



DIGITAL RIVER TECHNOLOGIES LTD. • GOOGLE
AFRICA APPLIED AI LAB 2026

Institutional intelligence for African education

A governance and evidence platform built on doctoral research in digital governance, proven at university scale, and ready for the systems that run African education.

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This began as doctoral research, not a hackathon

The platform implements the [Reflexive Viable System Model \(RVSM\)](#) – original doctoral work in digital governance that reconceives institutional memory as active infrastructure rather than an archive, and the construct this platform was built to instantiate.

System D & System R

Beer's Viable System Model extended: System D filters paradigm-threatening anomalies, System R performs regeneration to restore organisational viability, with algedonic signalling for what cannot wait for a reporting cycle.

Sense-making

Cynefin classification decides how a situation should be handled before anything acts on it – clear, complicated, complex or chaotic problems demand different responses.

Knowledge conversion

Nonaka's SECI cycle turns what staff know into what the institution knows, so expertise survives the person who held it.

AVSM sits within the [Theory of Infrastructural Forgetting](#), alongside the Digital Epistemic Justice Monitor and the Colonial Variety Deficit Index. These are not citations in a pitch: they are implemented subsystems, specified against a formal functional and non-functional requirements set, and running in production.

African education is data-rich and evidence-poor

Every institution and every regulator already holds the numbers. What is missing is the capacity to turn them into decisions inside the window where a decision still matters.

Is this programme working. Is this cohort at risk. Does this intervention pay for itself. Will this survive accreditation. In most African institutions those questions are answered by one or two people, a spreadsheet, and a reporting cycle measured in months – and by then the cohort has graduated.

Generic AI makes this worse, not better. An assistant that invents a retention figure or cites a policy that does not exist has not produced a slow answer. It has produced a liability inside an accreditation file. The constraint in this sector was never fluency. It is **defensibility**.

A working system, not a framework diagram

The research produced a deployed platform covering the full institutional evidence chain: admissions, enrolment, faculty course evaluation, financial aid and waivers, research ethics review, a records registry, surveys, and a governance layer reading across all of it.

LAYER 1 — RECORD	The institutional systems of record, integrated rather than replaced.
LAYER 2 — ORCHESTRATION	Every automation auditable and modifiable by institutional staff, with no vendor dependency to renew.
LAYER 3 — REASONING	A swappable inference layer behind a verification architecture, so the model can change without the institution rebuilding around it.
LAYER 4 — META-MEMORY	An institutional knowledge graph: what the organisation knows, how it learned it, and which protocols responded when it was last under stress.

Proven at the American University of Nigeria

The AUN deployment is the proof of concept: a full institution, live institutional data, the complete architecture exercised end to end.

3,540 USERS	16,094 STUDENT RECORDS	10,184 ENROLMENTS	2,080 SECTIONS	32 PROGRAMMES	7 SCHOOLS
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Live figures from production, across seven academic semesters. One institution proves the model. The design was always for the system above it – every accredited university runs this same function, under the same regulator, against the same evidence chain.

We built the refusal before we built the answer

Anyone can put a language model in front of a database. The engineering that decides whether an institution can act on the output is everything that stops it being confidently wrong.

RETRIEVAL GATE	A question the evidence cannot support is declined before any model is invoked . The audit record carries a null provider as proof none was consulted.
GROUNDING CHECK	Every generated answer is re-checked against its source. Ungrounded output is flagged and retained, never quietly dropped.
STRUCTURAL CITATION	Citations are assembled from retrieval records, not written by the model. It cannot invent a reference to a page that does not exist.
HUMAN AUTHORITY	Nothing generated reaches a reader unapproved, and provenance distinguishes machine drafting from human authorship.
DATA RESIDENCY	Inference runs on institutional hardware by default. Sending data offsite is a deliberate, warned, logged act – which is what makes this deployable inside a regulator.

An answer that arrives after the deadline is no answer. An answer that cannot be defended is worse than none.

Gemini as the reasoning engine, inside a verification architecture

Inference sits behind a connector interface, so the model is swappable without touching the system around it. Google Gemini is a first-class engine in that interface.

That architecture is the whole point. Gemini reasons across the institutional corpus for classification, annotation and scoring, with the retrieval gate, grounding check and citation integrity of the previous slide wrapped around every call. **Google supplies the intelligence. We supply the accountability that lets a university, a regulator or an accreditation body act on it.**

Long context

Reasoning over an entire accreditation portfolio at once, rather than a chunk at a time – the gap between summarising a document and answering a question about an institution.

Multimodal evidence

Institutional truth arrives as scanned senate minutes, handwritten registers and photographed records. Reading those is the difference between digitised and governable.

Sovereign posture

A hybrid the sector can actually adopt: Google's models for reasoning, local inference retained for anything that must not leave the institution.

Nigeria first, then the continent, across every tier

The first target is the entire Nigerian higher education system and the agencies that regulate it – then the same across Africa, at every tier of education.

Phase one — Nigeria

Federal, state and private universities, polytechnics and colleges of education, together with the regulatory and accreditation agencies that supervise them. One regulatory environment, one evidence chain, one integration pattern.

Phase two — Africa

The same institutional function exists in every African education system, under comparable accreditation pressure. Expansion is repetition of a proven pattern, not reinvention.

All tiers

Basic and secondary systems face the same governance question at greater scale. The architecture is recursive by design – it was built to nest.

Pricing is bespoke, negotiated directly with governing authorities and institutional leadership, because a national regulator and a single private university are not the same customer and should not be sold the same contract.

Model access, engineering partnership, and reach

MODEL ACCESS	Early Gemini access, long context in particular – the capability that moves this from institutional reporting to institutional reasoning.
ENGINEERING	Google Research partnership on grounded generation and verification, hardening refusal, entailment and citation integrity to a standard a regulator will accept.
GO TO MARKET	Route to university systems, ministries and accreditation bodies across the continent, where a Google-validated posture shortens the trust conversation from years to months.
CAPITAL	Follow-on through the AI Futures Fund and partner VCs to convert a proven deployment into a national and then continental rollout.

DIGITAL RIVER TECHNOLOGIES LTD.

Africa does not need another chatbot. It needs institutions that can prove what they know.

The research is done. The architecture is built. The proof of concept is running on real institutional data. What remains is scale — and the continent needs it now.

Alvin O. Forteta · Founder digitalriver.ng forteta.ng Smarter. Faster. Better.