

Why 0G is Emerging as the Leading Platform for On-Chain AI



Introduction

OG Labs (Zero Gravity Labs) is creating the world's first AI-native Layer-1 blockchain powered by a decentralized AI Operating System (deAIOS). OG is designed to make artificial intelligence transparent, verifiable, and community-owned.

Overall, OG is building what we can call the "intelligence layer" for decentralized AI (DeAI) applications, enabling advanced AI models and services to run on blockchain infrastructure at web2-like performance. The project's mission is to transform AI into a public good, shifting away from today's centralized, "black-box" AI silos towards an open ecosystem where anyone can own and scale AI services.

Over the past year, OG Labs has made rapid progress toward this vision. A significant requirement in pulling off their vision is the accrual of capital, which OG Labs has managed to attract in 2025. So far, the team has officially secured \$325 million in funding from investors. Additionally, in September 2025, the Aristotle mainnet launched with over 100 partners worldwide, creating a highly diverse set of node operators securing the OG L1. The network's native token \$OG also debuted on 20+ major exchanges (Binance, Bybit, etc.), giving the project additional momentum.

The 0G Vision

0G is attempting to solve a clear and significant bottleneck keeping blockchain infrastructure from supporting machine learning workloads and AI development. Prior to 0G, blockchains faced severe, critical limitations when it comes to hosting AI projects:

- Storing or processing large AI models on-chain has been prohibitively expensive
- AI applications (like model training or real-time inference) demand huge data throughput and low latency that conventional chains (e.g., Ethereum) cannot provide due to bandwidth and speed bottlenecks
- Web3 developers have lacked specialized frameworks and data availability solutions for building AI apps, which has made on-chain AI development complex and inefficient

At the core of 0G's vision is the idea of AI as a public utility. Today, advanced AI capabilities are mostly controlled by large tech companies or cloud providers, raising concerns about transparency, censorship, and bias. 0G provides an open platform where AI models, data, and results are verifiable and governed by the community rather than hidden in mega-corporation silos like OpenAI.

AI-Optimized Architecture

0G has a unique technology stack powering its L1 architecture, all purpose-built to support heavy data and AI workloads. To do this, 0G opted for a modular, layered design that works by separating the concerns of data storage, data availability, consensus, and computation. Each component helps to optimize the performance overall, greater than the sum of its parts, which makes 0G highly competitive and capable of hosting AI applications.

Specific descriptions of the mentioned components are available below:

0G Storage:

A decentralized storage network designed to handle AI model training data. Prior to storing the data, 0G applies a concept called erasure coding that breaks the data into redundant chunks and distributes them across many different storage nodes. Doing so ensures that any data can be quickly recovered while keeping the entire system highly efficient. Plus, each batch of data is summarized into a Merkle tree root for integrity.

0G Consensus (0G Chains):

A network of blockchain consensus instances that record transactions and data commitments. Uniquely, 0G's consensus layer is sharded into many parallel chains. It can spawn an arbitrary number of independent consensus networks (1, 100, or even 1,000+ parallel chains) that operate simultaneously.

Each chain processes a partition of the data or transactions, and together they collectively maintain the ledger. The design allows 0G to scale linearly with demand, effectively offering "infinite" throughput as more chains are added. Notably, a special data publishing lane syncs the storage and consensus layers, so that only small, necessary proofs flow through consensus, keeping overhead low even as data volumes grow.

Data Availability Layer (0G DA):

Data availability is extremely important for scaling blockchains. So, 0G has placed a high degree of emphasis on its DA layer, which is designed to be high-throughput and low-latency, surpassing existing solutions. By distributing data and consensus work across many nodes and shards (with cryptographic guarantees tying it together), 0G avoids traditional bottlenecks and achieves both high speed and reliability.

0G Compute:

The 0G Compute Network is a decentralized AI computing framework that connects users seeking AI services with GPU providers through secure smart contracts. It enables open participation, fair rewards, and cost-efficient operations using batching, ZK-proofs, and off-chain storage via 0G Storage. With features like refunds and automated settlements, it offers a scalable, trustless alternative to centralized AI platforms.

