Oureum Network & Oureum Gold (OUMG) Whitepaper: The Compliant, Gold-Backed Ecosystem

Abstract: This document outlines the architecture, purpose, and operational framework of the Oureum Network, a native blockchain platform, and its native stablecoin, Oureum Gold (OUMG). Oureum is engineered from the ground up to integrate regulatory compliance and Anti-Money Laundering (AML) protocols directly into its core layer, providing a secure, transparent, and institutionally viable ecosystem. The network is powered by its native gas fee token, OUREUM, and stabilized by OUMG, a fully gold-backed and redeemable stablecoin.

1. Introduction: The Need for Regulatory-Aligned Blockchain

The blockchain industry faces a significant adoption barrier: the perceived conflict between decentralization and regulatory requirements. Institutions, governments, and large enterprises require transparency, auditability, and compliance with global financial laws to participate fully.

Oureum addresses this gap directly. We are not just another blockchain; we are a **Compliance-First Layer 2 Protocol** that seamlessly integrates necessary regulatory safeguards without sacrificing the core benefits of blockchain technology: security, transparency, and efficiency.

2. The Oureum Network (Layer 2)

2.1. Native Token: OUREUM

- **Function:** OUREUM is the native utility token that powers the network. It is used to:
 - o Pay for transaction fees (gas).
 - Stake for network security via a Proof-of-Stake (PoS) consensus mechanism.
 - Govern the network through on-chain voting proposals.

2.2. Core Architecture & Consensus: Proof-of-Stake (PoS)

Oureum utilizes a PoS consensus for energy efficiency and to allow token holders to participate in network security. Validators are required to stake OUREUM tokens to validate transactions and create new blocks.

2.3. The Compliance Layer: Integrated AML-A Technology

This is Oureum's unique technological breakthrough. The compliance layer is a modular, on-chain suite of protocols that interact with validated data sources.

• Identity Verification Module (IVM): Allows for optional, secure, and privacy-preserving KYC (Know Your Customer) verification. Users can obtain a verifiable credential that

allows them to interact with compliant dApps without repeatedly submitting personal data.

- Transaction Monitoring & Analysis: Every transaction is screened against customizable risk rules and watchlists (e.g., OFAC, global sanctions lists). Suspicious transactions can be flagged for review by authorized entities.
- **Privacy-Centric Design:** The system is designed to minimize data exposure. Personal data is not stored on the public ledger; only zero-knowledge proofs or hashed attestations are used where necessary to prove compliance status without revealing underlying data.
- **Regulator Dashboard:** A secure portal provides authorized regulators with a tailored view of network activity, enabling efficient oversight and audit capabilities.

3. Oureum Gold (OUMG): The Gold-Backed Stablecoin

3.1. Mechanism

Oureum Gold (OUMG) is a stablecoin pegged 1:1 to one gram of physical gold.

- Backing: Each OUMG token in circulation is backed by one gram of LBMA (London Bullion Market Association) standard gold, held in audited, insured, and secure vaults across multiple reputable jurisdictions.
- **Transparency:** Proof-of-reserves will be provided through monthly attestations from audit firms and real-time, cryptographically verifiable on-chain proofs.
- **Redemption:** Verified and KYC'd users can redeem OUMG tokens for the underlying physical gold (in large, standardized bars) or for fiat currency equivalent at the prevailing spot price, subject to redemption procedures and fees.

3.2. Use Cases

- **Store of Value:** A stable, inflation-resistant digital asset backed by the oldest proven store of value.
- **Cross-Border Settlement:** Enables fast and cheap settlement of gold value across borders.
- DeFi and Institutional Finance: Provides a compliant, non-volatile asset for lending, borrowing, and collateralization within the Oureum ecosystem and beyond.
- **Treasury Management:** For corporations and DAOs looking to diversify reserves into gold efficiently.

4. Comparative Analysis: Unique Selling Propositions (USPs)

| | Oreum Network & | Ethereum (ETH) & | Algorand (ALGO) | Oureum's USP |
|-----------------------|--|-----------------------------------|--|--|
| Feature | OUMG | Tether Gold (XAUt) | & USDC | |
| Primary Focus | Regulatory Compliance & Gold | Smart Contract Platform & Gold | Efficiency & Digital Dollars | Built for institutional adoption with compliance at the core. |
| Gas Fee token | OUREUM | ETH | ALGO | Gas fees fund a compliant ecosystem, not just security. |
| Stablecoin backing | Physical Gold (1:1) | Physical Gold (1:1) | Fiat Currency (1:1) | Backed by a timeless, non-sovereign asset with intrinsic value. |
| Compliance | Native, On-Chain AML/KYC Layer | Off-chain, handled by issuers | Off-chain, handled by issuers (e.g., Circle) | Compliance is protocol-level, not an afterthought. Reduces risk for all dApps built on it. |
| Identity | Optional Verifiable Credentials (IVM) | None (Fully Pseudonymous) | None (Fully Pseudonymous) | User-centric choice: access compliant dApps or remain pseudonymous on non-compliant ones. |
| Transparency | On-Chain Proof of Reserve + Audit | Regular Audits | Regular Audits | Real-time, verifiable on-chain proof of gold reserves combined with traditional audits |
| Target Audience | Banks, Institutions, Governments, Compliance DeFi | General Crypto, DeFi | General Crypto, CBDC Research | Explicitly targets the gap between traditional finance and blockchain. |

Oureum Gold vs. Other Gold-backed Stablecoins

| Feature | Oureum Gold (OUMG) | Tether Gold (XAUT) | PAX Gold (PAXG) | Digix Gold (DGX) |
|----------------|-----------------------|-----------------------|-------------------|------------------|
| Peg | 1g Gold | 1 Troy Ounce Gold | 1 Troy Ounce Gold | 1g Gold |
| Redemption | Fiat (any | Physical gold (min | Physical gold | Physical gold |
| Options | amount) / | redemption) | (London vaults) | (Singapore) |
| | Physical gold | | | |
| | bar (50g+) | | | |
| Custody | Malaysia Vaults | Swiss Vaults | London Vaults | Singapore Vaults |
| Fees | Zero storage | Custody & | Custody & | Transaction & |
| | fees | redemption fees | redemption fees | demurrage fees |
| Local Presence | First in Malaysia | Global | US-based | Asia (Singapore) |
| Regulator | Licensed | Limited | New York DFS | Limited |
| Collaboration | Exchange in | | | |
| | Malaysia | | | |

5. Ecosystem and Governance

The Oureum ecosystem will be governed by a decentralized autonomous organization (Oureum DAO). OUREUM token stakers will vote on key decisions:

- Network parameter upgrades.
- Treasury management (funded by a portion of gas fees).
- Approval of new compliance rule sets.
- Selection of audit firms and vault custodians for OUMG.

6. Roadmap

- Phase 1: Foundation (Q4 2025)
 - Oureum Testnet launch with core compliance modules.
 - Smart contract functionality.
 - o Partner with initial vault custodian and auditor for OGA.
- Phase 2: Growth (Q1 2026)
 - OUREUM token distribution event.
 - Deployment of OUMG stablecoin on Oureum Mainnet.
 - Onboard first institutional partners.
- Phase 3: Expansion (Q2 2026 onwards)
 - Launch of Regulator Dashboard.

- Mainnet launch
- Interoperability bridges to other major networks (e.g., Ethereum, Polygon, Cosmos).
- Grants program to foster development of compliant dApps (KYC'd DeFi, real-world asset tokenization).

