MUST AFRICA CHOOSE BETWEEN DEPENDENCE AND SOVEREIGNTY?

01/11

A visual reflection inspired by the Nature Computational Science comment "An Alternative Path for Artificial Intelligence in Africa".

Dependence

Relying mainly on foreign technologies and platforms.

Sovereignty

Investing heavily in national infrastructure, such as data centers.



Distributed Sovereignty

Shared infrastructure and capabilities designed for African realities.

Inspired by Smith et al. (2026), Nature Computational Science

Key message: *Digital sovereignty is not a binary choice.*

Eric Arnaud MAKITA MAKITA, Ph.D.

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FOUR ASSUMPTIONS ABOUT AI IN AFRICA

02/11

Common claims worth questioning before shaping an AI strategy.

01 Move fast or fall behind

AI adoption is often portrayed as a race against time.



02 Only frontier AI is useful

The largest, most advanced models are seen as essential.





03 Compute is the bottleneck

Processing power is treated as the main obstacle.



04 Sovereignty means local data centers

Hosting infrastructure at home is assumed to guarantee control.





KEY TAKEAWAY: *These assumptions deserve scrutiny; none alone defines Africa's AI future.*

Inspired by Smith et al. (2026), Nature Computational Science.

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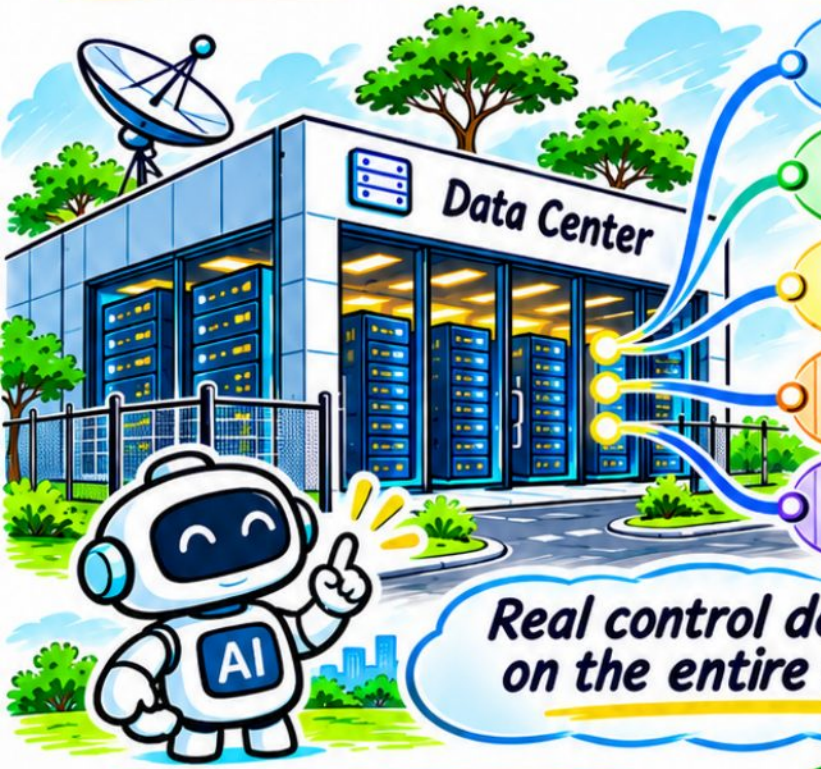
A DATA CENTER ON OUR OWN SOIL: DOES IT MAKE US SOVEREIGN?

03/11

Having infrastructure is important, but it does not automatically mean control.



Infrastructure
Buildings, energy, cooling

Equipment
Servers, networks, storage

Software
Systems, platforms, updates

Operations
Maintenance, support, monitoring

Governance
Contracts, access, data, compliance

Real control depends on the entire stack.

Owning only the building

- A facility and servers
- Hosting on national territory

Real control means

- Mastering key technologies
- Managing data and access
- Defining rules and uses
- Building local operational capacity

KEY MESSAGE:

Digital sovereignty is not just about locating servers. It depends on mastering the entire value chain.

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ARE GIANT AI MODELS REALLY NECESSARY?

