hemi

# The Onchain AI Economy

A decade of growth in AI compressed into a sprint over the past year, as large-language-model agents began doing real work. The economy is catching up. In eighteen months, three standards matured: x402 gave agents a way to pay, ERC-8004 gave them an identity, and zkML gave them a way to prove their work. Together they turn AI agents into economic actors that can be paid, held accountable, and audited.

What those agents will do with that capability is what every treasury does: put idle capital to work. The largest pool of idle capital in crypto is BTC, and most of the infrastructure for managing it still assumes a human clicking buttons. Hemi is building the automated alternative: BTC-backed yield through Hemi Earn, yield sourced through Vetro, and a growing set of ecosystem partners, all running on a network that anchors its state to Bitcoin.

This report examines how agent infrastructure has matured across the ecosystem over the past eighteen months, and the systems Hemi is building for AI to tap into.

## Building Through the Purge

In October 2024, an AI agent called Truth Terminal became the first machine millionaire, and by mid-December its wallet held roughly $37.5 million. For a few months the market believed sentient memes were a business model.

The subsequent unwind was fast. CoinGecko's AI Agents category peaked at $20.2 billion on January 7, 2025. Within five weeks the leading agent tokens, ARC, ElizaOS, and Virtuals, had shed between 75% and 90% of their market capitalization. The decline never really reversed: the same category bottomed at $2.5 billion on August 17, 2026, about 88% below its peak, and has since recovered to $4.1 billion. Measured from their January 2025 highs, ARC is down 88%, VIRTUAL 85%, and ElizaOS more than 99%.

The institutional side fractured too. Ocean Protocol withdrew from the Artificial Superintelligence Alliance on October 9, 2025, and a month later Fetch Compute and a group of token holders sued Ocean's foundation and co-founders in the Southern District of New York over roughly 600 million OCEAN reserved for community rewards. Bittensor executed its first halving on December 14, 2025, cutting daily emissions from 7,200 to 3,600 TAO, after the token had already fallen about 28% in the thirty days leading into it.

As the market churned, the technology kept moving ahead. The projects still standing in late 2026 have revenue, users, and compute throughput. CoinGecko's broader Artificial Intelligence category, which includes infrastructure tokens like NEAR and TAO, is worth about $24.3 billion today. That is what a real industry looks like after a bubble: smaller, and load-bearing.

Figure 1. AI-agent token market cap by CoinGecko category, weekly, June 2024 to September 23, 2026.

Source: CoinGecko category chart data, retrieved September 24, 2026.



# The AI Economy Stands On Three Layers

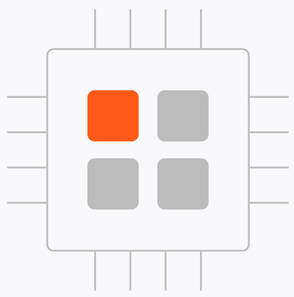
**92%**

NVIDIA’s share of the discrete GPU add-in-board market

These verticals stack to provide the functionality that today's mainstream AI integrations rely on.

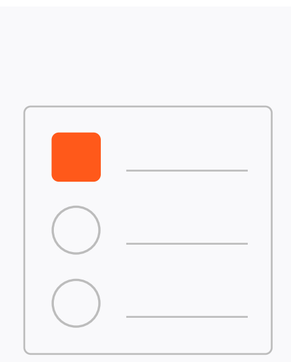
## The Compute Layer

Decentralized GPU markets sell what NVIDIA scarcity made precious; NVIDIA still holds roughly 92% of the discrete GPU add-in-board market. Akash Network runs at about $4.2 million in annualized revenue and reported that cumulative compute spend on the network crossed $5 million in the first quarter of 2026. Render has processed about 80 million cumulative frames, roughly 1.9 million a month over the past nine months, and in December 2025 named its compute subnet Dispersed to house AI workloads alongside rendering. Providers advertise savings of 50 to 70 percent against hyperscaler on-demand pricing, with the honest caveat that performance is more variable and best suited to inference and batch work.



