



VPAY Genesis

The Physical Verification Infrastructure
for Global Gold

Securing the \$16 Trillion Real-World Asset Market
Through Hardware-Backed Cryptographic Proof.

Three Premiums VPAY Stacks

MOST INFRASTRUCTURE COMPANIES EARN ONE. OUR ARCHITECTURE EARNS ALL THREE.

PREMIUM I · DATA FLYWHEEL

The Silent Edge

19–38×

P/E RANGE · AMEX → MA

AMEX · SHELL T&S ·
BYTEDANCE · BITMAIN

Own the physical layer so you see flows nobody else sees — that data is the alpha. Shell Trading earns \$2–4B/yr because they own the wells.

VPAY EXPRESSION

GSU attestation telemetry → Ananse signal alpha.
Goldman trades gold on Bloomberg data. VPAY trades on physical-source telemetry no public market sees.

PREMIUM II · TOLL-ROAD

The Steady Skim

22–65×

P/E RANGE · BIP → NVDA

VISA · MASTERCARD ·
NVIDIA · BROOKFIELD

Own the rail every participant has to use. Don't pick winners; charge a toll on every transaction. Visa adds zero hard infra and grows 11%/yr because commerce grows.

VPAY EXPRESSION

\$SOV per-USD mint = a toll on every verified ounce.
VPAY revenue scales with global gold attestation volume — not with any one customer's success.

PREMIUM III · OPINIONATED STACK

The Owned Stack

25–50×

P/E RANGE · AAPL → TSLA

APPLE · TESLA · SPACEX
· SOLANA

Control every layer end-to-end so the experience is integrated and uncopyable. Solana is 10× faster than Ethereum because Labs + Firedancer + Helius + Jito coordinate.

VPAY EXPRESSION

GSU + Ananse + KommitBridge + Polygon stack + Genesis OS — every layer designed in-house. Zero third-party dependency from sensor to settlement.

Every commodity-infrastructure company earns one premium. VPAY's architecture is built to compound all three.

VPAY Genesis · Three premiums · One vertically integrated platform for the \$16T physical-gold market | "Recurring telemetry beats one-shot hardware 2.5×1 — Starlink already eclipsed SpaceX launch revenue."

The Great Convergence

Three structural forces creating a once-in-a-generation infrastructure moment.



Geopolitics

The Great Homecoming

68%

Central bank gold now stored domestically (up from 50% in 2020)

863t

Central bank gold purchases in 2025

2,437t

France repatriated from NY to Paris



Institutional RWA

The Unified Ledger

BIS Project Agora:

7 central banks + 43 private institutions building tokenized networks

LSEG:

24/7 on-chain settlement launched Sept 2025

BlackRock BUIDL:

\$2B+ tokenized treasury fund validating institutional appetite



Tokenization

The Trust Deficit

\$12B

Current RWA market attempting to digitize \$35T in physical gold

The core issue:

Tokenizing physical reality using paper promises

Three forces converging — and no infrastructure exists to bridge the physical-digital gap.

The Market Integrity Crisis: 40 Years of Grift

From Marc Rich to prediction markets — the verification gap has been exploited at every level.

1983



Marc Rich Era

\$10B

commodities scam

Reclassified metals mid-transit, traded Iranian oil under embargo. 65-count indictment. No physical verification existed to stop it.

2025



Social Media Era

\$2T

wiped by a single post

"THIS IS A GREAT TIME TO BUY!!!" posted 4hrs before tariff pause. Dow surged 3,000 pts. No charges. No accountability. No enforcement.

2025-26



Insider Strike Era

93%

bet accuracy on strikes

Polymarket traders predicted unannounced military strikes hours before they happened. \$1.2M profit. Oil futures moved \$500M in 60 seconds.

2026



Tariff Chaos Era

\$200B+

in illegal tariffs collected

Supreme Court rules 6-3 tariffs were unconstitutional (IEEPA). 39% tariff on Swiss gold bars pushed gold past \$5,500/oz. Refunds still unresolved.

The manipulation isn't new — it's been happening for 40 years. What's new is that the technology now exists to stop it.

