



SmartBank

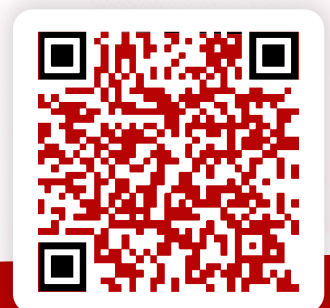


lifebankcares.com/smartbank



BLOOD SYSTEMS REINVENTED

Blockchain-Powered Blood Systems
for African Communities





The Crisis: Unsafe, Inaccessible, Untracked Blood

Africa faces a triple threat in its blood systems:



Access: Millions can't find blood when they need it; especially women and children.



Safety: When available, blood is often contaminated, expired, or mismanaged.



Traceability: Blood bags are moved without documentation, risking mix-ups and infections.



This fragmentation worsens already complex healthcare challenges, thereby costing lives.

50%

Up to 50% of transfused blood in low and middle income countries is inadequately screened, due to limited resources and infrastructure.

(WHO, 2016)

1.8m

Nigeria needs 1.8 million units of blood yearly, but less than 500,000 are collected; leaving a major gap.

(NBSC, 2022)



Delays in transfusion increase maternal death risk, especially from postpartum hemorrhage.

(AABB, 2020; Lancet, 2014)



SmartBank: Closing the Gaps in Africa's Blood Systems

In too many African communities, safe blood is either unavailable or unreliable. SmartBank solves this by bringing all critical blood services into one containerized hub — screening, storage, and distribution — built to function where traditional systems are lacking.

Powered by modern tools and designed for resilience, SmartBank ensures the following:



Reliable detection with state-of-the-art screening equipment



Real-time traceability through blockchain-backed SmartBag technology



Cold chain protection with temperature-monitored storage



Secure, documented movement of blood units to hospitals

Sustainable operations, even in low-resource settings



Who benefits?





Powered by SmartBag Intelligence

Backed by research from the Nigerian Institute of Medical Research, **SmartBag; our blockchain-enabled smart tagging system reduced undetected infections by 57%** while enabling 100% traceability and accountability from donor to transfusion.

Blockchain Tagging System

Secure, tamper-proof tags that enable transparent blood tracking from donor to patient.

Proven Infection Reduction

Independent research by the Nigerian Institute of Medical Research found SmartBag significantly reduces the risk of undetected transfusion-transmissible infections.



Every movement logged, scanned, and verified — ensuring full visibility across the blood journey.

Real-Time Blood Traceability

Built-in checks at each stage — reducing human error and enhancing transfusion safety.

Integrated Safety Verification



How SmartBank Works: A Seamless Traceable System

Africa faces a triple threat in its blood systems:

01



DONOR REGISTRATION & SCREENING

Donors are enrolled using biometric and demographic data, then screened for eligibility through vital checks and risk assessments. Once cleared, blood is safely drawn and logged into the SmartBank system as the first point of traceability.

02



ADVANCED BLOOD SCREENING

Collected blood undergoes rigorous screening using state-of-the-art diagnostics to detect infections and verify blood type. This ensures that only safe, compatible blood proceeds further.

03



SMARTBAG TAGGING

Every screened unit is sealed and tagged with a blockchain-enabled SmartBag QR code — embedding a unique digital identity that follows the unit throughout its lifecycle, ensuring full transparency and tamper-proof traceability.

04



COLD CHAIN INTELLIGENCE

Tagged blood units are stored in temperature-monitored conditions to preserve safety and potency. When requested by hospitals or care centers, SmartBank coordinates secure dispatch with real-time digital tracking — ensuring every unit arrives intact, verified, and on time.

05



SAFE TRANSFUSION VERIFICATION

When blood is requested, SmartBank coordinates dispatch with digital tracking. Real-time data ensures that delivery is monitored and verified — no lost or delayed units, no guesswork.



SmartBank Modules: One Technology, Many Possibilities

SmartBank comes in scalable containerized formats tailored to the needs and size of any community:

SmartCentre Mini

Best for:
Low-volume hospitals and remote communities

Screening Technology: Semi-automatic ELISA (Reader & Washer)

Quarterly Capacity: ~3,000 blood units

Includes: Basic lab setup, cold chain storage, workspace

Power: Solar hybrid with battery backup

Ideal Use Case: District clinics, mobile deployment



SmartCentre Midi

Best for:
Medium-volume facilities or state hospitals

Screening Technology: Fully automatic ELISA system

Quarterly Capacity: ~5,000–7,500 blood units

Includes: Full lab benching, digital records, solar + grid support

Power: Solar hybrid + grid fallback

Ideal Use Case: Urban health centers, state-owned hospitals



SmartCentre Plus

Best for:
Regional blood banks with large throughput.

Screening Technology: One ECL system with ELISA as backup

Quarterly Capacity: ~10,000 blood units

Includes: Multi-station lab, SmartBag tagging, dispatch area

Power: Solar hybrid + grid fallback

Ideal Use Case: Regional reference hospitals and blood hubs



SmartBank ECL

Best for:
Embedding into existing hospital labs

Screening Technology: Dual ECL-based systems (high throughput)

Quarterly Capacity: Flexible, dependent on facility volume

Includes: SmartSystem software, tagging kits, minimal infrastructure

Power: Plug-in adaptable

Ideal Use Case: Private labs, integrated health systems



One SmartCentre

Best for:
Centralized national or regional command centers

Screening Technology: NAAT (high precision) + ECL backup

Quarterly Capacity: 10,000+ blood units

Includes: High-capacity lab, SmartBag traceability, dispatch fleet

Power: Industrial solar + grid/deal

Use Case: National blood services, public-private partnerships



Powered by Partnership, Sustained by Community

SmartBank is deployed using a sustainable, community-first approach that ensures each facility becomes a lasting part of local health systems.

We manage operations while training local teams.

BUILD



LifeBank sets up the full system: infrastructure, tech, and supply chain.

TRANSFER



OPERATE

Ownership shifts to the host community or institution.



NIGERIA



KENYA



SIERRA LEONE



Together, We Can Bring **Safe Blood Systems** to Every Community

SmartBank is transforming blood safety in Nigeria, Kenya, and Sierra Leone, but millions more remain at risk. We're calling on visionary partners to help scale this life-saving innovation to every corner of Africa.

The need is real. The time is now!



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