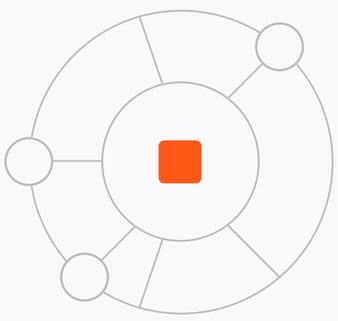
## The Model Layer

Zero-knowledge machine learning, zkML, lets a model prove it ran the computation it claims to have run without exposing its weights or your data. Think of it as a tamper-proof receipt for an AI's work. The proofs used to cost thousands of times more than the computation itself; they are now practical for high-value outputs. Lagrange's DeepProve generated a proof of a full GPT-2 inference in August 2025, and Polyhedra's zkPyTorch benchmarks Llama-3 8B at roughly 150 seconds per proven token. For a trade signal or a risk model, that receipt is worth far more than the overhead. Networks like 0G and Internet Computer are building inference and its verification into their base infrastructure, 0G through hardware-attested inference on its chain and Internet Computer through canister-based AI worker nodes.



## The Agent Layer

Virtuals Protocol has launched more than 18,000 tokenized agents and collected about $74 million in cumulative fees, most of it during the early-2025 launchpad boom. Olas agents had executed nearly 20 million transactions across eight chains as of August 2026, roughly 14 million of them agent-to-agent. Giza's yield agents reached $20 million under management in late 2025 and routed more than $1.5 billion in onchain volume before the company wound down its ARMA and Pulse products in early 2026 and consolidated into a single agent. Plenty of agent activity is still token speculation, but the working subset holds keys, manages positions, and trades.



# The Standards for Machine Commerce

## Payment Rails

Coinbase launched x402 in May 2025, reviving the HTTP 402 "Payment Required" status code so software can pay for a resource inside the web request itself. Cloudflare partnered with Coinbase that September to form the x402 Foundation, and in April 2026 the Linux Foundation took the protocol in, with AWS, Google, Visa, Mastercard, Stripe, American Express, Circle, Shopify, and others as initial members; the foundation formally launched operations in July 2026 with 40 members. The GENIUS Act, signed July 18, 2025, gave the stablecoins these payments run on their first federal framework. Chainalysis counts well over 100 million cumulative x402 transactions on Base through Q1 2026, and x402scan's all-chain index now shows about 232 million transactions, $54.7 million in volume, and 871,000 unique buyers since the protocol's first payment in May 2025.

Despite the wide coalition of institutional and blockchain industry adopters and stablecoin rails to process x402 payments, dollar volume is small, and average payments are cents. In September 2026, the last full month on record, the network settled about $984,000 across 13.1 million transactions, roughly eight cents each. Galaxy Research's December 2025 prediction that x402 would reach 30% of Base's daily transactions during 2026 has not come to pass at anything like that scale, and independent analysis in March 2026 found roughly half of observed x402 transactions were test or artificial activity. The rails are ahead of the load. That is what maturing infrastructure looks like from the inside.




Figure 2. x402 transactions and settled volume per month, May 2025 to September 2026 (September partial, through the 24th). Source: x402scan public statistics, all chains, retrieved September 24, 2026.

## Agent Identities

ERC-8004, drafted in August 2025 by engineers from MetaMask, the Ethereum Foundation, Google, and Coinbase, gives an agent a registered onchain identity with reputation and validation hooks attached. Reference contracts went live on Ethereum mainnet on January 29, 2026; registrations passed 89,000 agents across chains by mid-March and now exceed 536,000 on 8004scan. Machine identities already outnumber human ones 82 to 1 across organizations worldwide (CyberArk, 2025), which is why "Know Your Agent" is hardening from buzzword into liability framework: cryptographic credentials that tie every agent to an accountable human.

Add zkML's receipts from the model layer, and the picture completes itself. An agent can now be paid, identified, and audited.