7. Legal and Regulatory Considerations

The Oureum Foundation will work proactively with regulators across key jurisdictions to ensure the network's design meets evolving global standards for AML/CFT (Combating the Financing of Terrorism). Legal frameworks for the custodianship of gold will be paramount and will be established in full compliance with local laws.

8. Team (To Be Announced)

The project will be developed by a foundation comprising experts in blockchain technology, cryptography, finance, compliance law, and precious metals trading.

9. Conclusion

Oureum provides a missing piece of critical infrastructure for the future of finance. By building compliance into the protocol layer and pairing it with a robust, gold-backed stablecoin, Oureum creates a trusted on-chain environment where traditional finance and decentralized innovation can finally converge. We are building not just a blockchain, but the foundation for the next era of compliant, global, digital asset exchange.

Oureum Network & Oureum Gold (OUMG) — Whitepaper - Full Spec

1. Abstract

Oureum Network is a next-generation blockchain ecosystem purpose-built to bridge the gap between decentralized technology and regulated financial markets. Unlike traditional public blockchains that rely on off-chain intermediaries for compliance, Oureum integrates regulatory controls, Anti-Money Laundering (AML) safeguards, and institutional oversight directly at the protocol layer.

The network is powered by **OUREUM**, its native utility token for gas, staking, and governance. Complementing this is **Oureum Gold (OUMG)**, a gold-backed stablecoin pegged 1:1 to physical grams of LBMA-standard gold, securely stored in audited vaults. OUMG is transparently redeemable in both fiat and physical gold, delivering stability and trust to users.

By combining a **compliance-first infrastructure** with a **tangible**, **gold-backed digital currency**, Oureum establishes a secure and institutionally viable blockchain environment. This dual-layered design enables banks, enterprises, and governments to adopt blockchain confidently, while offering individuals and businesses a transparent, globally transferable, and inflation-resistant store of value.

2. Executive Summary

Problem: Adoption Gap

Despite blockchain's rapid innovation, mainstream financial institutions remain hesitant to adopt decentralized networks. The lack of **protocol-level compliance**, standardized **AML/KYC mechanisms**, and **auditable transparency** creates a fundamental adoption gap between public blockchains and regulated finance. As a result, banks, asset managers, and governments view most blockchain platforms as too risky or non-compliant for large-scale integration.

Solution: Oureum Network

Oureum addresses this challenge by building **compliance into the core protocol layer**. Unlike existing solutions that rely on external intermediaries, Oureum natively integrates:

- **OUREUM**: the gas, staking, and utility token that powers the network.
- Oureum Gold (OUMG): a stablecoin backed 1:1 by physical gold, with on-chain proof-of-reserves and redemption mechanisms.
- Compliance Layer: integrated AML/KYC modules, verifiable credentials, and transaction screening, ensuring institutional-grade oversight without sacrificing decentralization.

This dual-token and compliance-first design makes Oureum a secure, transparent, and institutionally viable ecosystem.

Why Now: Timing & Market Drivers

- Regulatory Clarity: Frameworks such as MiCA (EU) and upcoming ASEAN standards are creating clearer rules for tokenized assets and compliance.
- Tokenized RWAs (Real-World Assets): The tokenization of gold, treasuries, and commodities is emerging as the fastest-growing blockchain segment, projected to reach \$16 trillion by 2030.
- Southeast Asia Go-To-Market: With Malaysia and regional banks exploring gold-linked financial products, Oureum is positioned as the first compliance-native, gold-backed blockchain ecosystem in the region.

By combining **regulatory alignment**, **gold-backed stability**, **and institutional UX**, Oureum aims to bridge the divide between decentralized finance and traditional finance, enabling real-world adoption at scale.

Positioning & Design Principles 3.1 Positioning

Oureum is positioned as a compliance-native blockchain infrastructure purpose-built for regulated finance and real-world assets (RWAs). Unlike general-purpose blockchains that leave compliance, KYC, and AML processes to off-chain intermediaries, Oureum integrates these mechanisms directly at the protocol layer.

This positioning allows Oureum to serve three primary stakeholder groups:

- 1. Financial Institutions & Banks requiring regulatory clarity, auditability, and full control of compliance gates.
- 2. Enterprises & Governments seeking a blockchain environment aligned with national and international financial laws.
- 3. Individuals & Developers who benefit from a secure, transparent ecosystem where compliant products can be built and adopted at scale.

In essence, Oureum is not just "another chain," but a compliance-first financial infrastructure enabling tokenized assets (like OUMG) to achieve institutional trust and mainstream adoption.

3.2 Design Principles

Oureum is engineered based on the following principles:

1. Compliance by Design

- Compliance is not an add-on; it is embedded at the protocol level.
- Integrated modules handle KYC, AML, and jurisdictional rules, ensuring institutions can confidently operate on-chain.

2. Security First

- Consensus, bridges, custody, and oracles are designed with strict security guarantees.
- Multi-signature policies, validator slashing, and circuit breakers are integral to the protocol.

3. Interoperability

- Native bridges and cross-chain standards ensure seamless asset transfers across ecosystems (Ethereum, BSC, Polygon, etc.).
- Designed to integrate with CBDCs and tokenized deposits.

4. Auditable Transparency

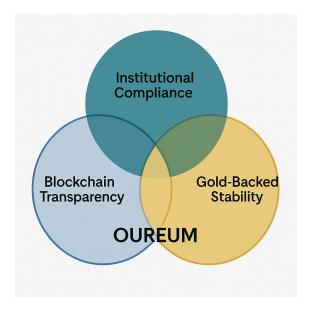
- All reserves (OUMG) are provable in real-time via on-chain proofs.
- Governance decisions, compliance rule updates, and treasury management are fully traceable on-chain.

5. Selective Permissioning ("Open where possible; restricted where required")

- General users can transact freely within the compliance framework.
- Specific transactions (e.g., high-value settlements, bank-issued assets) are subject to selective permissioning, balancing openness with institutional requirements.

6. User Privacy with Accountability

- Personally Identifiable Information (PII) is never stored on-chain.
- Zero-knowledge proofs and hashed attestations are used to prove compliance without disclosing private data.



4. System Overview

The Oureum ecosystem is designed as a **compliance-native financial infrastructure**, combining blockchain execution, regulatory oversight, and gold-backed stability. Its architecture consists of several interconnected components that enable secure asset issuance, transfer, and redemption.

4.1 Core Components

1. Oureum Network (Blockchain Layer)

- Base chain (currently PoA testnet, evolving into an Ethereum L2 with PoS).
- Provides EVM compatibility for dApps, wallets, and smart contracts.
- Settles transactions in the native gas token **OUREUM**.

2. Compliance Layer

- On-chain modules for KYC, AML, and sanctions list screening.
- Risk-based rules engine: configurable by institutions and regulators.
- Supports verifiable credentials and selective permissioning.

3. OUMG (Gold-Backed Stablecoin)

Each OUMG token = 1 gram of LBMA-standard physical gold.

- \circ Lifecycle: *Mint* when fiat/gold is deposited \rightarrow *Burn* when redeemed.
- Transparent reserve attestation via monthly audits and on-chain Proof-of-Reserve.

4. Custody & Attestations

- Multi-jurisdiction vault network for gold custody.
- Independent auditors verify reserves and publish on-chain proofs.
- o Insurance-backed custody agreements for risk management.