The Fatal Flaw of RWA: Trust vs. Proof

Current gold tokenization relies on paper attestations. VPAY replaces trust with physics.

The Paper Disconnect

Current leaders (\$2.5B Tether Gold, \$1.7B PAXG) tokenize claims on gold verified in the past.

- ✘ Periodic third-party vault audits
- ✘ Trust-based verification model
- ✘ No real-time purity confirmation
- ✘ Quarterly PDF attestations

VPAY Genesis

VPAY tokenizes the physics of the gold in the present — verified at point of custody.

- ✔ Real-time XRF purity readings
- ✔ Proof-based cryptographic signatures
- ✔ 24/7 verifiable physics
- ✔ Continuous blockchain attestation

Infrastructure must evolve from trust to physical proof.

The World Gold Council Mandate

Gold as a Service — three pillars demanding hardware verification.



*"Ensure each token accurately represents a **specific quantity** of physical gold."*

— The Standard (March 2026)



Pillar 1: Continuous Audits

Demands ongoing proof-of-reserves, not periodic snapshots.



Pillar 2: Shared Infrastructure

Requires standardized custody and issuance platforms.



Pillar 3: Mining Companies

A periodic PDF cannot fulfill this mandate. Only point-of-custody hardware verification can.

The world's gold standard-setters are demanding what VPAY Genesis is building.

The Missing Link: The Gold Shield Unit

Purpose-built hardware. Non-destructive purity analysis. One truth.



Integrated XRF Sensor

Industrial XRF tube + SDD detector.
Determines exact atomic purity
in real-time (Au $L\alpha$ = 9.711 keV).
0.1% accuracy, 30-120s scan.
Non-destructive analysis.



Tamper-Proof GPS & Data

Multi-GNSS receiver (1.5m accuracy)
locks spatial and temporal reality
via immutable time-stamping.
Hardware secure element for
key protection at silicon level.



Cryptographic Signer

ECDSA secp256k1 signing within
tamper-resistant secure-element
enclave. Writes immutable, zero-
trust attestation directly to
Polygon PoS. No human gate.

No GSU ships until XRF integration is fully confirmed, tested, and verified.

Vault-Integrated Three-Tier Architecture

One core module. Three vault enclosures. Mine to reserve.



Common Core Module

250 × 200 × 80mm | 1.8 kg | CNC Aluminum 6061-T6 | IP67 | Ceiling-mounted in all tiers



Tier 1: Field

\$6K-10K

Aggregators & Mine Sites

600 × 400 × 400mm
6mm steel + lead lining
Manual drawer intake
2x strain gauge load cells
Tablet control interface
LiFePO4 backup (30 min)



Tier 2: Processing

\$12K-18K

Refineries & Processors

800 × 600 × 600mm
8mm steel + radiation shield
Motorized drawer + auto-lock
Precision load cells (0.01g)
Tablet + desktop dashboard
Battery backup (60 min)



Tier 3: Institutional

\$25K-40K

Banks & Reserves

1000 × 800 × 800mm
10mm steel + biometric lock
Motorized drawer + multi-sample
Redundant load cells + calib.
Full fleet management console
Dual battery + UPS integration

Same core hardware across all tiers — differentiated by vault enclosure, intake mechanism, and interface.

Core Module: Component Architecture

Every sensor, processor, and communication module mapped.



XRF Sensor

Industrial XRF tube + SDD detector
5–50 kV, 125 eV FWHM
Au L α 9.711 keV detection
Non-destructive, lab-grade



GPS Module

Multi-GNSS receiver
1.5 m accuracy, 4-system
GPS / GAL / BDS / GLO
Anti-spoofing enabled



Processing Core

ARM Cortex-M7 MCU
600 MHz, real-time DSP
1 MB SRAM, 32 GB eMMC
Industrial-grade microcontroller



Communications

LTE Cat-4 modem
BLE 5.0 + WiFi co-processor
Dual SMA antenna ports
Fallback: 2G / 3G / Cat-M1



Crypto Engine

Hardware Secure Element
ECDSA secp256k1 signing
Tamper-resistant enclave
Polygon tx signing native



Display & I/O

0.96" OLED status display
3 \times status LEDs (PWR/NET/XRF)
USB-C + Ethernet + 12V DC
BLE pairing for tablet UI

Gold Intake: Drawer System & Weighing

Weigh first, then scan. Fixed XRF geometry. Zero radiation exposure.