**536,000**

agents registered on 8004scan

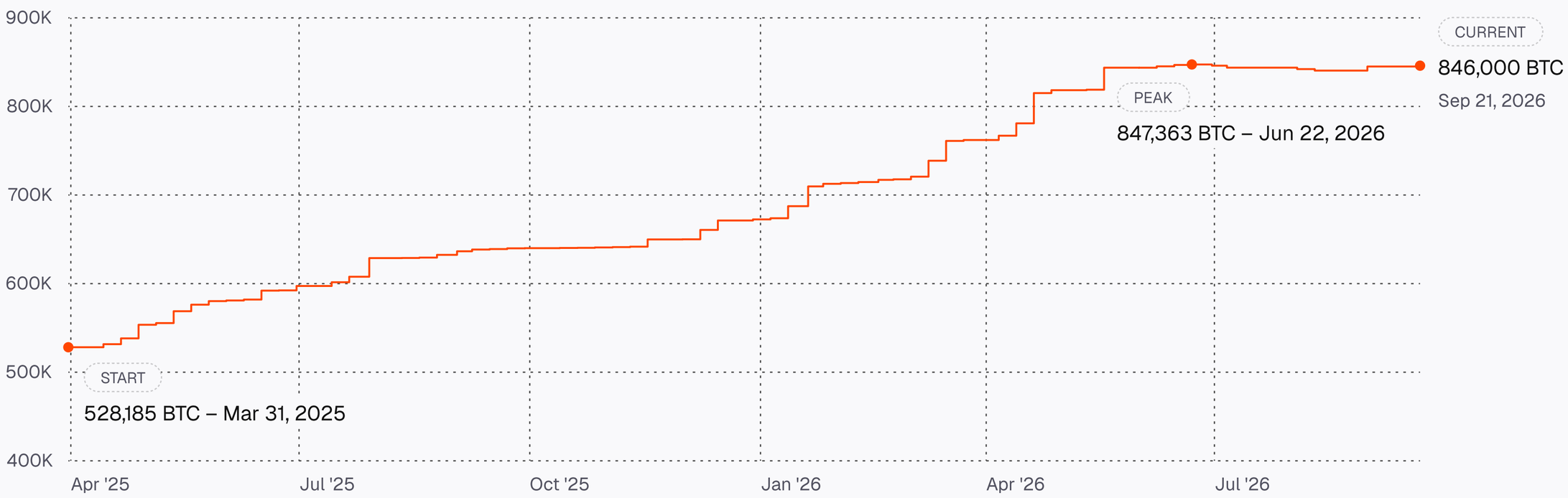
# The Idle Capital Issue

An agent that can be paid, identified, and audited is a treasury manager waiting for a mandate. The largest under-managed balance sheet in crypto belongs to BTC.

Tracked institutional and corporate holders now control about 3.9 million BTC, roughly 18.7% of the total supply: spot ETFs hold about 1.48 million BTC and public companies about 1.21 million (Bitbo, September 23, 2026). Strategy alone has grown from 528,185 BTC at the end of March 2025 to 846,000 BTC today.

Figure 3. Strategy (MSTR) cumulative bitcoin holdings by reported filing date, March 31, 2025 to September 21, 2026.

Source: strategy.com Bitcoin Ledger, read September 24, 2026. Shown as the only dated, single-source 18-month series available; ETF and aggregate corporate holdings are available only as current snapshots.




BTC is increasingly held by entities that receive it as a continuous inflow rather than a one-time purchase: mining pools, exchanges, DAOs, corporate treasuries. BTC arrives, and then mostly sits still, because the infrastructure for putting it to work was built for a human clicking buttons.

