ZUG
WHITEPAPER

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This crypto-asset white paper has not been approved by any competent authority in any Member State of the European Union.

The offeror of the crypto-asset is solely responsible for the content of this crypto-asset whitepaper.

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Abstract

ZUG is designed to overcome Ethereum's core limitations: slow transaction speeds, high fees, and limited programmability. While Ethereum remains the most secure blockchain, its performance and cost constraints make it less suitable for modern, high-performance decentralized applications.

ZUG solves this by introducing a Layer 2 solution that processes transactions with extremely low latency, drastically improving speed and lowering costs. By integrating the Solana Virtual Machine (SVM), it brings fast, scalable smart contracts to the Ethereum ecosystem. A decentralized Canonical Bridge ensures seamless and secure transfers between Ethereum's base layer and ZUG.

This whitepaper outlines the project's vision, technology, tokenomics, and roadmap.

Information on the Project

The Challenge

Ethereum, while groundbreaking in enabling decentralized applications through smart contracts, was not built with high-speed scalability in mind. As the ecosystem has grown, limitations in throughput and cost efficiency have become increasingly apparent.

Transaction Speed & Cost

On-chain Ethereum transactions can be slow and costly, especially during periods of high network activity. When demand surges, gas fees can spike dramatically, making it expensive for everyday users and rendering micropayments impractical.

Scalability Constraints

Ethereum's current architecture limits throughput to around 15–30 transactions per second—still far below the demands of modern financial systems or global consumer platforms. This bottleneck restricts its ability to support real-time, high-volume use cases at scale.

Lack of Programmability

Unlike newer, more scalable blockchains, Ethereum faces limitations in throughput and cost-efficiency, which constrain the performance of smart contracts and decentralized applications. Developers are often forced to optimize heavily or offload functionality to Layer 2s and sidechains, resulting in fragmented and complex architectures.

These challenges limit Ethereum's ability to fully support the rapidly evolving world of DeFi, gaming, and Web3 applications at scale. It remains the foundation of decentralized innovation, but its infrastructure struggles to keep up—until now.

The Solution

ZUG reimagines what's possible on the Ethereum network by introducing a scalable, fast, and enhanced Layer 2 ecosystem — without compromising Ethereum's core security and decentralization principles.

Next-Gen Layer 2 for Ethereum — Built for Real-Time Applications

ZUG operates as an extremely high-performance, low-latency Layer 2 blockchain. Transactions are executed in a highly optimized Layer 2 virtual machine and later settled on Ethereum Layer 1, enabling high-throughput, low-cost settlement without congesting the base network.

Solana Virtual Machine (SVM) Integration

By integrating the Solana Virtual Machine, ZUG enables lightning-fast, low-latency execution of smart contracts and decentralized applications. This brings the performance and developer experience of Solana to the Ethereum ecosystem—something previously impossible on native Ethereum.

The Canonical Bridge

A decentralized, non-custodial bridge forms the heart of ZUG's interaction with the Ethereum network. Users deposit ETH into the bridge, which mints equivalent tokens on Layer 2. These can be used within the ZUG ecosystem and later withdrawn back to native ETH at any time.

Together, these components turn ZUG into a high-performance layer for developers and users who want to build, trade, and interact at scale—while still anchored to Ethereum's unmatched security and brand trust.

Roadmap & Milestones

ZUG follows a phased rollout strategy to ensure secure, scalable, and community-driven growth. Each milestone brings new utility, performance improvements, and broader adoption opportunities.

Phase 1: Foundation (Q2-2025)

- Launch of official website and branding
- Community building across X (Twitter), Telegram, and Discord
- Release of whitepaper and technical documentation
- Initial marketing campaigns to attract early supporters

Phase 2: Presale & Staking (Q2–Q4 2025)

- ZUG token presale across multiple price tiers
- Launch of presale staking with high APY for early participants
- First security audit of smart contracts and bridge infrastructure
- Formation of advisory and developer partnerships

Phase 3: Mainnet Launch (Q1-2026)

- Deployment of ZUG Layer 2 network
- Activation of Canonical Bridge for ETH deposits/withdrawals
- Integration of Solana Virtual Machine for dApp support
- First dApp and smart contract deployments on Layer 2

Phase 4: Ecosystem Expansion (Q1-Q2 2026)

- Launch of ZUG Developer Toolkit (S
- Listing on major centralized and decentralized exchanges
- Onboarding of partner projects in DeFi, gaming, and NFT sectors
- Initiation of DAO governance framework

Phase 5: Decentralization & Governance (Q3-2026)

- Launch of ZUG DAO for community proposals and voting
- Introduction of incentive programs for node operators and developers

Technical Information

Blockchain, Protocols & Technical Standards

ZUG is a Layer 2 network built on top of the Ethereum blockchain. It uses a modular blockchain architecture, integrating the Solana Virtual Machine (SVM) for smart contract execution and using Ethereum for transaction settlement.