5. **Bridges & Interoperability**

- Canonical bridge to Ethereum, enabling OUMG to trade on DEXs.
- Wrapping mechanisms for cross-chain deployment (BSC, Polygon, Solana, etc.).
- Guardrails to maintain compliance across bridges.

6. Wallets & Applications

- User Wallets (MetaMask-compatible) store and transfer OUREUM and OUMG.
- **Redemption App** enables users to redeem OUMG for fiat or physical gold.
- Admin Console allows authorized institutions to configure compliance rules, monitor activity, and manage custody integrations.

7. Regulator Console

- A permissioned dashboard for regulators to view transactions, flagged risks, and Proof-of-Reserve attestations.
- o Provides audit trails and compliance visibility without breaching user privacy.

4.2 High-Level Data Flows

1. Minting Flow (Gold \rightarrow OUMG)

- The user deposits fiat or gold.
- Vault custodian confirms deposit.
- Smart contract mints equivalent OUMG tokens to the user wallet.

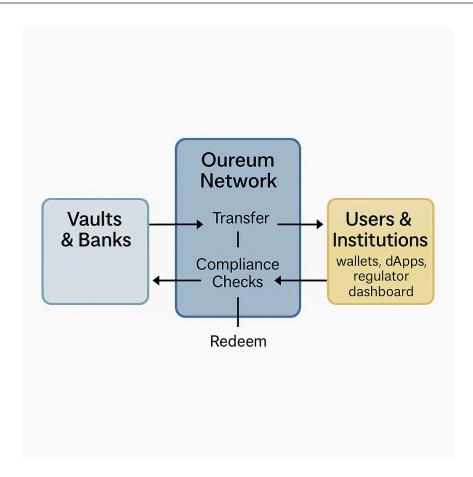
2. Transfer Flow (User \rightarrow User)

- User initiates OUMG transfer.
- Compliance Layer checks: wallet status, KYC, jurisdictional rules.

• If approved, the transaction executes on Oureum Network.

3. Redemption Flow (OUMG → Gold/Fiat)

- The user submits a redemption request.
- Tokens are burned on-chain.
- Vault custodian or banking partner releases fiat or physical gold.



5. Network Architecture

Oureum Network is designed with a **phased architecture roadmap** to balance fast prototyping with long-term institutional scalability. The technical foundation ensures compatibility with Ethereum, while progressively integrating compliance-first features at the protocol level.

5.1 Target Architecture: Layer-2 Rollup

- Long-term goal: Oureum will operate as an Ethereum Layer-2 (L2) to inherit Ethereum's security while offering lower fees and integrated compliance features.
- Candidate frameworks: Optimistic Rollup (OP Stack) or zkRollup.

Benefits:

- Ethereum-grade security.
- o Faster settlement finality with lower costs.
- Native bridges to Ethereum DeFi and institutional adoption.

5.2 Transitional Path: Proof-of-Authority → L2

1. Current Phase (PoA Testnet)

- Running on a Proof-of-Authority (Clique) consensus.
- Used for demos, pilots, and developer testing.
- Signers are controlled by the Oureum team.

2. Interim Phase (PoS Testnet)

- Migration to Proof-of-Stake consensus.
- Validators stake OUREUM tokens to participate in block production.
- Enables more decentralized participation while maintaining compliance controls.

3. Future Phase (Ethereum L2 Rollup)

- Transition to a rollup architecture.
- Data availability secured on Ethereum mainnet.
 Compliance checks remain embedded in the execution layer.

5.3 Execution Environment

• **EVM Compatibility:** All Ethereum smart contracts and tools (MetaMask, Remix, Hardhat) run natively.

• Gas Model:

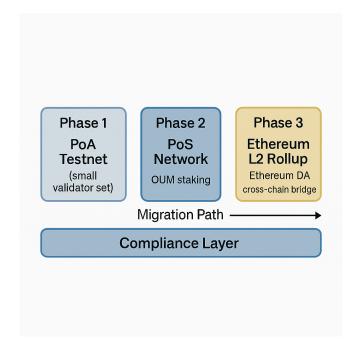
- Fees paid in OUREUM.
- o Configurable base gas price (currently 1 gwei testnet).

• Throughput & Latency Targets:

- TPS target: 1,000+ transactions per second (on L2).
- Block time: ~2s on testnet; ~12s on Ethereum settlement.

5.4 Data Availability Approach

- Phase 1 (PoA/PoS): On-chain data stored directly in Oureum nodes.
- Phase 2 (Rollup): Transaction data posted to Ethereum as calldata.
- Future Options:
 - Modular Data Availability (DA) solutions (Celestia, EigenDA).
 - Hybrid model: sensitive compliance proofs stored off-chain, hashed on-chain.



6. Consensus & Security

Oureum's consensus mechanism follows a **progressive path** aligned with its network evolution: starting with **Proof-of-Authority (PoA)** for controlled pilots, migrating to **Proof-of-Stake (PoS)** for decentralized validator participation, and eventually inheriting security directly from **Ethereum Layer-2 rollup architecture**.

6.1 Proof-of-Authority (PoA) – Testnet / Early Pilots

- Consensus Model: Clique-based PoA.
- **Block Producers:** Small set of pre-approved signers operated by the Oureum team.
- Use Case:
 - Rapid testnet iterations.
 - Demo environments for institutional partners.
- **Risks:** Centralization of trust; not suitable for open mainnet.

6.2 Proof-of-Stake (PoS) – Transitional Network

- **Consensus Model:** Validators stake **OUREUM tokens** to participate in block production.
- Validator Set:
 - Entry requires a staking threshold (e.g., 32,000 OUREUM).
 - Validators subject to slashing for misbehavior (double-signing, downtime).
- **Governance Control:** DAO manages validator onboarding/offboarding.
- Benefits:
 - Increased decentralization.
 - Aligns incentives between network health and token holders.

6.3 Rollup Security – Final Mainnet (Ethereum L2)

- **Execution:** Transactions executed on Oureum L2 nodes.
- **Settlement:** Transaction data posted to Ethereum for dispute resolution.
- Fraud/Validity Proofs:
 - Optimistic Rollup path: 7-day dispute window.
 - o zkRollup path: zero-knowledge proofs ensure instant finality.
- Outcome: Oureum inherits Ethereum-grade security while maintaining its compliance layer.

6.4 Threat Model & Mitigations

Consensus Risks:

PoA: Signer collusion → mitigated by multisig control and audit trails.
 PoS: Sybil attacks → mitigated by high staking threshold + slashing.

Bridge Risks:

 Exploits in cross-chain contracts → mitigated by audited contracts and circuit breakers.

Custody Risks:

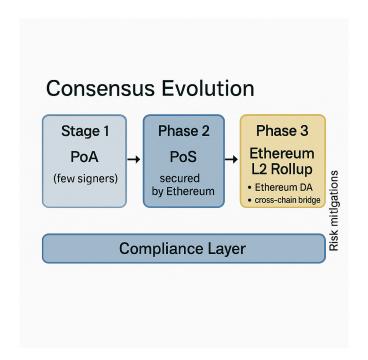
○ Vault insolvency → mitigated by multi-vault redundancy + insurance.

Compliance Risks:

 ○ Circumvention of AML/KYC → mitigated by on-chain transfer rules + verifiable credentials.

6.5 Monitoring & Incident Response

- On-chain Monitoring: Automatic detection of abnormal validator behavior.
- **Incident Response:** Emergency pause mechanism (DAO/multi-sig) with strict time limits.
- **Transparency:** All governance and incident actions recorded on-chain.