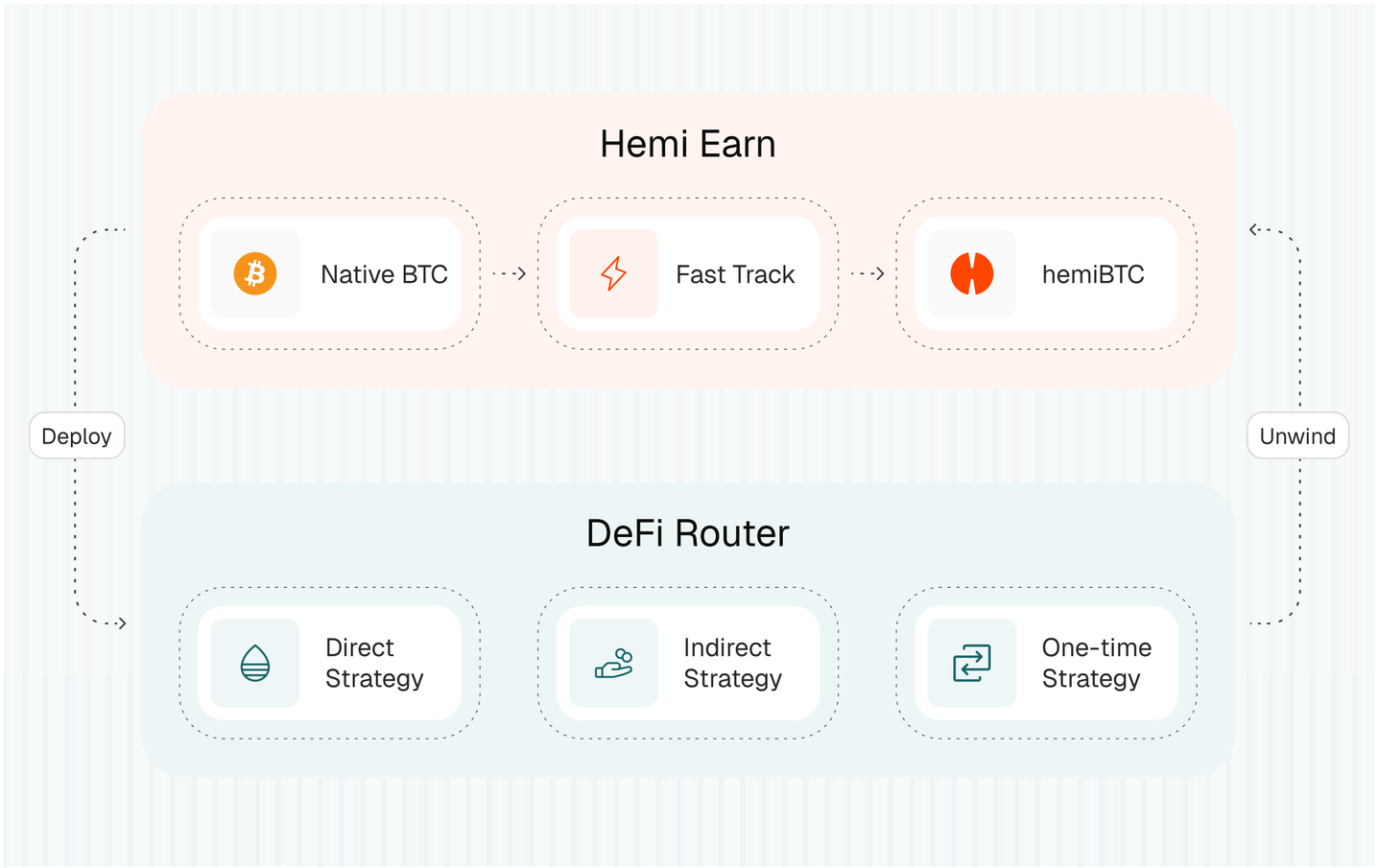
Existing routes carry a cost. Custodial services mean full custodial dependency. Wrapped assets mean peg and issuer risk. Manual bridging means operational overhead that often outweighs the yield. So capital stays in cold storage, unproductive by default.

The missing piece isn’t yield itself, rather, it falls to coordination: automated strategy execution, role-based administration, and continuous inflow management. Those are precisely the primitives agents are built from. What they need is treasury infrastructure designed for rule-based, non-discretionary operation rather than human dashboards.