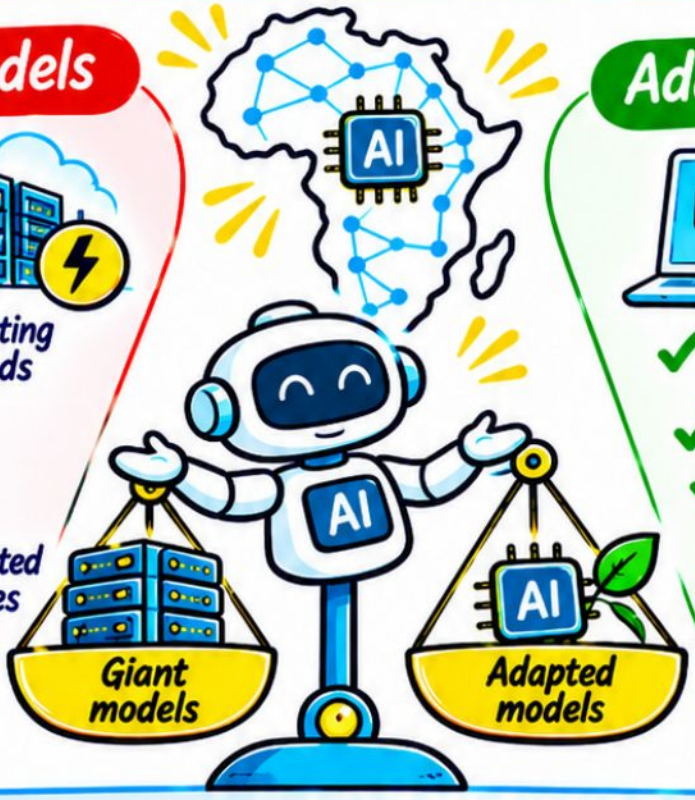
04/11

For many tasks, smaller open models can meet local needs at lower cost; frontier models still have a role.

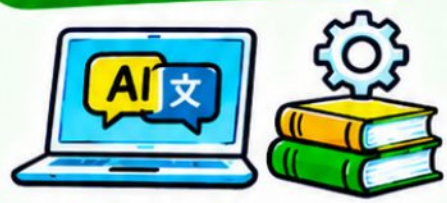
Giant models



- Very high computing and energy needs
- High costs
- Technological dependence
- Often poorly adapted to local languages and contexts



Adapted models



- Less costly and more resource-efficient
- Easier to deploy
- Adapted to African languages
- Better aligned with real needs (education, health, public services, etc.)

Example

InkubaLM

A model with **400 million** parameters, developed for **5 African languages**, with strong performance and controlled costs.



KEY MESSAGE:

*The size of a model is not an end in itself. What matters is its **relevance**, **usefulness** and **sustainability** for Africa.*

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WHAT IF AI STARTED FROM OUR REAL NEEDS?

05/11

The real value of AI in Africa lies in its ability to solve concrete, everyday problems.

Health

Support for diagnosis, disease surveillance and better planning.





Education

Personalized learning, localized content, in African languages.



Agriculture

Tailored advice, harvest forecasting and loss reduction.





Economy

Support for SMEs, financial inclusion and better public decision-making.



Cities & Services

Mobility, waste management, water, energy and urban planning.



Environment

Forest monitoring, climate, natural resources and biodiversity.





KEY MESSAGE:

A useful AI for Africa is an AI rooted in our realities, serving sustainable and inclusive development.

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THE DATA AND AFRICAN LANGUAGE CHALLENGE

06/11

A useful and inclusive AI for Africa relies on high-quality data and better support for our languages.

The data challenge

- Data are often incomplete or hard to access.
- Heterogeneous and variable quality.
- Often not representative of local realities.



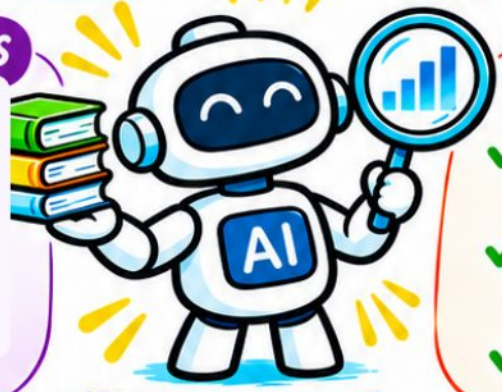
The language challenge

- More than **2,000** languages in Africa.
- Still few digital resources (texts, speech, etc.).
- Low representation in large AI models.



Promising advances

- Growing African datasets.
- African-language AI: AfriNLLB, AfriMTEB, and AfriE5.
- Collaborative African initiatives.



Data to create and to value

- Collect, structure and open public-interest data.
- Produce corpora in African languages (text, audio, etc.).
- Encourage sharing and reuse (open data).