0G's architecture is underpinned by a clever security model. All 0G chains share a unified security pool where validators stake \$0G on Ethereum mainnet and then participate in 0G's consensus across shards. If they misbehave on any 0G chain, their stake can be slashed on Ethereum, leveraging Ethereum's security. Validators effectively burn and mint \$0G between Ethereum and the 0G network, keeping the token supply and economics consistent.

Shared staking ensures that even if hundreds of consensus instances are running, they're all secured by a common economic security (somewhat analogous to EigenLayer's restaking concept). Additionally, to prevent any subset of storage nodes from cheating or withholding data, 0G uses a Verifiable Random Function (VRF) to randomly select nodes for serving data proofs, forming a quorum that makes collusion extremely unlikely.

The result is a blockchain capable of handling AI-scale workloads. In testing, 0G has demonstrated throughput up to 50 Gbps (over 50,000× higher than conventional chains) on its Galileo testnet. So, for AI applications, cost-efficiency is already built in. Thanks to the Proof-of-Random-Access (PoRA) storage mining and abundant supply of community-run nodes, storing data on 0G is extremely cheap. It lands somewhere around just \$5 per TB per month for HDD storage (and ~\$11/TB for SSD). This is about 80% cheaper than mainstream cloud storage (AWS S3).

Compute on 0G is also decentralized via the 0G Compute Network, a marketplace where independent providers run AI inference or training jobs off-chain and submit verifiable proofs on-chain. The 0G Compute Network allows dApps to access GPU power at a fraction of typical cloud costs, while maintaining trust through on-chain verification of results.

Overall, from an architectural standpoint, 0G's approach is a major breakthrough for blockchain scaling in general. By leveraging parallelism and tailoring to data availability, 0G can support use cases (AI, big data, high-frequency trading, gaming, etc.) that would choke traditional monolithic systems. 0G has achieved a strong technical moat in the emerging AI blockchain sector.

Alignment Nodes

A core feature of 0G's network is the concept of AI Alignment Nodes, which act as a type of decentralized safety and governance layer for on-chain AI. These nodes operate on behalf of the 0G ecosystem to monitor AI activities. They are tasked with ensuring network activity remains fully aligned with the platform's intended rules and ethical guidelines. The introduction of Alignment Nodes can be seen as a proactive step to address potential AI risks that may arise in a decentralized environment.

Alignment Nodes are responsible for carrying out the following responsibilities on behalf of the 0G ecosystem:

AI Model Monitoring:

Alignment Nodes monitor AI agent behavior for signs of model drift. For example, if a machine learning model's outputs start deviating from expected outputs, that would indicate model drift is occurring.

Network Rule Enforcement:

Alignment Nodes must ensure that all participants follow the protocol rules. Specifically, they are meant to detect whether any node is acting maliciously. If a rogue actor tries to feed bad data or a corrupted model into the system, Alignment Nodes can raise an alert.

Ethical & Safety Oversight:

Because 0G aims to host potentially powerful AI models, the community may set safety rules (e.g., no on-chain AI should produce illegal content or leak private data). Alignment Nodes help maintain ethical standards by checking AI operations against these values.

Overall, the main takeaway is that Alignment Nodes create a transparent audit trail for AI on 0G. They anchor AI models and training datasets on-chain, so anyone can verify what went into a model. If an AI agent on 0G makes a critical decision, one can trace back and see which data and code produced it, increasing accountability. The alignment layer is a community-operated safeguard that aligns AI outcomes with the broader public interest (thereby advancing 0G's mission of AI as a public good).

From a network design perspective, Alignment Nodes operate in parallel with 0G's consensus validators. They are not producing blocks or storing bulk data. Instead, they run lightweight services that observe and validate the content of AI computations. For their service, Alignment Node operators are rewarded with a portion of the network's token supply (15% of \$0G tokens are allocated as incentives for alignment validators over time). This gives even more community members a role in securing the system beyond just transaction validation.

In fact, 0G's Alignment Node Sale was a key early initiative to decentralize this layer: in late 2024, the 0G Foundation sold NFTs for running Alignment Nodes, raising \$33 million and distributing over 92,000 node licenses globally. The response was enormous, with tens of thousands of people around the world stepping up to participate in guarding the network.