Key standards and technologies include:

- **Ethereum (Layer 1)** – for final settlement and security anchoring
- **Real-time SVM** – a blazing-fast execution layer powered by a highly optimized Solana Virtual Machine, delivering lower latency than Solana itself
- **Canonical Bridge** – enabling secure ETH transfers between Ethereum L1 and ZUG L2
- **SPL-compatible tokens** – modified for ZUG's Layer 2 environment

Approach

ZUG uses a hybrid approach:

- **Layer 2 is used for smart contract execution**, Layer 1 is used for settlement
- **Bridging architecture** to lock ETH on Layer 1 and mint wrapped ETH on Layer 2
- **Scalable execution** via the Solana Virtual Machine for near-instant smart contract performance

This architecture enables low-cost, high-speed transactions while preserving Ethereum's trustless settlement.

Applications and Apps

The ZUG ecosystem supports:

- High-speed payments in wrapped ETH
- DeFi applications such as swaps, lending, and staking
- NFT platforms and gaming dApps
- Developer tools (SDK + API) for building scalable smart contracts in Rust
- Web and mobile access through a user-friendly dashboard and wallet integrations

Token Economics

Total Public Supply

The total supply of **$ZUG** tokens is fixed at 21,000,000,000.

Presale Structure

The **$ZUG** token will be offered through a public presale, divided into multiple stages:

- The initial presale price begins at $0.00012
- The price will increase with each new stage to reward early participants
- Each stage lasts for 3 days, or until its allocation is sold out—whichever occurs first

There are no private presales or pre-allocations. All tokens will be made publicly available, with no preferential treatment, insider access, or backdoor deals.

Presale Timeframe

The public presale is expected to run from Q2 to Q4 of 2025, depending on prevailing market conditions and demand.

Tokenomics & Fund allocation

The distribution of the total supply is as follows

- **25% — Treasury**
- **20% — Marketing**
- **15% — Rewards**
- **10% — Listings**
- **30% — Development**

Rewards

Presale participants will be eligible for staking rewards, which can be activated immediately after TGE. Additional rewards will be distributed for community participation and governance engagement via **$ZUG**.

Sequencing and State Integrity

While Ethereum provides Layer 1 security via Proof of Stake (PoS), ZUG's Layer 2 relies on a single trusted sequencer to order transactions and manage state updates.
Finality is ensured by periodically anchoring Layer 2 state commitments to Ethereum's blockchain, providing an immutable audit trail without relying on complex cryptographic proofs.

Fees and Incentive Mechanism

- Low gas fees paid in **$ZUG**
- Staking rewards
- Participation incentives for governance voting and ecosystem activity
- Developer bounties and grants for early app deployment
- Optional burn mechanics to reduce token supply based on protocol activity

Environmental Impact of Using the Blockchain

ZUG operates as a Layer 2 network that settles on the Ethereum blockchain, which uses a Proof-of-Stake (PoS) consensus mechanism. While Ethereum itself is much more energy-efficient compared to Proof-of-Work blockchains, ZUG's Layer 2 environment further enhances sustainability by operating its own validator network using a PoS model.

This ensures that all transaction processing, smart contract execution, and off-chain computation within the ZUG network remain energy-efficient and environmentally sustainable.

Key Considerations

- **Layer 1 (Ethereum) Impact:**
  Ethereum's estimated energy use is significantly lower than Proof-of-Work networks, thanks to its Proof-of-Stake consensus mechanism. ZUG anchors batches of transactions to Layer 1 at intervals, further reducing overall dependency and minimizing environmental impact.
- **Layer 2 (ZUG) Impact:**
  The Layer 2 sequencer, utilizing innovative Layer 1 proofs, requires minimal energy and has a near-negligible environmental footprint.

The Team

ZUG is developed by an experienced team of blockchain engineers, cryptographers, and Web3 builders. With backgrounds in leading crypto projects, the team brings deep expertise in Layer 2 infrastructure, zero-knowledge systems, and scalable smart contract development.