7. Compliance Layer (Protocol-Level)

Unlike most blockchains that outsource compliance to centralized custodians or off-chain service providers, **Oureum integrates compliance directly into the protocol layer**. This makes Oureum the first compliance-native blockchain that financial institutions, regulators, and governments can adopt without fear of regulatory gaps.

7.1 Identity & Access Management (IAM)

Verifiable Credentials (VCs):

- Users undergo KYC once with an accredited provider.
- Receive a zero-knowledge verifiable credential (e.g., DID-based) stored off-chain.
- Wallets present proof of KYC status without exposing sensitive data.

Wallet Binding:

- Each Oureum-compatible wallet may be tagged as "compliant" (KYC'd) or "non-compliant."
- Smart contracts can enforce interaction only with compliant wallets when required.

Selective Access:

- Retail dApps may allow pseudonymous users.
- Institutional dApps (DeFi, RWA) require verifiable credentials.

7.2 Transfer Rules Engine

Rule Framework:

- Jurisdictional rules (e.g., Malaysia, EU, US compliance standards).
- Sanctions lists (OFAC, UN, FATF) automatically updated via oracles.
- Risk-based transaction scoring (velocity, amount, counterparty patterns).

• On-Chain Enforcement:

- Transfers can be approved, delayed, or denied based on compliance logic.
- \circ Example: Attempted transfer from blacklisted wallet \rightarrow blocked at protocol level.

Configurable Policy:

Admins can update compliance rule sets via DAO governance.

Transparent and auditable on-chain changes.

7.3 Privacy & Auditability

Zero-Knowledge Proofs (ZKPs):

- Prove compliance without revealing personal details.
- Example: Wallet can prove "is not on sanctions list" without disclosing full KYC data.

Encrypted Attestations:

- Regulators/auditors can request access to encrypted compliance logs.
- Only designated authorities can decrypt, ensuring user privacy.

Audit Trail:

- Every compliance check is logged on-chain (hash reference).
- Enables forensic investigation without violating privacy.

7.4 Compliance Governance

• Roles & Responsibilities:

- Compliance Admins: Set rule parameters (jurisdictional updates).
- Vault Admins: Ensure OUMG mint/burn aligns with custody reserves.
- Oracle Admins: Manage compliance oracles (KYC providers, sanction feeds).

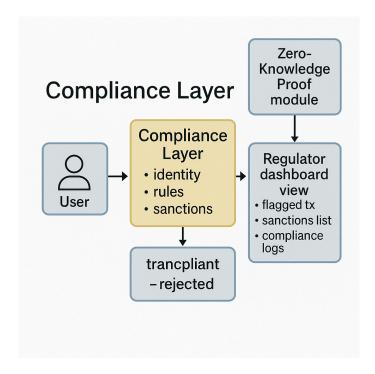
DAO Oversight:

- Compliance rule updates require governance approval.
- Prevents unilateral control by single entities.

Emergency Controls:

• Ability to pause suspicious wallet addresses or asset classes.

• Multi-sig authorization + time-boxed (auto-expire after e.g. 48h).



8. Oureum Gold (OUMG) Design

Oureum Gold (**OUMG**) is the flagship **gold-backed stablecoin** of the Oureum ecosystem, designed as a compliant, transparent, and redeemable digital representation of physical gold.

8.1 Peg Mechanism

- 1 OUMG = 1 gram of LBMA-standard gold.
- Vaulted gold bars are broken down conceptually into gram-based units.
- Conversion between troy ounces (as priced globally) and grams is automated by oracles.
- Peg maintenance:
 - Mint only when physical gold is deposited or fiat equivalent received.
 - Burn when redeemed for physical gold or fiat.

8.2 Mint & Burn Lifecycle

• Minting Process:

- 1. KYC'd users deposit fiat (MYR, USD) or request gold purchase.
- 2. Vault partner confirms allocated gold weight.
- 3. Smart contract mints equivalent OUMG tokens.

Burning Process:

- 1. User initiates a redemption request (cash-out or gold redemption).
- 2. Tokens are sent to burn contracts.
- 3. Vault partner releases fiat or physical gold.

This ensures circulating supply = audited vault reserves at all times.

8.3 Pricing Oracles

- Primary Pricing Source:
 - o BNM (Bank Negara Malaysia) daily gold reference price (per oz).
- Conversion:
 - \circ The system converts the price per ounce \rightarrow per gram.
- Fallback Oracles:
 - LBMA gold price feeds, Chainlink oracles.

Deviation Guards:

• If oracle data deviates beyond ±1%, transactions are paused for review.

8.4 Fee Structure

Network Fees (Gas):

- o Paid in OUREUM, not OUMG.
- Keeps compliance and network ops sustainable.

Transaction Fees:

• Buy/sell spread (e.g., 0.2~0.5%) to cover custody + operations.

Redemption Fees:

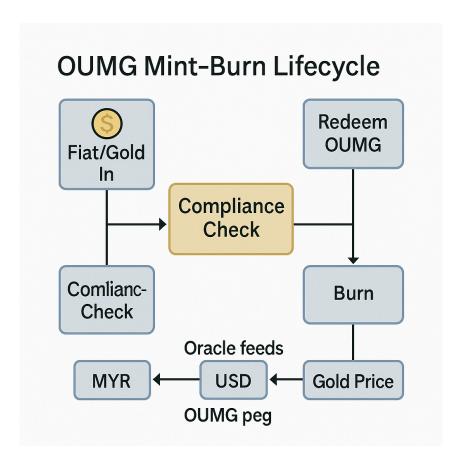
- o Fiat redemption: nominal service fee.
- Physical gold redemption: vault handling + logistics fee/offline store from designated partners.

Transparency:

• All fees published on official portal + encoded into smart contract.

8.5 Use Cases

- Store of Value: Digital gold with full transparency, no storage fees.
- Cross-Border Settlement: Move gold value internationally in seconds.
- Compliant DeFi Collateral: Use OUMG in lending/borrowing protocols.
- **Corporate Treasury:** Diversify reserves into tokenized gold, redeemable anytime.



9. Custody, Vaulting & Proof-of-Reserves

To ensure OUMG's credibility as a **fully gold-backed stablecoin**, Oureum adopts a **multi-layer custody, vaulting, and auditing framework** that provides real-time transparency while meeting institutional standards.

9.1 Vault Partners & Multi-Jurisdiction Strategy

- Primary Custodian (Malaysia):
 - Licensed local vault provider, compliant with BNM and Securities Commission standards.
- Secondary Custodians (Expansion):

 Partner vaults in Singapore, Dubai, and Switzerland to diversify jurisdictional risk.

Vault Standards:

- Only LBMA-certified gold bars are accepted.
- o Purity ≥ 99.5%.
- Minimum bar sizes: 50g, 100g, 1kg.

9.2 Insurance & Risk Mitigation

- All vault holdings are **fully insured** against theft, loss, and physical damage.
- Custodians must provide audited inventory reports monthly.
- Smart contracts enforce that **OUMG supply cannot exceed verified reserves.**

9.3 Proof-of-Reserves (PoR)

- Monthly Third-Party Attestations:
 - Independent auditors confirm total grams of gold in vaults.

On-Chain Proofs:

- Cryptographic attestations published directly to Oureum Network.
- Users can verify circulating OUMG supply vs. vault reserves in real-time.