Ecosystem Growth

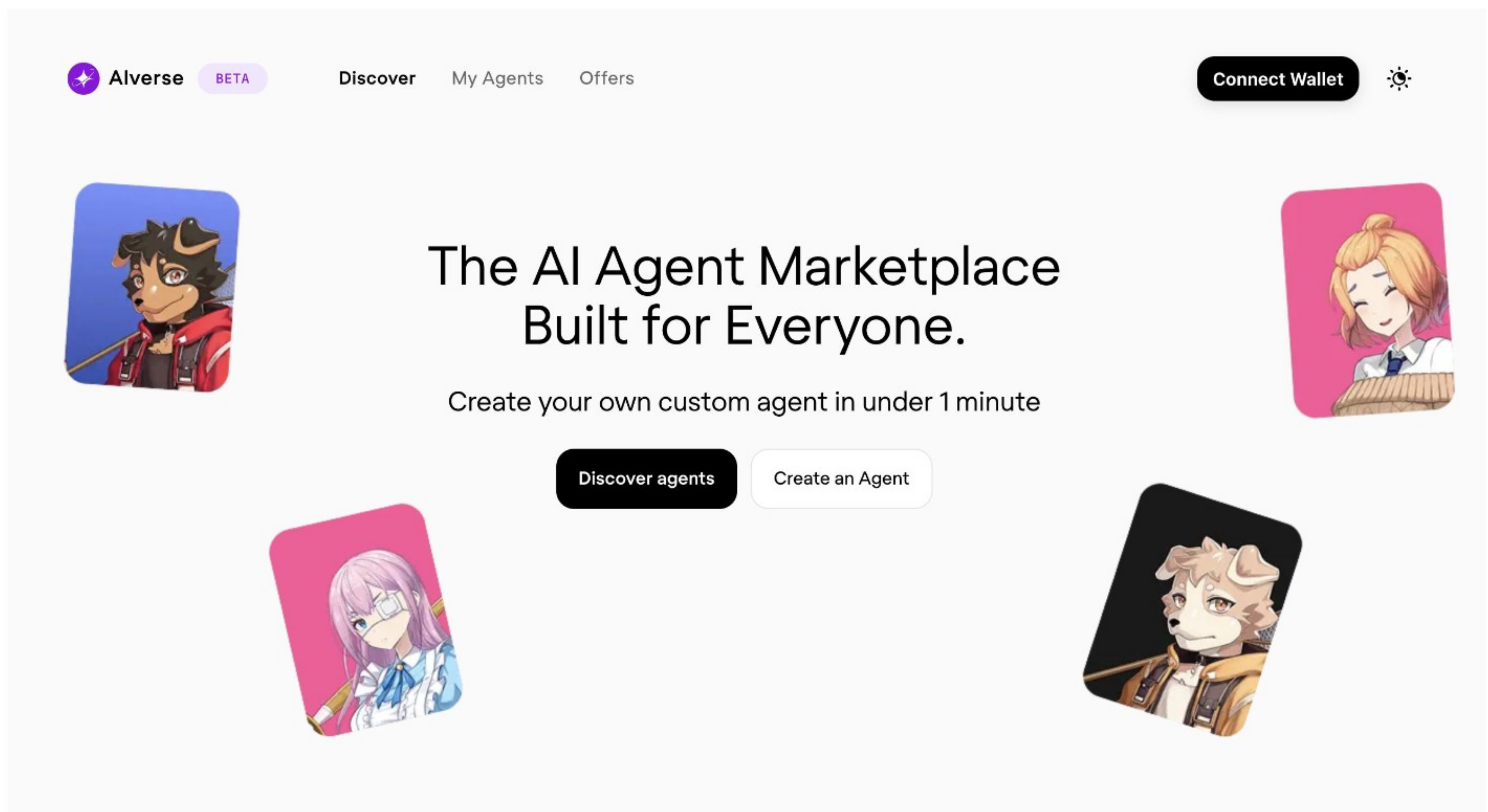
As of Q4 2025, 0G Labs has been aggressively (and successfully) growing its ecosystem to include numerous dApps and partnerships with its platform. The main goal is to jumpstart a self-sustaining network effect: by attracting a large number of AI developers to build on 0G, the ecosystem rapidly expands and draws in more users, validating the network's utility and reinforcing the development flywheel.