Measurement Sequence

1

DRAWER OPEN

Operator places gold sample on lead-lined tray. Supports bars, nuggets, dust, and jewelry.

2

WEIGH

Drawer closes. 2x strain gauge load cells in rails measure mass. $\pm 0.1\text{g}$ accuracy (T1) / $\pm 0.01\text{g}$ (T2+).

3

XRF SCAN

GSU fires X-rays downward through beryllium window onto sample. 30–120s analysis.

4

ATTEST

Purity + weight + GPS + timestamp signed in hardware enclave, written to Polygon. \$SOV minted.



Load Cells in Drawer Rails

2x strain gauge sensors connected to MCU ADC via 10-pin FFC ribbon cable along vault wall.



Beryllium Window

XRF fires downward from ceiling-mounted module. Fixed geometry ensures repeatable results.



Interlock Safety

Drawer must be fully closed before XRF can fire. Hardware interlock — not software only.



Lead-Lined Tray

1.5mm Pb shielding in drawer walls and base. Zero operator radiation exposure during scan.

FFC ribbon cable: 10-pin flat flexible cable carries load cell signal, interlock status, and drawer motor control.

Complete Vertical Integration: The Stack

From Sensor to Settlement. One Team. One Truth.



Layer 5:

Dashboard

React 19 / TypeScript real-time analytics and fleet management.



Layer 4:

AI Engine

Ananse — 14-condition signal intelligence for gold markets.



Layer 3:

Blockchain

\$SOV (ERC-20, Polygon) contract for physics-gated token minting.



Layer 2:

Firmware

Verification logic, crypto signing, secure boot, tamper detection.



Layer 1:

Hardware

GSU with integrated XRF, GPS, cellular, and tamper-proofing.



VPAY Genesis

The world's first
verified standalone
RWA infrastructure.

From Sensor to
Settlement.
One Team.
One Truth.

Full vertical ownership — no third-party dependency at any layer.

Regulatory Readiness: The Gold Shield Framework

Compliance is not a feature — it is the foundation.



Ring 1: AML/CFT & OFAC

Anti-money laundering, counter-terrorism, and real-time sanctions screening integrated at the hardware level.



Ring 2: KYC

Know Your Customer verification at point of custody — not retroactive. Identity locked to every attestation.



Ring 3: FATF Travel Rule

Full provenance data travels with every attestation. Origin, custody chain, and beneficial ownership embedded.



Ring 4: MiCA & Article 114

Designed for full EU MiCA compliance (July 2026 deadline) and Ghana Gold Board regulatory frameworks.

Every GSU attestation is born compliant. Exchanges and custodians inherit compliance, not liability.

Live Data Flow: Anatomy of a GSU Attestation

Every token is born from a verified physics event. No verification, no token.

```
secure data terminal
```

```
XRF PURITY:      99.72% Au | Karat: 23.93K
WEIGHT:          107.633g | Tolerance: ±0.002g
GPS LOCK:        5.60°N, 0.19°W | Accuracy: 2.1m
TIMESTAMP:       2026-04-10T14:32Z | Block: 78,204,331
COMPLIANCE:      KYC: VERIFIED | AML: CLEAR | OFAC: CLEAR
BLOCKCHAIN:      Polygon PoS | Tx: 0x7a3f...b9c2e41d
STATUS:          CONFIRMED
```

XRF
Scan



GPS
Lock



KYC
Check



AML/
OFAC



Chain
Write



\$SOV
Mint

Attestation Payload (on-chain):

```
{ purity, weight, gps_lat, gps_lon,
  timestamp, device_id, kyc_hash,
  compliance_flags, sig_r, sig_s }
```

Every token is born from a verified physics event. No verification, no token.

\$SOV Asset: Live on Polygon Mainnet

Deployed and verified. Supply is physically constrained by real-world gold verification.

