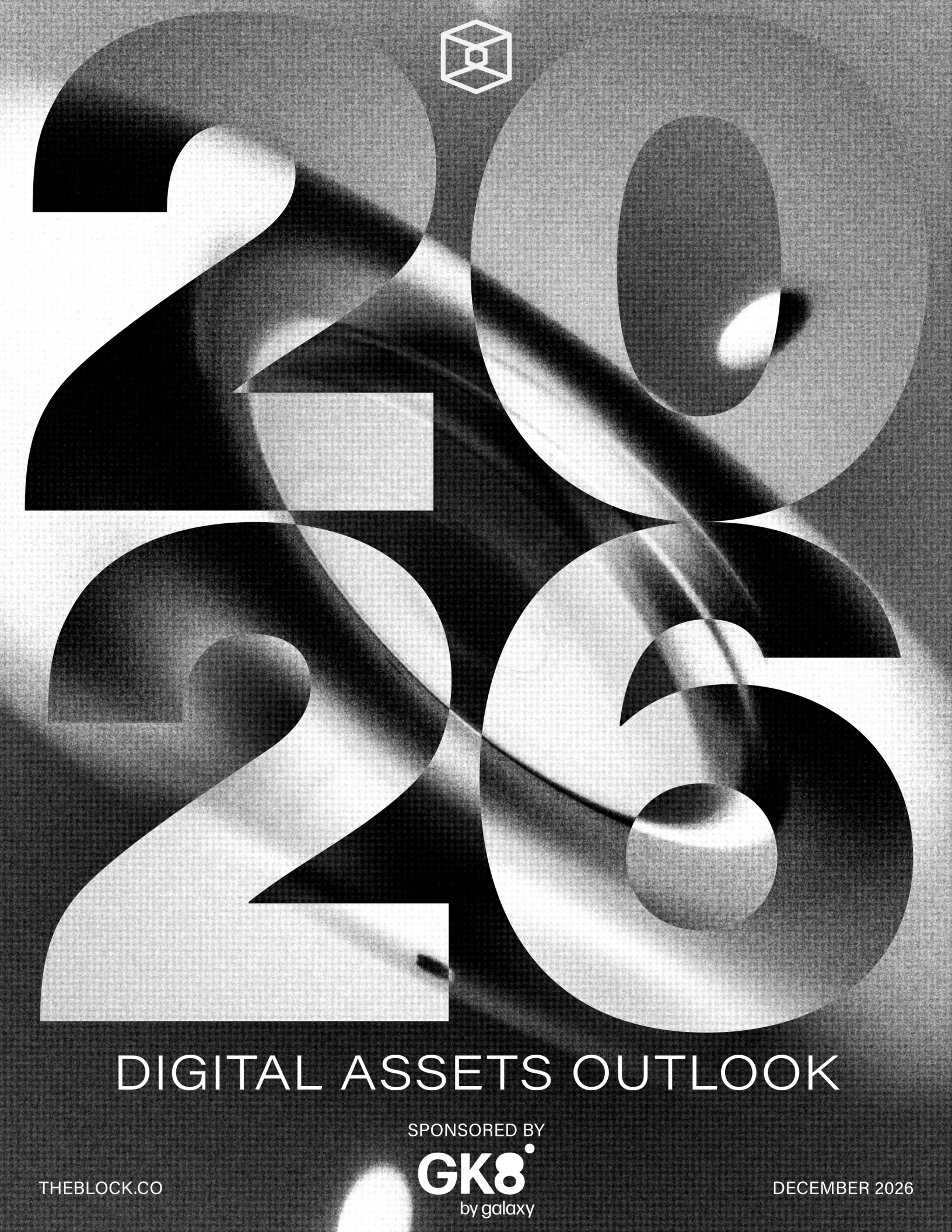

DIGITAL ASSETS OUTLOOK

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DECEMBER 2026

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FOR A DEEPER LOOK AT WHAT'S AHEAD, READ GK8'S RESEARCH PIECE, "WHEN CRYPTO CRIMINALS LEARN AND ADAPT", FEATURED AT THE CONCLUSION OF THIS REPORT.

DISCOVER THE SAFEST PATH TO DIGITAL ASSET CUSTODY:

SCHEDULE A GK8 DEMO

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The authors of this report may hold tokens mentioned in this report. Please refer to The Block's financial disclosures page for author token holdings.

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FOREWARD

Welcome to The Block's 2026 Digital Assets Outlook Report, a comprehensive analysis of the past year's developments in the cryptocurrency and blockchain space. This report leverages expertise across our research team and is designed to provide insights to stakeholders across the digital asset ecosystem, from institutional investors and developers to policymakers and enthusiasts.

The report is organized into thematic sections, each focusing on key areas of the industry

The report is structured as follows:

- **Macroeconomic Backdrop:** Contextualizing crypto asset class performance within broader economic trends.
- **Bitcoin Mining:** Reviewing the performances of Bitcoin mining companies and onchain data.
- **Blockchain Networks (Layer 1s and 2s):** Examining advancements in scalability and comparing user adoption.
- **End-User Applications (DeFi and NFTs):** Highlighting new innovations and competitive dynamics.
- **Institutional Involvement and Regulation:** Analyzing milestones and key adoption trends.