In line with this, 0G launched a hefty \$88.88 million Ecosystem Growth Fund to support projects at the intersection of AI and Web3. An accelerator program (“Guild on 0G”) was set up with an initial \$8.88M pool, and dozens of projects have already been incubated through hackathons and grants. By mainnet launch, over 100 projects and partners were building on 0G, spanning AI model providers, tooling, and consumer applications.

Alverse

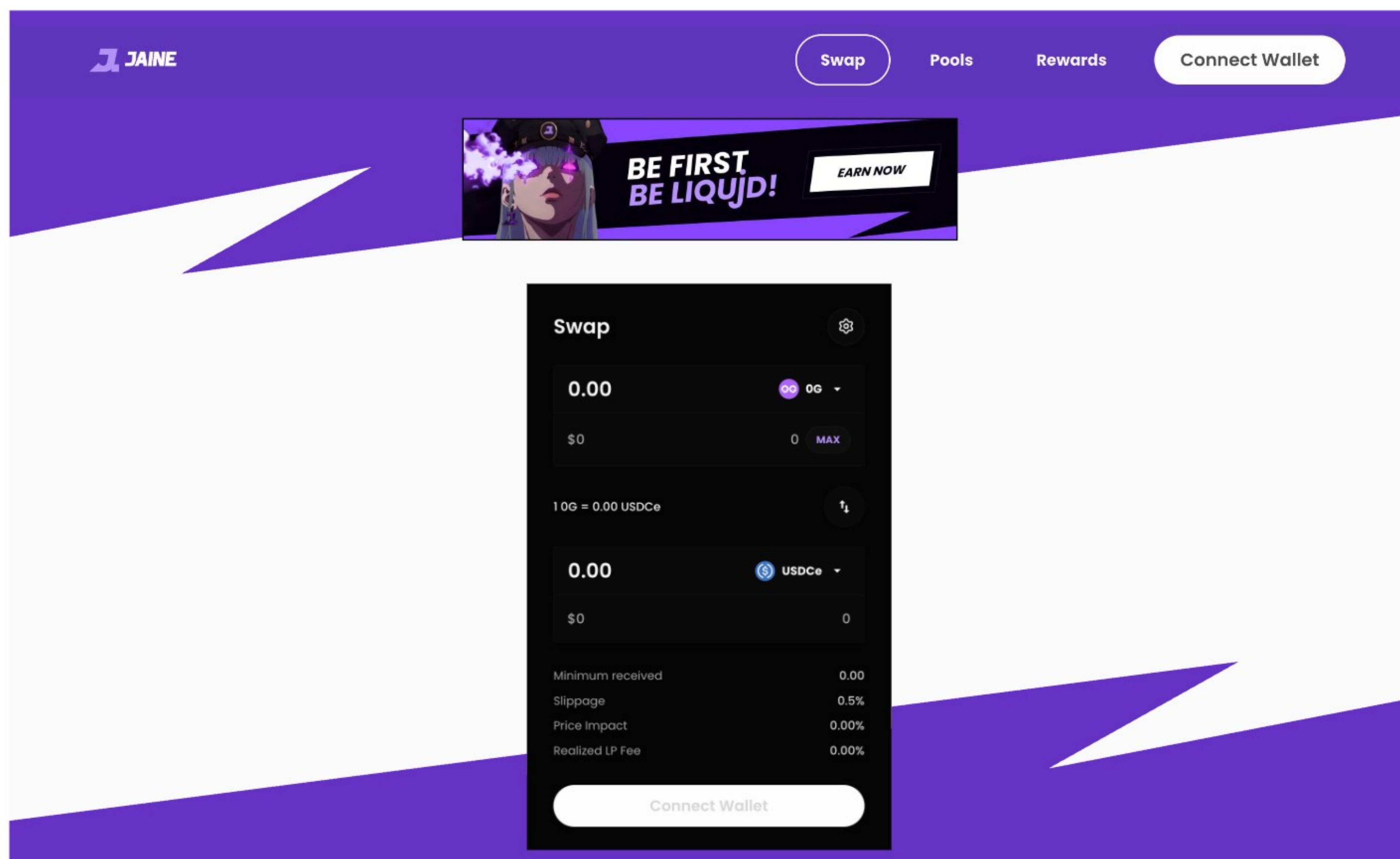
Alverse is described as the “OpenSea for iNFTs,” a marketplace where intelligent NFTs (iNFTs) can be minted, traded, and collected. An iNFT is essentially a tokenized AI agent: imagine an NFT that isn’t just a static image but has an embedded AI personality or skill. Alverse allows creators to turn AI models or agents into verifiable digital assets and monetize them.