Token Specifications

Standard:	ERC-20
Network:	Polygon PoS (Chain ID: 137)
Contract:	0x5833...e0EC0
Genesis Peg:	0.0254g XAU / token (~\$1)
Backing:	1:1 physically verified gold
Supply:	Gated by GSU verification
Minting:	AttestationBridge only
Admin:	2-of-3 Gnosis Safe
Status:	LIVE + ADMIN-MIGRATED (Apr 20 2026)

Why \$SOV Is Different



Physics-Gated Supply

No gold verification = no token.
AttestationBridge enforces this on-chain. Supply cannot be inflated.



On-Chain Proof Pipeline

GSU → SovereignNode attestation
→ AttestationBridge → \$SOV mint.
Every token has a physics receipt.



Compliance-Native

Every token inherits the GSU's full compliance stack (AML/KYC/OFAC/MiCA) at creation.



7-Contract Security Stack

\$SOV, Bridge, Node, Breaker, Rewards, Vault, GuardianBond — all live, verified, admin on Safe.

\$SOV contract: 0x5833ABF0Ecf61e85682F3720BA4d636084e0eC0 — verified on Polygonscan.

Live Infrastructure: Polygon Mainnet

Seven contracts deployed, verified, and admin-migrated to a 2-of-3 Safe. Deployer holds zero admin rights.

Deployed Contract Stack — April 20, 2026

CircuitBreaker `0xeaef...47d4`
Emergency pause (global + per-node)

SovereignNode `0x85fd...2fe1`
GSU attestation registration

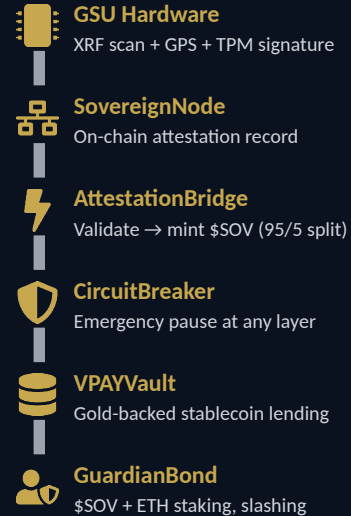
MinerRewards `0xfcb7...db19`
Node operator incentives

AttestationBridge `0x0ba2...8b0a`
Physics → token mint gate

VPAYVault `0x8e0c...7165`
Gold-collateralized lending

GuardianBond `0x180a...2ff1`
Guardian accountability bonds

Architecture Flow



All 7 contracts verified on Polygonscan. Admin = 2-of-3 Safe 0xFc93...8A67. Deployer admin rights: 0.

The Value Chain: From Physics to Ledger

Verified at every step, compliant by design.



From raw ore to institutional-grade digital asset — verified at every step, compliant by design.

Ananse v2.1: Multi-Layer Intelligence Engine

14-condition signals + physical flow analysis + sovereign premium — institutional-grade gold intelligence.

Intelligence Layers

Layer 1: Technical

14-condition engine — EMA, RSI, Multi-TF, DXY, COT, Fear & Greed

Layer 2: Physical Flows

Asase Yaa: GLD/IAU ETF creation-redemption, futures term structure, gold-silver ratio z-score

Layer 3: Sovereign Signal

Ghana Gold Premium — PMMC buying price vs LBMA spot. Proprietary signal unique to VPAY network.

Layer 4: Strategic Response

Kyerema news engine broadcasts to all council members. Retuning BEFORE Anokye consensus decision.

What Ananse Powers



Verification Timing

Advises when gold market conditions favor verification and \$SOV minting windows.



Risk Assessment

Fraud detection, anomaly scoring, and drawdown circuit breakers across the GSU fleet.



Physical Flow Intel

Asase Yaa detects supply/demand imbalances invisible to price-only analysis. ETF + futures data.



SaaS Analytics

Licensed dashboard for refineries, exchanges, and institutional clients. Real-time API access.

Ananse v2.1 — 4 intelligence layers, 10 AI modules, real-time physical flow analysis. Running live.

NANANOM Council v2.1: Multi-Agent AI Architecture

3 tiers, 10 specialised modules, 1 orchestrator. Every decision is auditable, explainable, and consensus-driven.