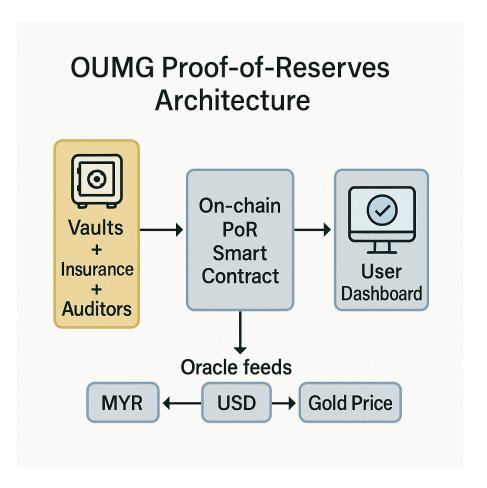
Public Dashboard:

- Real-time view of:
 - Circulating OUMG

- Total gold (grams) in reserves
- Custodian locations*
- Last audit timestamp

9.4 Reconciliation & Emergency Policy

- Circulating Supply = Total Audited Reserves (always enforced).
- Emergency Redemption:
 - If Oureum or custodian fails to operate, users can redeem OUMG directly through designated trustees.
 - o DAO-controlled insurance fund backs unexpected shortfalls.



10. Token Economics

Oureum network adopts a dual-token model consisting of:

1. OUREUM (native utility token)

- Used for gas/transaction fee utility, staking, and governance.
- o Incentivizes validators and funds the ecosystem.
- Act as collateral/Stablecoin anchor for minting a stablecoin.

2. OUMG (gold-backed stablecoin)

- 1 OUMG = 1 gram of LBMA-certified gold.
- Fully redeemable, non-inflationary, and used for settlement and value storage.

10.1 OUREUM (Native Token)

- Total Supply: 1 billion OUREUM.
- Initial Circulation: 150 million OUREUM (15%)
- Staking APY: 15% (decreasing 3% yearly)
- Burn Rate: 30% of transaction fees
- Treasury Allocation: 15% of all fees + 5% block rewards
- **Repurchase:** 10% of profit to buyback OUREUM and burn annually with cap at 500 million total supply
- Inflation: Low annual inflation (1–2%) to incentivize validators after staking launch.
- Use Cases:
 - Pay gas fees on the network.
 - Stake to secure the chain (once PoS on L2).
 - Participate in governance (DAO proposals, compliance rule approvals, treasury votes).
- **Fee Burn:** A portion of OUREUM spent on gas fees will be **burned** to reduce inflationary pressure.

10.2 OUMG (Gold-Backed Stablecoin)

- Backing: Fully backed 1:1 with LBMA-standard gold.
- Supply Dynamics:
 - Minting: Triggered when KYC'd users purchase gold-backed tokens.
 - **Burning:** When users redeem OUMG for physical gold or fiat.
- **Price Stability:** Peg maintained by audited gold reserves + on-chain proof-of-reserve smart contracts.
- **Inflation:** None (strictly 1:1 backed).

10.3 Fee Flows

- Transaction Fees (Gas): Paid in OUREUM.
 - Split between validators, treasury, and burn mechanism.

• OUMG Fees:

- Small minting/redemption fees to cover custody & insurance costs.
- Buy/sell spreads managed by liquidity pools & institutional market makers.

10.4 Treasury Policy

• Treasury Sources:

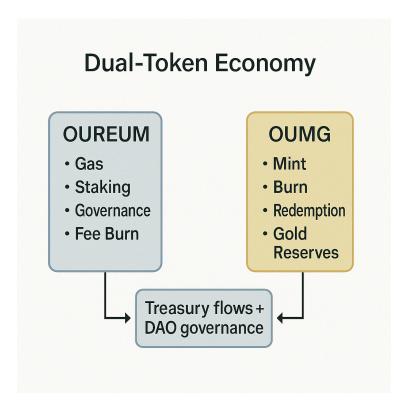
- % of gas fees in OUREUM.
- OUMG mint/burn operation fees.

Uses:

- Network upgrades.
- Custody/insurance coverage.
- Developer & compliance grants.

Governance:

- Managed by Oureum DAO (future direction).
- Transparent reporting and quarterly treasury disclosures.



11. Interoperability & Bridges

11.1 Canonical Bridge (Ethereum ↔ Oureum L2)

 A native bridge will connect the Oureum Network with Ethereum Mainnet.

• Functionality:

- Transfer **OUREUM** (gas token) between Ethereum and Oureum.
- Transfer OUMG (gold-backed stablecoin) with 1:1 peg enforcement across chains.

Security:

Multi-sig + external validator set.

• Future roadmap: migration to zk-proof based bridge for stronger trust minimization.

11.2 Wrapped Assets Policy

- External stablecoins & tokens (e.g., **USDT**, **USDC**, **ETH**) can be bridged into Oureum as **wrapped tokens** (**wUSDT**, **wUSDC**, **wETH**).
- Compliance Layer applies even to wrapped assets:
 - o Transfers subject to allow/deny lists.
 - Sanctioned addresses are blocked automatically.

11.3 OUMG Cross-Chain Listings

 OUMG will be deployed on major L1/L2 chains (Ethereum, BSC, Polygon, Solana) via wrapped representations.

• Use Cases:

- DeFi liquidity pools.
- Gold-backed trading pairs (e.g., OUMG/USDT, OUMG/ETH).
- Institutional settlement rails.

• Compliance Preserved:

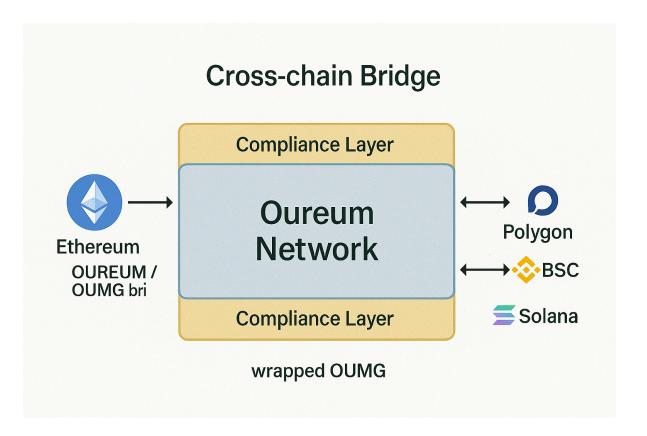
 OUMG contracts on external chains will enforce transfer rules via proxy contracts connected to Oureum compliance oracles.

11.4 FX & Pricing Normalization

- Primary Pricing Base: MYR (Malaysian Ringgit), converted oz → gram → OUMG.
- Secondary Pricing: USD reference (for global exchanges).
- **Cross-Chain Oracles:** Chainlink + Oureum internal oracle system with **deviation guards** to prevent manipulation.

11.5 Interoperability Roadmap

- 1. **Phase 1 (Testnet):** Canonical Ethereum bridge, simple OUMG transfers.
- 2. **Phase 2 (Mainnet):** Wrapped OUMG contracts on Polygon/BSC; liquidity pools with compliance.
- 3. **Phase 3 (Expansion):** Integration with **cross-chain DEXs** (e.g., Thorchain, LayerZero), ensuring compliant swaps.



12. Governance

2.1 Oureum DAO

• DAO Scope:

- 1. Oversees **protocol parameters** (block time, gas targets, compliance rule updates).
- 2. Manages **treasury funds** (collected from gas fees and OUMG redemption fees).
- 3. Approves vault custodians, oracle operators, and auditors.

Proposal Lifecycle:

- 1. Proposal drafted by any OUREUM staker.
- 2. Initial screening by governance council (technical + compliance check).
- 3. On-chain voting by OUREUM stakers.