This anchors a new “agent economy” on 0G. The platform launched on 0G’s testnet in 2025, with an initial collection called One Gravity (1,888 NFTs given to early community members) getting exclusive early access. Through Alverse, 0G demonstrates how AI can become a tradeable asset class, moving beyond speculative “AI tokens” to actual on-chain AI instances with utility and provenance. In the long run, Alverse could host marketplaces for things like AI-driven game characters, decentralized research agents, or virtual assistants, all interoperable on 0G.



Jaine

Jaine is an intelligent AMM and one of the first DeFi applications on 0G. Branded the “Justified AI Exchange,” Jaine integrates AI into its trading and liquidity strategy. For users, it works like a DEX (token swaps, liquidity provision, etc.), but it deploys smart agents to optimize trades and liquidity provisioning.



For example, AI agents on Jaine can dynamically adjust fee parameters or liquidity pools based on market conditions, and users can benefit from AI-driven trade execution that reduces slippage or impermanent loss. Jaine also introduces a social layer: it uses on-chain wallet reputation and engagement metrics to reward users (essentially “merit-based” rewards rather than just volume-based).

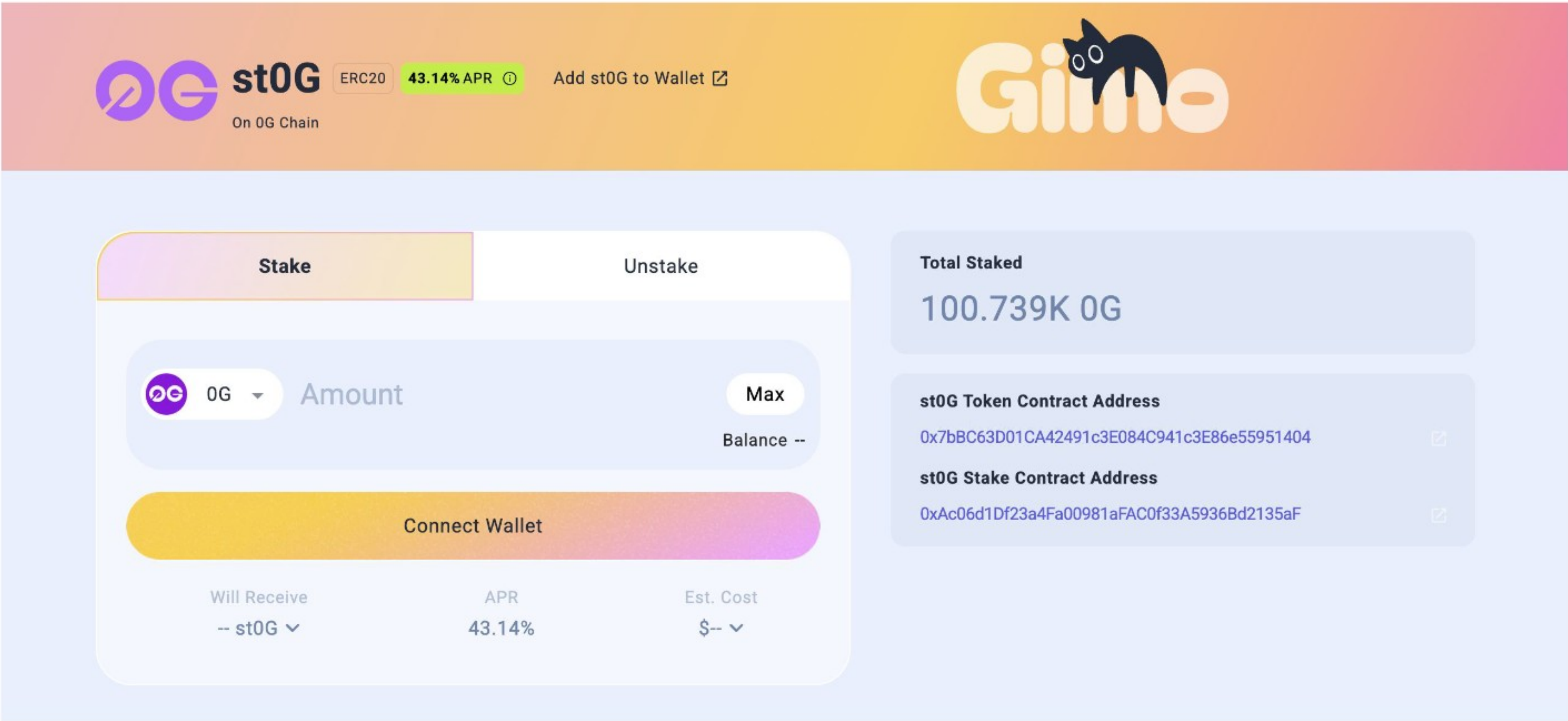
Governance is handled via a gauge voting system for liquidity incentives, inspired by Curve’s veCRV model, but enhanced with AI insights (i.e., the token “gKAITO” represents staked governance power and entitles holders to fee redistribution). Built fully on 0G’s stack, Jaine leverages the network’s fast throughput for a smooth UX and uses 0G’s Proof-of-Inference capabilities to verify any AI computations in its mechanism.