FOUNDATION TIER

Lifecycle

Trade-state — Open-to-close ledger

Canopy

Macro context — DXY · yields · regime

Probability

EV math — Win% · Kelly · sizing

COUNCIL TIER

Bosompra	Sentiment	Fear index, panic detection, regime gate
Ananse	Signals	14-condition engine, multi-TF alignment
Nyankonton	Forecasting	Price targets (4h/24h/1w), confidence
Adwene	Strategy	Risk-weighted conviction, position sizing
Asase Yaa	Phys. Flows	ETF flows, futures structure, gold-silver
Tigare	Health	Data freshness, upstream staleness checks
Fontomfron	Alerts	Divergence, volatility spikes, calendar

LAYER 2 — KYEREMA STRATEGIC RESPONSE

News impact analysis broadcasts bulletins (MODERATE/HIGH/CRITICAL) to 5 subscribing council members. Each member retunes parameters BEFORE Anokye reads consensus. Pre-decision intelligence, not post-hoc.



Okomfo Anokye

The Orchestrator

Polls all 10 modules per tick.

Layer 2 retuning applied.

One verdict: TRADE / CAUTION / HOLD / RETREAT / EMERGENCY

Why It Matters

- ✓ Single consensus gate — no conflicting signals reach action
- ✓ Graceful degradation — if any module fails, consensus holds
- ✓ Full audit trail — every verdict logged with module-level context
- ✓ Asase Yaa amplifier — physical flow confirmation boosts conviction
- ✓ Layer 2 retuning — news impacts

NANANOM Council v2.1 — 10 AI modules across 3 tiers + Layer 2 strategic response. Running live on VPAY infrastructure.

Competitive Diagnostic: Physics vs. Paper

VPAY is the only system combining XRF physics, GPS attestation, compliance, and blockchain write in a single device.

	Hardware Verification	Real-Time Purity	On-Chain Attestation	Integrated Compliance	AI Market Intelligence
Tether Gold (\$2.5B)	✗	✗	✓	✗	✗
PAXG (\$1.7B)	✗	✗	✓	✓	✗
Aurus / Cache Gold	✗	✗	✓	✗	✗
Kinesis	✗	✗	✓	✗	✗
Minexx	✗	✗	✓	✗	✗
VPAY Genesis	✓	✓	✓	✓	✓

VPAY is the only system combining XRF physics, GPS attestation, compliance, AI intelligence, and blockchain write.

The Strategic Beachhead: Ghana & West Africa

Not where the story ends — where it begins. Building from Accra.

#1

Africa's largest
gold producer

#6

Global gold
production ranking

35-
40%

Of Ghana gold supply
outside large-scale concessions —
addressable via verification

MILESTONE 1

Article 114 Framework

Ghana Gold Board provides clear
legal framework for gold technology.

MILESTONE 2

GoldBod Integration

Sole national gold export authority —
blockchain integration by end 2026.

MILESTONE 3

Minexx Validation

Operating blockchain traceability
locally — validating market demand.