Product Access

The **$ZUG** token is the native utility and governance token of the ZUG Layer 2 network. Holding **$ZUG** grants access to key ecosystem features, including:

- **Transaction Payments:** Used to pay gas fees for transfers, smart contract execution, and dApp interactions on Layer 2
- **Staking Access:** Token holders can stake **$ZUG** to earn rewards
- **Ecosystem Access:** Some dApps, DeFi protocols, or premium services on the platform may require **$ZUG** for access or tiered functionality
- **Developer Grants & Incentives:** Builders can receive funding or fee discounts by holding and using **$ZUG** in their deployed smart contracts

Rights & Obligations of Holders

Rights

- **Staking Rewards:** Earn yield through direct staking
- **Ecosystem Access:** Gain privileged access to dApps, pre-sales, and early-stage features
- **Reward Eligibility:** Participate in community incentive programs and token distribution events

Obligation

- **Compliance:** Users must comply with all applicable laws and the platform's terms of use
- **Security Awareness:** Token holders are responsible for safeguarding their private keys and assets
- **Active Participation:** Governance and reward benefits require active involvement; inactive wallets may not accrue rewards over time

Listing Strategy

Following the presale, **$ZUG** will launch on decentralized exchanges such as **Uniswap**. In parallel, **ZUG** will launch on centralized exchanges (CEXs) to support broader global availability.

Due to confidentiality agreements and exchange disclosure policies, specific CEX names will be announced only once officially approved by both parties.

The initial listing price is set at **$0.2** , offering early participants a clear value incentive.

Planned Listing Date

Token listings are targeted for Q1–Q2 2026, aligned with the completion of the presale and prevailing market conditions.

Issuer information

This whitepaper was issued on date by: 04/07/2025

- Sentinum Ltd (Company under incorporation)

- Quijano Chambers, P.O. Box 3159, Road Town, Virgin Islands (British),

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Risk Disclaimers

It is important that investors understand the following risks:

- In the future, **ZUG** may lose its value in part or in full.
- **ZUG** may not always be transferable.
- **ZUG**, the crypto-asset, may become illiquid.
- **ZUG** may not be exchangeable against the good or service promised in the crypto-asset whitepaper, especially in the case of a failure or discontinuation of the crypto-asset project.
- **ZUG** is not covered by the investor compensation schemes under Directive 97/9/EC of the European Parliament and of the Council.
- **ZUG** is not covered by the deposit guarantee schemes under Directive 2014/49/EU.

Sentinum LTD and its directors confirm that the crypto-asset whitepaper complies with the applicable legal requirements and that, to the best of the knowledge of the management body, the information presented is **fair, clear, and not misleading**, and that the whitepaper omits nothing likely to affect its interpretation or impact.

Prospective holders should base any decision to purchase **ZUG** on the **entire content** of the crypto-asset whitepaper, and **not on the summary alone**.

Retail purchasers have a **14-calendar-day withdrawal period**, during which they may revoke their agreement to purchase **ZUG** without incurring any fees or costs—**except blockchain transaction fees**—and without the need to provide any reason. This withdrawal period begins on the date of the retail holder's agreement to purchase the crypto-asset.

The **public offer of ZUG** does not constitute an offer or solicitation to purchase financial instruments. Any such offer or solicitation may only be made via a prospectus or other offer documents in accordance with applicable national laws.

This crypto-asset whitepaper does **not** constitute a prospectus as referred to in **Regulation (EU) 2017/1129** of the European Parliament and of the Council, or any other offer document under Union or national law.

While every effort has been made to ensure the **accuracy and completeness** of the information in this whitepaper, unforeseen developments may require changes to the project's scope, objectives, or technical details. Any such changes will be communicated **transparently and promptly** through our official community channels.

It is important that investors also understand the following MiCA-aligned risk points:

- **Potential Loss of Value**: **ZUG** may lose its value in part or in full; there is **no guaranteed token price**.
- **Illiquidity & Transferability**: The **$ZUG** token may not always be easily tradable or transferable, depending on market conditions and exchange availability.
- **No Guarantees**: Rewards are not tied to the **ZUG** token and are dependent on the performance of **ETH**. Milestone airdrops are **not investment returns**, and are not guaranteed to all presale participants. Community members may be required to meet certain **social engagement and trading criteria** to qualify for any rewards.
- **Volatility**: As with many meme or community tokens, **$ZUG** may experience **significant price volatility** driven by market speculation, sentiment, and broader crypto trends.
- **Not Covered by Compensation Schemes**: **ZUG** is not covered under **investor compensation** or **deposit guarantee schemes** within the European Union.
- **Regulatory Changes**: The status and legality of crypto-assets such as **ZUG** are subject to evolving regulations. If local laws prohibit participation, users may be **restricted from holding, purchasing, or trading** the token.
- **14-Day Withdrawal Right**: Under applicable regulations, retail purchasers generally have **14 calendar days** to withdraw from the agreement to purchase crypto-assets. Additional identity or transaction information may be required to validate the request.
  Once **ZUG** is publicly listed and traded on open markets, **all purchases are final** and are not eligible for refunds.