- 4. If quorum & threshold are met, upgrade is executed via governance contracts.
- **Voting Power:** Proportional to **OUREUM tokens staked**.

12.2 Role-Based Permissions

- **Compliance Admins:** Maintain allow/deny lists, sanction rules, jurisdictional configs.
- Vault Admins: Approve vault additions/removals, verify custodian attestations.
- Oracle Admins: Manage pricing feeds (MYR/oz → per gram), set deviation guards.
- **Technical Council:** Review & ratify code upgrades before DAO vote.

12.3 Emergency Powers (Fail-Safe)

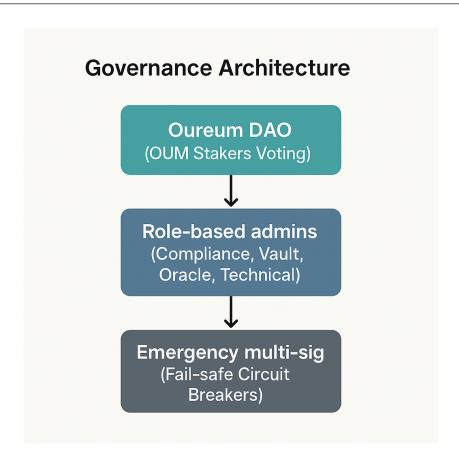
• **Time-Boxed Authority:** In cases of critical bugs, regulatory interventions, or custody risks.

• Mechanism:

- Controlled by **multi-sig wallet** (Foundation + Bank Partner + Independent Auditor).
- Powers include: pausing bridge contracts, halting new OUMG mints, circuit-breakers on transfers.
- Duration: Emergency controls expire within 72 hours unless ratified by DAO.
- **Transparency:** All emergency actions are logged on-chain and subject to post-incident DAO audit.

12.4 Governance Roadmap

- 1. Phase 0 (Testnet): Foundation-led governance (manual overrides).
- 2. **Phase 1 (Mainnet):** Semi-decentralized governance: DAO votes + multi-sig emergency controls.
- 3. Phase 2 (Maturity): Fully decentralized governance with DAO-managed compliance rule sets and minimal Foundation involvement.



13. Regulatory & Legal Framework

3.1 AML/CFT Alignment

• Integrated AML Layer:

- All transactions screened against global sanctions lists (OFAC, UN, EU, BNM).
- On-chain risk scoring engine applies jurisdiction-specific transfer rules.

• CFT Compliance:

- Mechanisms to detect and block suspicious patterns (structuring, layering, smurfing).
- Integration with Suspicious Transaction Reporting (STR)
 workflows, allowing flagged events to be escalated to relevant
 authorities.

13.2 Sanctions Compliance & Reporting

- Automated Sanctions Checks: Before a transaction is finalized, the compliance engine validates addresses against continuously updated watchlists.
- Reporting Portal: Authorized entities (banks, regulators) can access a regulator console for real-time monitoring and generate SAR/STR reports as required.
- Data Privacy: Only hashed attestations or zk-proofs are stored on-chain;
 raw KYC data remains with accredited providers.

13.3 Jurisdictional Strategy

Malaysia First:

- Align with Bank Negara Malaysia (BNM) standards on digital assets and tokenized commodities.
- Position OUMG as a regulated digital gold product under securities or commodities frameworks.

• SEA Expansion:

- Singapore: MAS regulatory sandbox, potential licensing as a Recognized Market Operator (RMO) or Major Payment Institution (MPI).
- Indonesia & Thailand: Targeted partnerships with banks for tokenized gold savings and cross-border settlement.

MiCA Readiness (EU):

- OUMG is structured to qualify as an Asset-Referenced Token (ART).
- Oureum Network designed to meet MiCA audit, custody, and compliance obligations.

13.4 Licenses & Custodial Arrangements

Vault Custodians:

- Licensed vaults in Malaysia (primary) and other jurisdictions (backup).
- Full insurance coverage for stored gold bars.

Audit & Attestation:

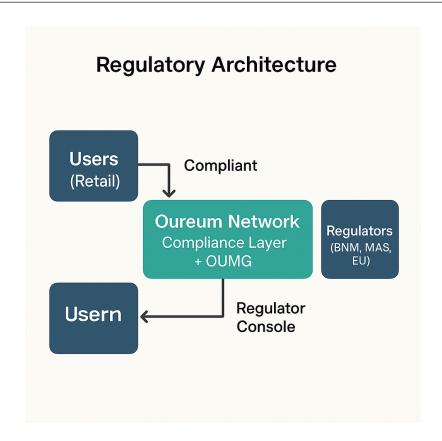
- Independent audit firms provide monthly reserve reports.
- Real-time **Proof-of-Reserve (PoR)** posted on-chain.

Licenses:

- Seek licensing under digital commodity/tokenized asset frameworks where available.
- Long-term plan: regulated **Digital Asset Exchange (DAX)** license in Malaysia to facilitate direct buy/sell in fiat.

13.5 Disclaimers & Risk Factors

- **Regulatory Risk:** Future changes in law may affect token issuance, redemption, or custody operations.
- **Custody Risk:** Although insured, gold custodians remain a third-party dependency.
- Bridge Risk: Cross-chain interoperability introduces additional vectors for compliance leakage; mitigated by compliance-gated bridges.
- **User Responsibility:** OUM/OUMG usage is subject to compliance rules; non-compliant transfers may be blocked or reversed.



14. Go-To-Market (Institutions & Banks)

14.1 Integration Models for Banks

We propose three collaboration pathways for banks and financial institutions:

1. Direct Issuance under OUMG (Preferred Model)

- Banks adopt OUMG as the standard gold-backed stablecoin.
- They integrate with Oureum's custody & compliance layer for issuance and redemption.
- Benefits: unified liquidity, brand consistency, and simplified compliance reporting.

2. Co-Branded Series

- Banks issue a co-branded version of OUMG (e.g., OUMG-Affin Series).
- Technically, this remains the same contract, but with tagged metadata for bank-managed allocations.
- Benefits: banks maintain brand identity while ensuring interoperability.

3. White-Label Lines

- Banks issue their own gold tokens on Oureum Network using the compliance modules.
- Oureum provides the infrastructure; banks manage branding and customer relationships.
- Benefits: maximum flexibility for banks, with compliance built-in.

14.2 API & Console for Banks

To facilitate integration, Oureum provides:

KYC Onboarding API

 Allows banks to directly onboard their customers with existing eKYC systems. Supports issuance of verifiable credentials compatible with Oureum's compliance layer.

• Funding & Reconciliation APIs

- Fiat on/off ramps: APIs for banks to map fiat deposits/withdrawals to OUMG mint/burn events.
- Daily reconciliation tools: ensure circulating OUMG matches fiat/gold balances.

Regulatory Reporting APIs

- Generate STR/SAR, tax reports, and compliance attestations automatically.
- Plug-and-play dashboards for banks' compliance departments.

14.3 Use Cases for Institutional Adoption

Treasury Management

 Banks and corporates can use OUMG as a gold-denominated stable asset for reserve diversification.

Settlement Layer

- Faster, cheaper cross-border settlement compared to SWIFT.
- Especially relevant for Malaysia-Singapore-Indonesia trade corridors.