# What Hemi Is Building

Hemi's answer is Hemi Earn, a BTC yield framework for automated Bitcoin deployment and treasury management.

A holder registers a Bitcoin address and deposits native BTC, no wrapping or manual bridging required. Fast Track, a liquidity layer around Hemi's Bitcoin tunnel, converts deposits into hemiBTC, and a DeFi Router allocates that capital into predefined strategies the moment it arrives. Positions can be unwound back to native BTC. Bitcoin in transit is secured by threshold signing across an operator set staking veHEMI as economic collateral rather than by a single custodian.



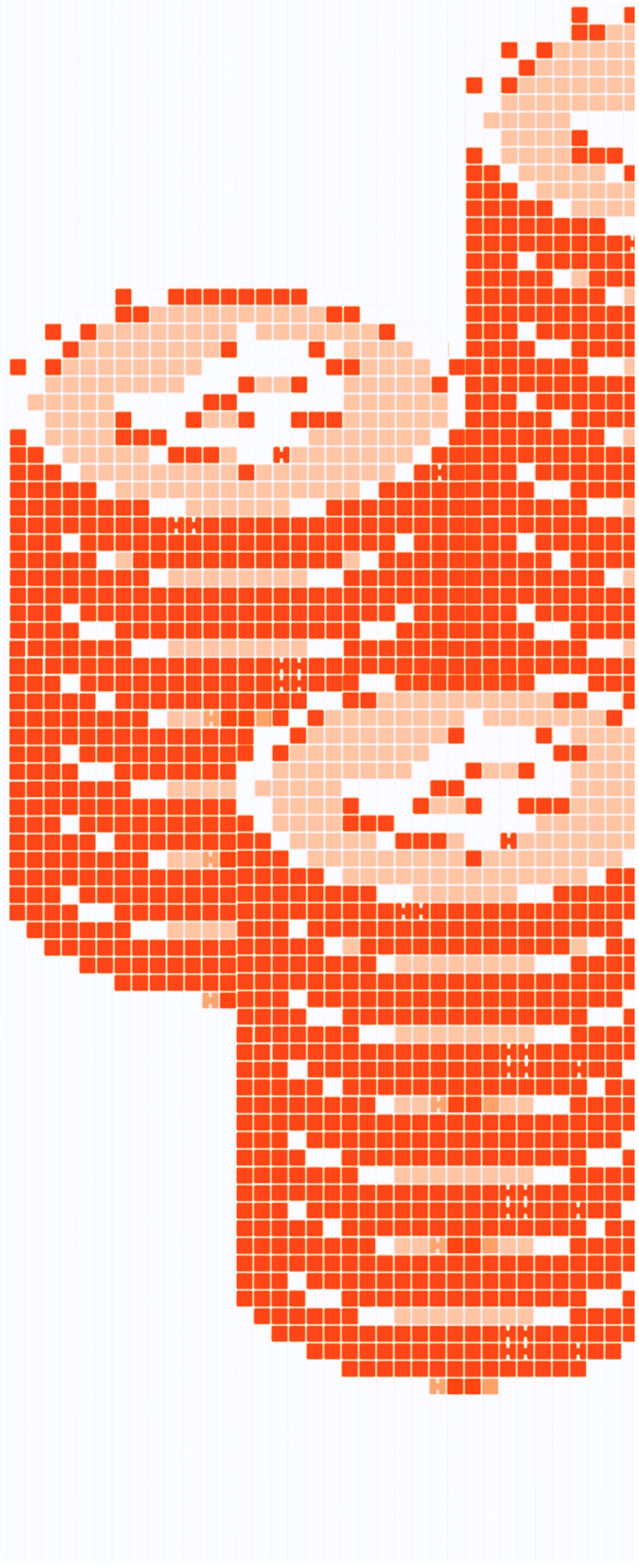

Hemi Earn sources yield through Vetro, a stablecoin and BTC treasury protocol built by the same team behind Bitcoin Core, Bloq, and Hemi. Vetro launched publicly on June 25, 2026; depositors mint VUSD and stake it into sVUSD, with the same pattern extended to Bitcoin through vetBTC, and a live analytics dashboard shows where backing funds are deployed in real time.

