavily concentrated — both geographically, in the Big Four, and sectorally, in fintech — raising concerns about smaller ecosystems being starved even as Francophone markets such as Senegal and Benin show early promise.^[15] The gender gap is starker still: startups led by women have received only around 2 percent of total funding, a figure that falls to well under 1 percent once grants are excluded.^[17]

The African startup story is therefore one of genuine maturation shadowed by narrowness. The talent and demographic energy documented in Volume V are being converted into companies and, increasingly, into globally competitive firms — but whether that dynamism can broaden beyond fintech and beyond four countries is the open question that will determine whether the ecosystem fulfils its promise.

CHAPTER TWENTY-FIVE

Artificial Intelligence, Emerging Tech, and Data Sovereignty

As artificial intelligence reshapes the global economy, Africa faces a defining choice: to build its own AI capacity, or to become once again a consumer of technology designed elsewhere. On paper, the continent has chosen to build.

The arrival of artificial intelligence presents Africa with the central dilemma of this entire volume in its sharpest form. AI runs on exactly the inputs the continent has in abundance — data and young talent — and exactly the infrastructure it largely lacks: computing power, data centres, and capital. Whether Africa ends the decade as a producer or a consumer of AI is, in effect, the twenty-first-century version of whether it refines its own cobalt or ships it raw.

The Policy Surge

Africa has moved with unusual speed at the level of strategy. The African Union adopted a Continental Artificial Intelligence Strategy in July 2024, and in April 2025 the African Declaration on Artificial Intelligence was adopted in Kigali, jointly endorsed by the AU, the Smart Africa alliance, and the governments of all 54 states — the most ambitious unified AI framework the continent has produced, accompanied by the announcement of an Africa AI Fund.^{[19][20]} National strategies have cascaded behind it: Ethiopia, Nigeria, Libya, Zambia, and Mauritania published frameworks in 2024, followed by Côte d'Ivoire, Kenya, Namibia, Lesotho, and Tanzania in 2025, alongside Egypt's earlier strategy.^[21] The animating slogan, voiced repeatedly by African leaders, is that AI must be “built with Africa, by Africa, and for Africa.”^[21]

The Opportunity and the Gap

The stakes are large. UNESCO cites estimates that AI could add as much as US\$2.9 trillion to African output by 2030.^[22] Yet the structural gap between ambition and capacity is stark. Africa currently captures only about 2.5 percent of the global AI market and a mere 0.3 percent of worldwide AI investment; it hosts less than one percent of the world's data centres and is home to only around 3 percent of global AI talent.^{[22][21]} Implementation lags the strategies: an analysis of the AU strategy's first eighteen months found roughly 83 percent of associated funding concentrated in just four countries, against continental needs measured in the hundreds of billions.^[23] There are bright spots — Nigeria has launched a National Centre for AI and Robotics and a government-backed multilin-

gual large language model, while South Africa reached a target of training one million people in AI skills — but the risk, as analysts repeatedly warn, is of the continent becoming a consumer rather than a creator of AI.^{[23][21]}

Digital Identity and Data Sovereignty

Underlying both the opportunity and the risk is the question of data — who holds it, where it is stored, and who profits from it. The foundation is identity: an estimated 500 million people in sub-Saharan Africa lack any form of foundational legal identification, roughly half the global total, and 47 percent of them are children never registered at birth.^[24] The African Union has made digital identity central to its Digital Transformation Strategy for 2020–2030, aiming to give every African a unique digital identity by 2030, and large national systems are rolling out — Kenya’s Maisha Namba, Nigeria’s National Identification Number, Ghana’s card, and Ethiopia’s Fayda, which had registered more than 15.5 million people by May 2025.^{[25][26]}

THE DATA-SOVEREIGNTY QUESTION

- The AU’s Data Policy Framework and its Malabo Convention on cybersecurity and personal-data protection provide a continental governance scaffold — but enforcement and independent regulation remain weak in many states.^[20]
- Civil-society groups warn that digital-ID systems, built without strong safeguards, risk entrenching surveillance and excluding the very people they aim to include.^[25]
- With most data stored and processed on infrastructure owned abroad (Chapter 23), the value generated from African data largely accrues outside the continent.^[21]
- Data sovereignty — ownership and control of African data — is thus the digital echo of the resource-sovereignty struggle of Volume IV.^[20]

The pattern that closes this volume is the one that opened it, inverted. Mobile money showed that when Africa owns the system, it can lead the world; connectivity, AI, and data show that when it does not, it risks repeating the extractive logic of its economic history in digital form. Which path prevails — building sovereign digital capacity or importing it — is among the decisive choices of the coming decade, and it is carried directly into the geopolitical and future-facing volumes that follow.

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END OF VOLUME VI — TECHNOLOGY, DIGITAL TRANSFORMATION & FUTURE SYSTEMS

Volume VII — *Geopolitics and Global Positioning* — continues the reference in the next installment.