• Tokenized Deposits & Commodities

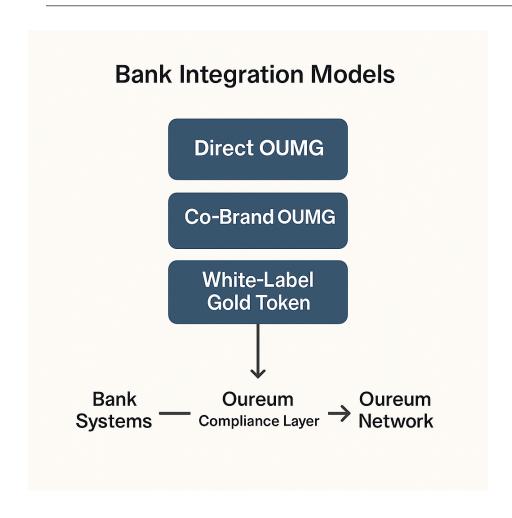
 Banks can issue tokenized gold deposits, fully compliant, with on-chain proof of reserves.

Compliant DeFi Access

 Banks and regulated funds can interact with compliant liquidity pools, using OUMG as collateral or settlement currency.

14.4 Southeast Asia Market Strategy

- Malaysia First: Position OUMG as the first MiCA-ready gold stablecoin in Malaysia, aligned with BNM requirements.
- **Singapore Expansion:** Partner with local exchanges and MAS sandbox participants for liquidity.
- ASEAN Hub: Build settlement corridors
 (Malaysia–Singapore–Indonesia–Thailand) to establish OUMG as the de facto regional digital gold standard.



15. Developer & Product Stack

15.1 SDKs & APIs

To foster adoption and simplify integration, Oureum will release a **developer suite** with the following components:

Oureum SDK (JavaScript, Python, Go)

- Pre-built functions for wallet integration, OUMG mint/burn, and compliance checks.
- Smart contract wrappers for OUM and OUMG token interactions.
- Support for browser-based dApps and backend services.

REST & GraphQL APIs

- Access to compliance verification (e.g., check credential status).
- Query Proof-of-Reserves data in real time.
- Retrieve historical transactions, block data, and vault attestations.

Banking & Institutional APIs

- Mint/burn OUMG directly from fiat rails.
- Auto-generate compliance & reconciliation reports.

15.2 Reference dApps

To showcase real-world use cases and help developers build faster, we will ship several reference applications:

1. Oureum Wallet

- MetaMask-compatible interface to hold, send, and receive OUREUM and OUMG.
- Integrated compliance checks (alerting if transaction requires KYC credentials).

2. Admin Console

- Web interface for bank admins, vault custodians, and regulators.
- Functions: set gold pricing (via oracles), manage mint/burn events, monitor reserves.

3. Redemption App

- User-facing app where verified customers can redeem OUMG for fiat or physical gold.
- Connects directly to bank APIs for settlement.

4. Analytics Dashboard

- Displays network stats: circulating OUMG, total OUREUM staked, number of KYC'd users.
- Includes heatmaps for transaction activity and compliance flags.

15.3 Developer Tooling

Explorer (OureumScan)

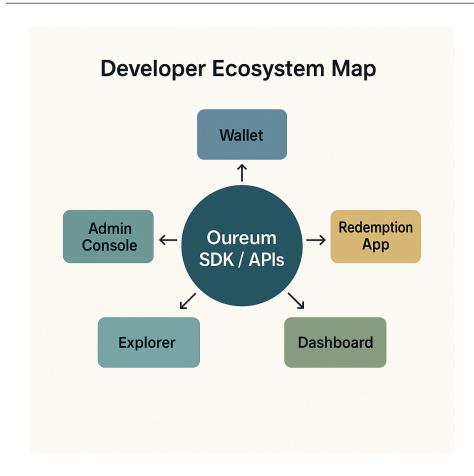
- Block & transaction explorer (Etherscan-style) with extra compliance metadata.
- E.g., shows whether a transaction was compliance-cleared or flagged.

• Faucet (Testnet)

- Provides developers with test OUREUM and OUMG for sandbox experimentation.
- Integrated with a compliance layer to simulate "KYC required" vs "open" modes.

Monitoring & Alerting Tools

- Built-in dashboards for validator performance, oracle uptime, and bridge health.
- Push alerts for suspicious transaction patterns (AML red flags).



16. Roadmap

The Oureum roadmap is structured in **phases**, aligning with both **technical milestones** and **regulatory readiness**. As of September 2025, the project is transitioning from proof-of-concept to its **Q4 2025 foundation phase**.

Phase 0 – Proof-of-Concept (Completed, Q3 2025)

Private testnet launched on PoA consensus.

- Native token **OUREUM** deployed for gas + governance testing.
- **OUMG demo contract** (ERC-20) deployed, pegged 1g = 1 OUMG.
- Basic admin web (demo): mint/burn functions, gold pricing input.
- Internal testing of compliance modules (mock KYC + transaction filters).

Phase 1 – Foundation (Q4 2025)(Current Phase)

- **Public Testnet (PoA)** live with 2–3 validator nodes.
- Integration of gas price policy (1 gwei = baseline) for predictable costs.
- Admin Console v1: gold pricing, mint/burn management, activity logs.
- User Wallet App v1:
 - MetaMask login
 - View OUM & OUMG balances
 - Redeem simulation (cash/gold)
- Begin collaboration with vault partner in Malaysia (BNM price oracle feed).
- Start monthly proof-of-reserve attestations (mock).

Phase 2 - Growth (Q1-Q2 2026)

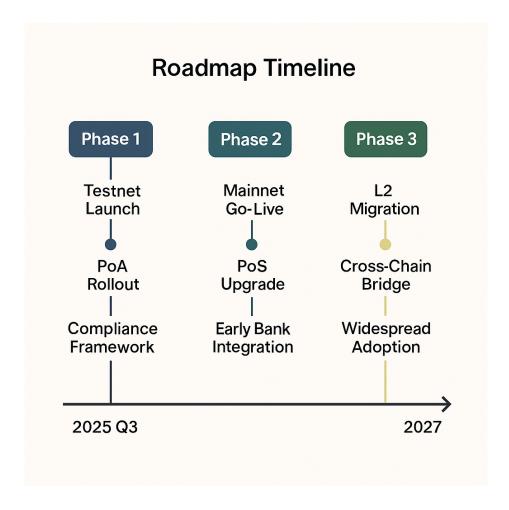
- Mainnet (Layer 2) launched with OP Stack or zkRollup architecture.
- Transition from PoA → PoS validator set (staked OUREUM).
- **Compliance Layer v1** activated: verifiable credentials + sanctions screening.
- **OUMG Stablecoin Mainnet Release**: 1:1 gold-backed with custodian attestation.
- **Redemption App v2**: fiat redemption rails integrated (bank pilot).
- First institutional partnerships onboarded (banks / fintechs in Malaysia & SEA).

Phase 3 – Expansion (Q3–Q4 2026)

- **Regulator Dashboard v1**: secure oversight console for compliance authorities.
- Interoperability Bridges: Ethereum, Polygon, and BNB Chain (OUMG cross-chain).
- Liquidity Pools (DEX/CEX listings) for OUMG with fiat pairs (MYR, USD).
- **Governance DAO v1**: OUREUM stakers vote on protocol upgrades, vault policies.
- Expansion to multi-jurisdictional vaults (Singapore, Switzerland).