Hemi Earn is built for agentic use. It separates asset ownership from strategy administration. The owner keeps full withdrawal rights at all times, while an authorized administrator can adjust how deposits are allocated without ever gaining custody of the funds.

An accountable principal who owns the assets, and a rule-bound operator who manages strategy within defined limits but can never take the money, is the Know Your Agent model expressed as treasury architecture. Hemi Earn was designed for institutions and their service providers, and an ERC-8004-registered agent is simply the next kind of service provider. Inflow-aware deployment, rule-based allocation, no discretionary action needed per cycle: this is agent-compatible infrastructure by construction.

## No wrapping or manual bridging required

### Native BTC deposited directly from a Bitcoin address



# Hemi’s Underlying Network

At the network level, Hemi's Proof-of-Proof consensus publishes state to Bitcoin. Hemi's documentation places Superfinality at nine Bitcoin blocks and full finality at nine, roughly 90 minutes. The Hemi Virtual Machine gives smart contracts a native view of live Bitcoin state, UTXOs, balances, headers, and transaction data, without oracles in the loop, so strategies can reason about actual BTC conditions in the same environment where they execute. These parameters set Hemi apart from other BTCFi integrations.

~90

minutes

Superfinality — state published to Bitcoin after ~9 BTC blocks

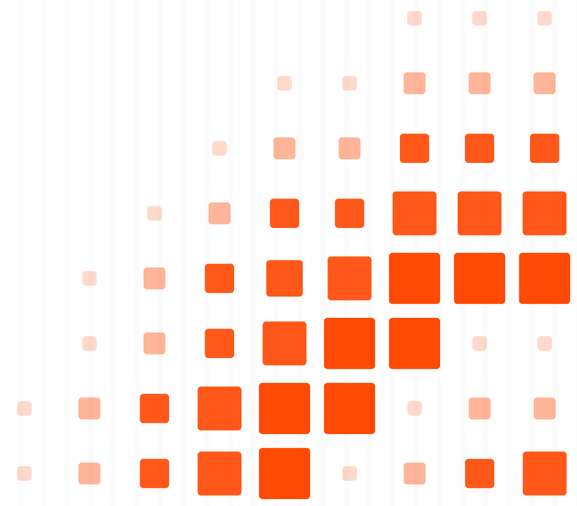
The ecosystem is maturing rapidly. Hemi lists 65+ yield and DeFi products, with oracle feeds from Pyth, RedStone, Stork, and eOracle, and institutional weight behind the posture: an October 2025 engagement with Dominari Securities to develop digital asset treasury and ETF platforms, alongside a $15 million growth round, and Warsaw-listed BTCS S.A.'s commitment of 50 to 100 BTC to the network's liquidity program in March 2026.

65+

products

across yield and DeFi

Agent integrations with these systems are the road ahead, and Hemi is building this capital infrastructure out as the AI side matures. With x402 throughput measured in the tens of millions of transactions a month and ERC-8004 registrations turning into working service agents, the two curves are converging, and Hemi Earn is positioned where they meet.



# Final Summary

The agent economy spent the last eighteen months getting its paperwork in order: how to pay, who is liable, how to prove the work. With that phase concluding, the next phase is capital: agents operating treasuries under mandates from accountable owners, around the clock, by rule rather than by mood.

BTC is the deepest pool of capital those agents will be pointed at, and it is the pool least served by automation today. Hemi is building the infrastructure to change that: automated BTC deployment through Hemi Earn, yield sourced through Vetro, ownership and administration cleanly separated, on a network that anchors to Bitcoin itself.

The machines learned to earn. Hemi is where they can put that knowledge to use.

