

Why fingerprints and face-only identity can exclude millions — and how Finger-Vein fixes it

Nigeria workforce reality

34.31%

Employment in agriculture (share of total employment, 2023) — a strong proxy for heavy manual work exposure.

Africa informality at scale

86.3%

Informal employment share in Sub-Saharan Africa (total). Informal work correlates with higher fingerprint wear/damage.

Why citizens get excluded by surface biometrics

Damaged / worn fingerprints

Farming, artisans, machinists, construction & manual trades create ridge wear, cuts, calluses and abrasions — causing enrolment and verification failures.

Climate & field conditions

Humidity, sweat, dust and grime reduce fingerprint image quality, increasing retries and failure-to-enrol/verify in real-world service points.

Face/iris demographic gaps

Independent testing has documented higher error rates for Black faces in many systems; UK iris trials also reported lower enrolment success for Black participants.

Nigeria: potential biometric exception-handling population

Environ Finger-Vein Proof-of-Life closes the inclusion gap

- Sub-dermal vein patterns (not surface ridges) — reliable for worn/damaged fingertips
- Works in real-world conditions; reduces retries, failure-to-enrol and service denial citizens could require exception-handling when fingerprints/face/iris underperform
- Proof-of-Life assurance (living presence) strengthens National ID integrity and anti-fraud controls Based on assumptions and exception-rate modelling stated in the attached Environ Finger
- Supports equitable digital government services for the global Black population-Vein datasheet (including trades/artisans projections and combined biometric failure scenarios).