Collect → Structure → Share → Reuse → Include our languages

KEY MESSAGE: *High-quality data and better representation of African languages are the foundations of a truly useful, inclusive and sovereign AI.*

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WHY IS COMPUTING POWER NOT ENOUGH?

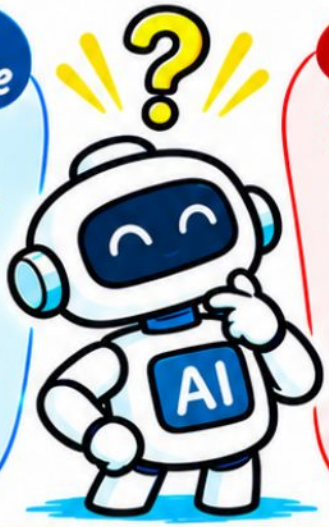
07/11

Powerful servers are useful, but they do not, on their own, guarantee relevant, accessible and sustainable AI in Africa.

Computing power: an asset, but a limited one



- ✔ Train larger models.
- ✔ Process massive volumes of data.
- ✔ Reduce computation time.



But it is not enough!

- ✘ Data that is not adapted or of insufficient quality.
- ✘ Models designed for other contexts.
- ✘ Lack of local skills to develop and maintain AI.
- ✘ Responsible and ethical use still to be ensured.

Other essential building blocks

- Local, high-quality data.
- Adapted and efficient models.
- African skills and talent.
- Reliable and affordable energy.
- Governance, ethics and trust.



KEY MESSAGE:

The AI revolution in Africa will succeed through a coherent combination of data, skills, energy, governance and real-world uses, not through GPUs alone.

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A THIRD PATH: DISTRIBUTED SOVEREIGNTY

08/11

Instead of duplicating costly national AI infrastructure, Africa can combine local control with shared regional capacity.

The principle

An open, interconnected AI ecosystem, shared across multiple countries and stakeholders.





The benefits

- ✓ Pool resources (compute, data, skills).
- ✓ Adapt solutions to local realities.
- ✓ Reduce dependence on a single provider.
- ✓ Foster innovation and real-world impact.

How can it be put into practice?

- **Shared infrastructure** (regional, sovereign cloud).
- **Open and jointly governed data.**
- **Open and african-centric models.**
- **A talent ecosystem** (research, training, entrepreneurship).
- **Regional cooperation** (governments, universities, private sector, civil society).



KEY MESSAGE:

AI sovereighty in Africa is built together, step by step, by sharing resources, data and skills.

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SEVEN RECOMMENDATIONS FOR BUILDING AI SOVEREIGNTY

09/11

The seven levers identified by Smith et al. (2026), Nature Computational Science, for a useful, inclusive and sovereign AI in Africa.

1 Reliable African data assets



- Collect, structure and document local data.
- Ensure their quality, representativeness and accessibility.

2 Open and shared AI software infrastructure



- Develop open-source tools and models.
- Encourage their sharing and reuse in Africa.



3 Public procurement that meets real needs



- Use public procurement to drive locally relevant AI solutions.
- Set requirements for inclusion, impact and interoperability.

4 Differentiated computing strategies



- Combine local, regional and cloud resources.
- Match computing power to real needs (rather than only large models).

5 Collective negotiation with major providers



- Negotiate at regional or continental level for better terms (costs, access, technology transfer).
- Reduce dependence and protect African interests.



6 Joint investments in institutional capacity



- Strengthen research and innovation institutions.
- Train and retain talent (fellows, PhDs, engineers).
- Support local ecosystems (universities, startups, data centers, etc.).

7 Progressive, needs-based and sustainable investments



- Advance step by step, based on priority use cases (health, education, agriculture, public services, etc.).
- Measure results, learn and adjust investments.
- Ensure long-term financial sustainability and real impact.

KEY MESSAGE:

AI sovereignty in Africa rests on concrete choices: quality data, open tools, fit-for-purpose public procurement, collective negotiation and progressive, sustainable investments.

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CAN AFRICA BUILD ITS OWN PATH FOR AI ?

10/11

Yes. By combining its strengths, needs and a context-appropriate strategy, Africa can build a useful, inclusive and sovereign AI.



Our strengths

- A large and creative youth population.
- A unique linguistic and cultural diversity.
- Concrete needs with high impact (health, education, agriculture, public services, etc.).
- A fast-growing innovation ecosystem.