For a quick grasp of the year in review, we've compiled a few highlights:

Top Takeaways from 2025

1. **Mass Adoption and Market Surge But Not Everyone Felt It:**

   The global cryptocurrency market capitalization reached an all-time high of $4.3 trillion fueled by the most crypto-positive administration in history but positive price performance was not evenly distributed.

2. **L1 Usage Split Between Speculation and Settlement:**

   Solana, BNB Chain, and Hyperliquid stood out as ideal venues for continued speculative activity, while Ethereum solidified its role as a settlement and data availability hub in line with its rollup-centric roadmap.

3. **Specialization Reshaped The Base Layer:**

   New L1s organized around a set of core differentiators, leaving the landscape more specialized but increasingly fragmented and reliant on interoperability.

4. **Layer 2 Consolidation Accelerates:**

   Base emerged as the clear leader across TVL, users, and activity in 2025, while most new L2s saw usage collapse after incentive cycles, underscoring the concentration of meaningful activity around a small set of ecosystems.

5. **Enterprise L2 Adoption Expands the Rollup Model:**

   Institutional and consumer platforms increasingly launched or integrated Layer 2 infrastructure in 2025, highlighting how distribution and strategic partnerships, not technical differentiation, are becoming the primary drivers of L2 growth.

6. **Institutions Commit to RWAs at Scale:**

   Market cap of tokenized public-market RWAs tripled to $16.7 billion as institutions adopted blockchains for issuance and distribution, with BlackRock's BUIDL emerging as the reserve asset underpinning a new class of onchain cash products.

7. **Perps and Prediction Markets Drive Onchain Volume Growth:**

   Perp DEXs set all-time highs in volume as execution improved and incentives drew traders, while prediction market activity reignited through broader distribution and a wider range of event contracts. Together, they became the strongest engines of onchain trading activity in 2025.

8. **NFT's K-Shaped Landscape:**

   The NFT & gaming sectors have settled into a "K-shaped", highly selected market, where a small set of IPs and verticals with real products, revenues, or communities still matter, while the long tail of collections and culture tokens continues to fade into irrelevance.

9. **Emergence of Digital Asset Treasuries:**

   DAT companies raised $29 billion in 2025, with over 100 publicly traded entities deploying capital into cryptocurrency holdings and controlling a significant % of major assets.

10. **ETF Expansion:**

    The ETF landscape expanded dramatically with the approval of Solana staking ETFs, which accumulated $1 billion in AUM within their first month. The SEC introduced generic listing standards, drastically reducing approval timelines as a myriad of long-tail assets filed for ETFs.

11. **Regulatory Environment Shifts from Enforcement to Enablement**

    Paul Atkins' appointment as SEC Chair and the passage of the GENIUS Act transitioned the United States from a regime of regulation by enforcement to purpose-built legislative frameworks, providing clear compliance pathways.

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1. INTRODUCTION

The global cryptocurrency market capitalization reached an all-time high of $4.3 trillion in 2025, with Bitcoin and Ethereum breaching new highs, underscoring a year that defied easy characterization. While the crypto industry finally got its wish of mass institutional adoption and regulatory clarity, cryptocurrency prices remained lukewarm for most of the year, with few trends or sectors able to rival the memecoin surge that dominated 2024. This seemingly contradictory theme of positive news amid negative prices was evident across various parts of the industry. Despite U.S. President Donald Trump executing on his pledge to make the U.S. the "Bitcoin superpower of the world," BTC traded down 2.5% year-to-date (YTD). Even with record stablecoin issuance, ETH fell 10% and barely exceeded its prior price peak. In many ways, 2025 can be marked as the year of conflicted feelings.

MACROECONOMIC LANDSCAPE PROVIDES BASE FROM WHICH CRYPTO BUILDS

Following the inauguration of Donald Trump as the 47th president of the United States, the global market was thrust into a trade war, as the Trump administration imposed a series of tariffs on April 2, 2025, known as "Liberation Day", that were the highest since World War II, with baseline tariffs of 10% on imports from nearly every country, with some targeted tariffs reaching higher than 100%. The days following Liberation Day, equities and crypto sold off sharply, with the S&P 500 and the total cryptocurrency markets both shedding over 15% from their market caps in under a week. U.S. Treasury yields also spiked amid fears of U.S. market instability, with gold prices reaching historic highs. Market fears, however, were brief with prices recovering to pre-Liberation Day highs in May, as the Trum

p administration communicated its willingness to negotiate deals on its newly implemented tariffs. In October, both the equities and crypto markets reached new all-time highs, as traders began pricing in a milder-than-expected impact from the U.S. tariffs, alongside two rate cuts from the Federal Reserve and a softening tone on tariffs from the Trump administration.