Notably, Jaine is a rebrand/evolution of an earlier testbed DEX (“Zer0”) and was ready to deploy on 0G mainnet from day one. Its development showcases how DeFi can be enhanced by AI – from market-making to risk management, on-chain AI agents can improve everything, and 0G provides the ideal environment for that synergy.

Gimo Finance

Gimo is the liquid staking protocol of the 0G ecosystem. It allows \$0G token holders to stake their tokens to secure the network and receive a liquid staking derivative called st0G. The st0G token can be used in DeFi (traded, lent, etc.) while the underlying \$0G remains staked, earning rewards. Gimo is built in partnership with StaFi (a known Liquid Staking-as-a-Service provider), ensuring that the staking process is secure and integrated with 0G’s unique consensus.

Because Gimo was launched alongside mainnet, 0G immediately provided its community with a way to support network security and keep liquidity. Already, st0G is trading on JAINE’s exchange, and Gimo plans to expand into powering AI-specific use cases (e.g., using staked tokens as collateral for AI agent operations).



AI and Gaming

The 0G ecosystem has placed a significant focus on the applications of AI within gaming. For example, Kult Games has become the de facto flagship on-chain gaming initiative for 0G. It is a platform that offers everything from first-person shooters to casual games, completely powered by 0G’s AI infrastructure.

Because of the high throughput and low costs associated with operating on 0G’s L1, game developers can integrate and run complex game logic and even AI-driven NPCs on-chain without introducing any significant lag that would otherwise be detrimental to the user experience on other, less capable platforms. For example, the partnership with ArenaX Labs’ AI Arena brings a PvP fighting game where players train AI-powered NFT characters and battle them on-chain. AI Arena’s vision is to empower AI researchers and gamers worldwide to compete to train the best AI fighters.

Additionally, the 0G community has experimented with AI agent challenges and interactive on-chain games (like escape rooms with AI puzzles), often with real rewards and leaderboards to engage users. What 0G is demonstrating through these developments is that Web3 gaming can be enriched by AI to create dynamic, evolving content (imagine NPCs that learn from player behavior, or game worlds that self-generate).

Other Ecosystem Features

Beyond these, the ecosystem features projects tackling various AI verticals: for instance, Assister is building a marketplace for domain-specific small language models (SLMs) with on-chain data provenance, and Bagel is using 0G Storage for coordinating open machine learning datasets. Infrastructure partners like Alibaba Cloud have teamed up with 0G to explore cloud–blockchain synergy in AI, especially in the Asia-Pacific region.