A realistic, ambitious African path

Adapt technology to our realities



- More efficient and fit-for-purpose models.
- Useful, high-impact solutions.
- Integration of local languages and contexts.

Act together at continental level



- Pool infrastructure and resources.
- Harmonize frameworks and standards.
- Negotiate collectively with major providers.

Invest in sustainable capacity



- Train and retain talent.
- Strengthen research and innovation.
- Invest progressively and over the long term.



Key message:

Africa does not need to copy others:
it can build an AI that brings people together and serves its own development and its populations.

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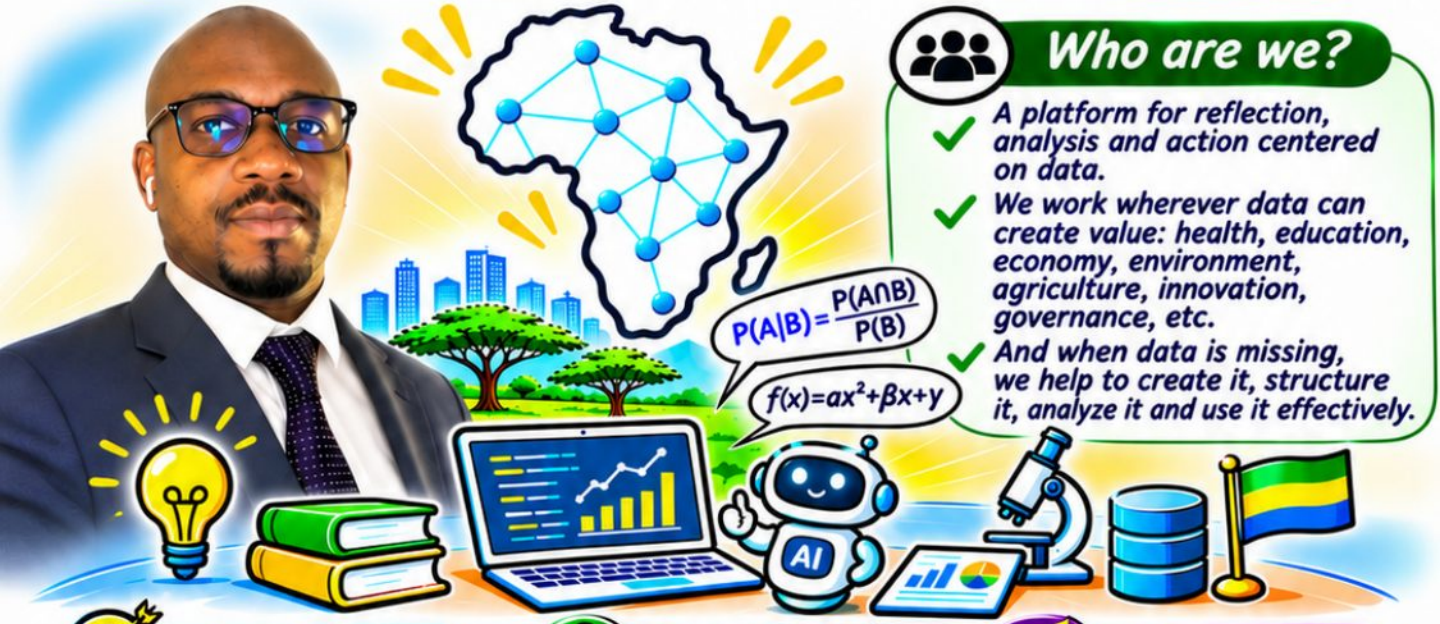
DATA AT THE HEART OF OUR DECISIONS

11/11

GDD is a Gabonese initiative that puts data and AI at the service of knowledge and action.



Who are we?

- A platform for reflection, analysis and action centered on data.
- We work wherever data can create value: health, education, economy, environment, agriculture, innovation, governance, etc.
- And when data is missing, we help to create it, structure it, analyze it and use it effectively.

Our mission

- Harness public-interest data to support better decisions.

Our approach

- Observe, measure, analyze, experiment and share.

Our ambition

- In Gabon, in Africa and beyond, help data drive knowledge and action across all key sectors.

A Tribute to the Researchers

With appreciation to **Matthew L. Smith** and his co-authors for their thought-provoking article,

"An Alternative Path for Artificial Intelligence in Africa."

Nature Computational Science (2026).

DOI: 10.1038/s43588-026-01084-9

Learn more at: https://gabondatadialogues.com/

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