MILESTONE 4

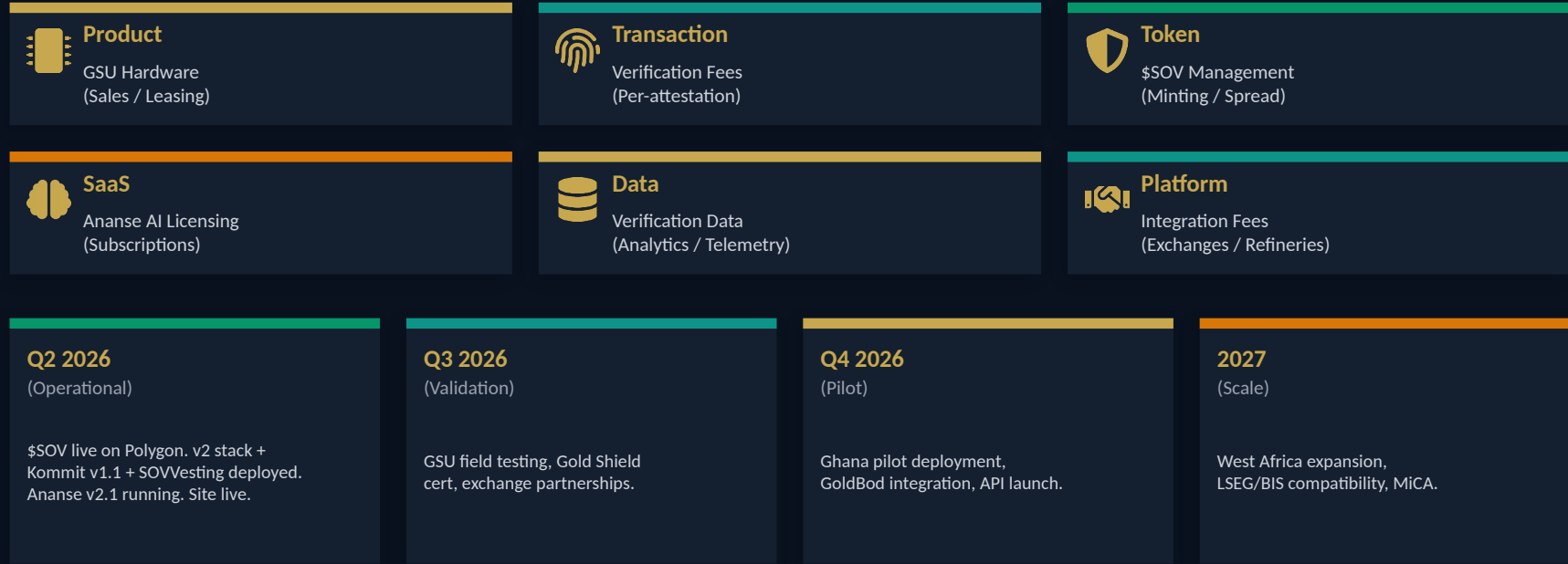
West Africa Gateway

Access to Burkina Faso, Mali,
Guinea, and Ivory Coast.

Ghana first → West Africa → Global. Article 114 provides the regulatory on-ramp.

Revenue Architecture & Execution Roadmap

Six revenue streams anchored by hardware sales and per-attestation fees.



Primary revenue: hardware + per-attestation fees. Token economics and SaaS scale with network growth.

Unit Economics

Hardware BOM, manufacturing strategy, and margin structure are available under NDA.



CONFIDENTIAL

Component pricing, tier-by-tier BOM, and supply-chain strategy are released only under signed NDA.

What we can share publicly:

- Hardware sales price by tier (Tier 1-3, slide 6)
- Six revenue streams (slide 17)
- Quarterly execution roadmap (slide 17)
- Polygon contract verification (slide 13)

Request the full diligence deck → Ano@ecoventafrika.com · ecoventafrika.com/contact

The Team Behind the Shield

Building from Accra. Engineering from the source.



Ano Yoofi Agyei

Founder / CEO

Vision, strategy, hardware design, AI development, and gold industry relationships. Based in Accra.



Ibilola Macaulay

Chief Compliance Officer

Regulatory strategy, AML/KYC framework, MiCA preparation, and OFAC compliance architecture. Contract active — April 2026.



Ano Yoofi Agyei

CTO (Interim)

Hardware architecture, firmware, blockchain integration. Role to be filled as team scales.



Ano Yoofi Agyei

Head of AI (Interim)

Ananse engine, signal intelligence, data analytics platform. Role to be filled as team scales.

Advisory Board: Appointments in regulatory, mining, blockchain, and institutional finance — to be announced.

Lean founding team. Key hires to be made with seed funding. Advisory appointments in progress.

The Convergence Point

BIS Unified Ledger

WGC Gold as a Service

VPAY Genesis
Real-Time Physical
Verification

LSEG Blockchain Settlement

BRICS+ Gold Settlement

None of these institutions want another paper wrapper. They require a physical sensor writing cryptographic attestations directly to a blockchain.

The world is moving \$16 trillion in gold onto blockchains. Who verifies the physics?



VPAY Genesis

From Sensor to Settlement. One Truth.

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Accra, Ghana

Let's Build the Infrastructure

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