Even Google Cloud is indirectly involved. It's listed as part of 0G’s partner network, and notably, Google’s venture arm participated by investing in an AI startup (JoJoWorld) that’s building on 0G. On the academic front, 0G is forming collaborations with universities and research labs. If even a fraction of the incubated projects finds success, 0G will benefit from network effects as usage of its token and infrastructure increases.

Outlook: Why 0G Labs is Poised to Succeed

As artificial intelligence and blockchain enter pivotal growth phases, 0G Labs sits at the intersection of two defining technological sectors. Several factors support a bullish outlook on 0G's trajectory.

First-Mover Advantage in Decentralized AI

Arguably, 0G's greatest advantage is that it is among the first platforms purpose-built for decentralized AI at scale. While projects like [Fetch.ai](#) explore AI/blockchain crossover opportunities, none offer an actual L1 blockchain solution that combines comparable throughput with integrated storage, DA, compute, and alignment. 0G Labs is completely unique in that respect.

So, with its AI-optimized chain now fully live on mainnet, 0G has a substantial head start in attracting both developers and AI researchers to its platform. The architecture engineered here directly addresses one of the hardest challenges in decentralized AI development, a challenge that competitors have only scratched the surface of.

With its AI-optimized chain now live on mainnet, 0G has a head start in attracting both developers and AI researchers. Its architecture directly addresses one of the hardest challenges, data availability, a problem that competitors are only beginning to tackle. This early technical lead positions 0G as the default platform for scalable decentralized AI.

Robust Technology and Proven Performance

Another distinct advantage that 0G can claim is that its technological progress is not hypothetical. The team has demonstrated its technology stack can deliver improvements to both throughput and cost by orders of magnitude above other models. These claims have been

validated on testnet and, more recently, on mainnet with real users and real transactions.

The track record does strengthen confidence that 0G's scalability model can support a rapidly growing decentralized AI field, and it even encourages developers to invest their time into building high-demand AI applications directly on-chain.

Much of this is thanks to 0G's modular architecture, which ensures that the project encompasses long-term adaptability. For example, if new zero-knowledge methods emerge that verify AI computations more efficiently, 0G has the architectural flexibility to integrate these solutions seamlessly at the compute layer.

Strong Funding and Execution Track Record

0G has done well to attract significant investment to its ecosystem (over \$325M in 2025, as previously mentioned) from leading investors that include the following:

- Hack VC
- Delphi Digital
- Animoca Brands
- Stability AI's Emad Mostaque

Thus, 0G Labs is exceptionally well-capitalized for its early stage of development. The funding itself gives 0G a long runway to continue advancing in R&D, support ecosystem projects through grants, and expand its global network presence.

The team, led by CEO and co-founder Michael Heinrich, brings a blend of Web2, Web3, and AI expertise. They have demonstrated an ability to deliver on rapid execution, including the multiple testnets, mainnet launch, and numerous partnerships they have minted over the past two years of work on the project.

Macro Tailwinds for Decentralized AI

Perhaps the most speculative, yet most potential, is found within the macroeconomic tailwinds fueling global AI development right now. Amidst that hype is a growing, rigid demand for legitimate, trustworthy, and transparently decentralized AI projects like 0G. There are several growing concerns about potential AI bias, data privacy, and concentrated AI control, which have created a natural market demand for decentralized alternatives to what can now be called Big AI (i.e., OpenAI, xAI, Google Gemini, etc.).

Conclusion

0G Labs is well on its way to realizing its vision of becoming the decentralized AI operating system and platform for on-chain AI development. Here in 2025, the launch of its mainnet, rapid development cycle, and growing ecosystem all point to real demand and promising growth for 2026 and beyond. Obviously, there are still significant challenges down the road and unknowns, including what competitors may enter the market, what scaling complexities may arise with accelerated usage, and how governance will work effectively for all users. Nevertheless, 0G's technological foundation, strong capital support, and active community provide durable advantages for the project.

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