Phase 4 – Institutional Adoption (2027 and beyond)

- MiCA certification for EU compliance (through Tokeny-style framework).
- Launch of **white-label programs** with banks (e.g., "Affin Gold" powered by Oureum).
- Full compliance SDK release for financial institutions.
- **OUMG is accepted in institutional DeFi protocols** (lending, settlement, RWA tokenization).
- Global roll-out: SE Asia first, followed by EU and MENA region.



17. Risk Management

Oureum recognizes that building a **compliance-native blockchain with a gold-backed stablecoin** requires addressing **technical, market, and regulatory risks** systematically. Below we categorize key risks and outline mitigation strategies.

17.1 Technical Risks

a. Consensus & Network Security

• Risk: Validator collusion or downtime (in PoA testnet / PoS mainnet).

• *Mitigation:* Slashing/revocation policies; multi-signature validator onboarding; gradual decentralization of validator set.

b. Bridge Exploits

- Risk: Cross-chain bridges remain a prime attack vector.
- *Mitigation:* Canonical Ethereum bridge audited by Tier-1 firms; rate limits & circuit breakers on large transfers; multi-sig controlled by DAO + custodians.

c. Oracle Manipulation

- Risk: Gold pricing oracle (BNM/MYR feed) could be spoofed or delayed.
- *Mitigation:* Multi-source oracle aggregation; deviation guards; fallback to manual input by auditor-approved admin with on-chain proof.

d. Custody Breach

- Risk: Vault gold reserves compromised, stolen, or misreported.
- *Mitigation:* Multi-jurisdiction vaults; insurance policies; independent monthly audits + real-time on-chain Proof-of-Reserves.

17.2 Market Risks

a. Liquidity Risk

- *Risk:* OUMG price deviates from peg due to insufficient liquidity in pools.
- *Mitigation:* Treasury-managed liquidity provisioning (OUM + fiat); partnerships with CEX/DEX; incentive programs for LPs.

b. Peg Stability

- Risk: Redemption demand exceeds available gold reserves or fiat rails.
- *Mitigation:* Redemption queue with transparent limits; emergency redemption using insurance fund; strict mint/burn reconciliation with vault attestations.

c. Volatility of Native Token (OUM)

- Risk: Speculative swings in OUM could undermine governance or gas stability.
- *Mitigation:* Low inflation schedule; partial fee burn; staking rewards designed to incentivize stability over speculation.

17.3 Regulatory & Legal Risks

a. Policy Shifts

- *Risk:* Sudden regulatory changes (e.g., stricter AML rules, capital controls).
- *Mitigation:* Proactive engagement with regulators (BNM, MAS, EU under MiCA); adaptable compliance layer with rule-set governance.

b. Jurisdictional Conflicts

- Risk: Divergent rules between Malaysia, EU, and other markets.
- *Mitigation:* Region-specific compliance modules (e.g., MYR-based AML rules in Malaysia, MiCA alignment in EU); modular compliance that can be toggled.

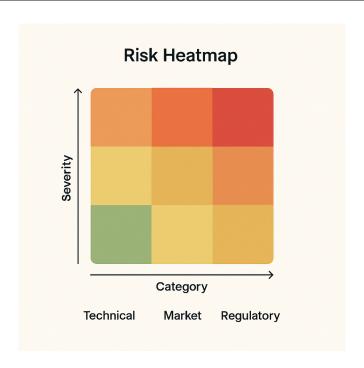
c. Custody & Licensing

- *Risk:* Vault operators or fiat redemption rails require new licenses.
- *Mitigation:* Partner only with licensed vault custodians and banks; dual licensing strategy (e-money + commodity storage).

17.4 Mitigation Infrastructure

- Multi-Sig & DAO Oversight: All critical admin functions (mint/burn, oracle input, rule updates) require multi-sig approval and DAO ratification.
- **Circuit Breakers**: Rate limits on minting, redemption, and bridge transfers to stop cascading failures.

- **Insurance & Reserves**: Custody insurance + treasury reserve fund for emergency peg defense.
- Monitoring & Alerts: Real-time analytics dashboard to flag anomalies in mint/burn/redemption or transaction flows.



18. Comparative Landscape (Appendix)

| Feature / Network | Oureum (OUM/OUMG) | Tether Gold (XAUt) | PAX Gold (PAXG) | Digix Gold (DGX) | "Complianc e-less" Chains |
|----------------------|--|--------------------------|--------------------------|---------------------------------------|---------------------------------|
| Compliance | Native protocol-level AML/KYC with verifiable | Off-chain issuer only | Off-chain issuer only | Limited issuer-based compliance | None |

| | credentials and sanctions screening | | | | |
|-----------------------|---|--------------------------------------|------------------------------|------------------------------|-------------------|
| Proof-of-Re serves | Real-time on-chain PoR + monthly independent audits | Regular issuer audits | NYDFS audits | Monthly issuer reports | None |
| Custody | Multi-jurisdiction vaults (Malaysia, Singapore, Switzerland) | Swiss vaults | London vaults | Singapore vaults | Not applicable |
| Peg Unit | 1g gold = 1 OUMG | 1 troy ounce gold | 1 troy ounce gold | 1g gold | Not applicable |
| Redemptio n | Fiat or physical gold (50g+) | Physical gold (min redemption) | Physical gold (London) | Physical gold (Singapore) | Not applicable |
| Target Audience | Banks, regulators, compliant DeFi, governments | General crypto users | US-based institutions | | |

19. Specifications (Appendix)

Token Contracts (OUM / OUMG)

• OUREUM (OUM)

o Standard: ERC-20 (EVM-compatible)

o Functions: transfer, approve, stake, vote

• Events: Transfer, Stake, VoteCast

Oureum Gold (OUMG)

Standard: ERC-20 with mint/burn controls

o Functions: mint, burn, redeem

o Events: Mint, Burn, Redeem

Oracle Specification

• Primary Source: Bank Negara Malaysia (BNM) daily gold price (MYR/oz)

Conversion: Ounce → Gram → OUMG

• Tolerance Band: ±1% deviation guard

• Update Cadence: Daily (higher frequency if required)

• Backup Sources: LBMA reference feeds, Chainlink oracles

Network Parameters

Testnet Chain ID: 828828 (PoA → PoS transition)

Block Time: ~2s (PoA/PoS), ~12s (Ethereum L2 settlement)

• Gas Policy: Minimum 1 gwei, payable in OUM

• TPS Target: 1,000+ (on Layer-2)

20. Glossary & References

Glossary

- AML (Anti-Money Laundering): Global regulatory standards to prevent money laundering.
- **CFT (Combating the Financing of Terrorism):** Safeguards against terrorism financing.
- BNM: Bank Negara Malaysia, the central bank of Malaysia.
- LBMA: London Bullion Market Association, governing body for gold standards.
- **OUREUM (OUM):** Native gas, staking, and governance token of the Oureum Network.
- **OUMG:** Stablecoin pegged 1:1 to one gram of LBMA-standard gold.
- PoA (Proof-of-Authority): Consensus algorithm relying on approved validators.
- **PoS (Proof-of-Stake):** Consensus algorithm where validators stake tokens.
- **Rollup:** Layer-2 scaling solution for Ethereum, bundling transactions for efficiency.
- **Proof-of-Reserves (PoR):** Mechanism to verify that circulating tokens are fully backed by audited reserves.

References

- 1. LBMA Gold Price Index
- 2. Bank Negara Malaysia Official Gold Price Feeds
- 3. European Union MiCA Regulatory Framework
- 4. Chainlink Documentation Decentralized Oracle Networks
- 5. Oureum Network Internal Testnet Specifications & DAO Governance Documents