Infrastructure as the Foundation of Everything

AiCE Africanism & Pan-African Studies — An Orientation

Every technology story examined in this course has circled back to the same foundational constraint: infrastructure. M-Pesa's success depended on the mobile network infrastructure Safaricom had built. Afrobeats' global reach depends on streaming infrastructure — undersea cables, server farms, content delivery networks. Nollywood's Netflix era depends on broadband reaching African homes and phones. African AI research is constrained by the computing infrastructure needed to train models. Every technology aspiration in this course ultimately rests on physical infrastructure: the cables, the towers, the data centres, the power grids, and the payment systems that make digital activity possible.

Africa's digital infrastructure has grown remarkably over the past two decades — mobile coverage reaching the vast majority of the population, dozens of new undersea cables, data centres proliferating in major cities, mobile money reaching hundreds of millions of previously unbanked people. This progress is real. But the infrastructure gap remains enormous, and — more importantly — most of Africa's existing digital infrastructure is foreign-owned, creating a dependency that limits African digital sovereignty just as surely as the economic dependencies examined earlier in this course limit African economic sovereignty.

This lesson series examines the state of African digital infrastructure across five critical layers — connectivity, power, data centres and cloud, payment systems, and digital identity — analyses who owns it and what that ownership means, and describes the policy choices and investment decisions that would move Africa toward genuine digital infrastructure sovereignty.

What You Will Explore

Across the next few lessons, you will build an understanding of seven connected ideas:

- The Five Layers of African Digital Infrastructure — a layered model of what must work for anything else to work.
- Undersea Cables — Africa's digital lifeline, and who actually owns it.

- Power — the foundation without which nothing else is possible.
- Data Centres and Cloud — where Africa's data actually lives.
- The Pan-African Payment System — PAPSS and the last mile of the AfCFTA.
- Digital Identity — the foundation of inclusive services, and its risks.
- A Vision for African Digital Infrastructure Sovereignty — what genuine ownership requires.

Learning Objectives

By the end of this sequence of lessons, you will be able to:

- Map the five critical layers of African digital infrastructure and assess the state of each.
- Analyse the undersea cable landscape and its implications for African internet sovereignty.
- Examine Africa's power deficit as a digital infrastructure constraint.
- Evaluate African data centre and cloud infrastructure — who owns it and what that means.
- Describe Africa's mobile money infrastructure as a continental payment backbone.
- Assess the digital identity landscape and its implications for service delivery and inclusion.
- Articulate a policy vision for African digital infrastructure sovereignty.

> *"Infrastructure is destiny. The cables you own determine the data you control. The power you generate determines the economy you can run. The payment systems you build determine the trade you can conduct. Africa cannot be a digital giant on someone else's infrastructure. Build the foundation."*
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> **— Adesina Olagunju, Founder, AiCE**

Before You Continue

As a software engineer, you will spend your career building things that run on top of this infrastructure. Understanding what layer you are building on — and who owns it — is not abstract policy knowledge. It is engineering context you will use every time you choose a cloud provider, a payment gateway, or a deployment region.