Specific to crypto, the market landscape was greatly reshaped by a pro-crypto U.S. presidential administration and a neutral, if not accommodating, U.S. Congress, some members of which were elected to their positions with the help of crypto super PACs during the 2024 election cycle. This year was jump-started with the most pro-crypto administration in history, with the Trump administration installing a number of officials known for their favorable stances on digital assets into key policymaking and regulatory roles. These appointments include venture capitalist David Sacks as the government's new A.I. and crypto czar and Paul Atkins, who replaces anti-crypto Gary Gensler as the new SEC chair. Additional key appointees include Treasury Secretary Scott Bessent, Commerce Secretary Howard Lutnick, and CFTC Commissioner Caroline Pham.

With clearer regulatory guidance and a more supportive political climate, 2025 saw a proliferation in institutional crypto initiatives. Jumpstarting a wave of initial public offerings (IPOs) amongst crypto-related firms was Circle's blockbuster IPO in June 2025, which saw its shares surged by over 700% within a month of going public, pushing the company's valuation above $60 billion at its peak. The deal's success paved the way for Bullish, Figure, and Gemini to also go public amid heightened investor enthusiasm, with all three firms' IPOs attracting oversubscribed demand, encouraging additional public filings from longstanding firms like BitGo and Kraken.

Alongside the increase in public offerings of crypto firms, we also saw the rise of Digital Asset Treasury (DAT) companies hit the public markets, expanding on the playbook pioneered by Strategy's bitcoin vehicle for a host of alternative digital assets. As we will expand on throughout the institutional section of this report, the number of DATs in 2025 grew eightfold compared to the year prior, with aggregate market capitalizations peaking at over $100 billion. There are now well over 100 digital treasury companies operating across markets, providing exposure to BTC, ETH, SOL, and a host of other cryptocurrencies.

As public markets saw increased interest, so did private markets. In 2025, venture funding into crypto startups saw a 22% year-over-year (YoY) increase to $16.8 billion, with a focus on later-stage, mature startups. While M&A activity did contract in 2025, we also saw the largest M&A deals in crypto history happen this year with Coinbase's $2.9 billion acquisition of Deribit, Kraken's $1.5 billion acquisition of NinjaTrader, Ripple's $1.25 billion acquisition of Hidden Road, and Stripe's $1.1 billion acquisition of Bridge.

On the crypto trading front, we saw a significant year for crypto options. Open interest on crypto options exchanges saw a 78% YTD increase to $51 billion, while total annual volumes are projected to be $1.8 trillion, an 85% YoY increase. This increase was primarily driven by BTC options on Deribit and ETH options on Binance, with OKX also seeing its options volumes nearly doubling. That said, options still make a small share of derivatives volumes, capturing just 4% of the volumes from futures products.

Source: The Block

Source: The Block

Futures volumes on centralized crypto exchanges, specifically perpetual futures, saw relatively lower growth in 2025, due to the surge in the popularity of decentralized perpetual futures protocols like Hyperliquid, which we briefly discuss in the following sections. In 2025, perpetual futures exchanges generated $41 trillion in aggregate annualized trading volumes, a 32% increase from the year prior, while YoY open interest decreased by 9% to $54 billion.

Source: The Block

Source: The Block

Spot trading volumes across exchanges saw minimal growth, with a 13% YoY increase from $18.8 trillion in 2024 to $21.2 trillion in 2025, also tied to the theme of an increase in usage amongst decentralized alternatives.

Source: The Block

Despite generally supportive fundamentals, crypto prices struggled to reflect that strength throughout the year, with cryptocurrencies across sectors posting negative returns, as shown below.

Year-to-Date Returns (%) of Crypto Sectors in 2025

Index	Sector	YTD
GML1	Layer 1 Tokens	-13%
GML2	Layer 2 Tokens	-65%
GMDEFI	DeFi Tokens	-52%
GMMEME	Memecoins	-67%
GMGM	Gaming Tokens	-83%
NFT Ecosystem Tokens	PENGU, DOOD, ANIME	-70%

THE BLOCK

Source: GMCI, The Block

And while bitcoin reached new highs of over $126,000 in early October, a flash crash on October 10 saw tens of billions of dollars in liquidations across markets, ultimately pushing the YTD return of the world's largest cryptocurrency into the red. As of the time of this report, it is still debated what the catalyst for the October 10 flash crash was, but the industry is still grappling with its ripple effects.

There were, however, pockets of thematic strength in the market this year.

Year of Rotational Themes

2024 was the breakout year for memecoins, with the entire market captivated by cryptocurrencies featuring logos of various animals, cultural icons, and inside jokes. The appeal of the memecoin trend was easy to understand: amid an aggressive regulatory environment, the easiest way to avoid an enforcement letter from local enforcement agencies was to launch a valueless token with no utility.

The popularity of memecoins ultimately reached President Trump's inner circle, with his associates launching Trump and Melania-branded memecoins days before his presidential inauguration. Since then, memecoins have seen their appeal slowly taper off as the market found new interests. At its peak in November 2024, the memecoin sector accounted for roughly 6.7% of the total market cap of cryptocurrencies. A year later, they account for closer to 3%.

Source: The Block, CoinGecko

The first major theme this year for cryptocurrencies was crypto AI Agents. On the back of continuous enthusiasm around AI companies such as Nvidia and OpenAI, in the traditional tech world, crypto saw its own mini bubble with projects building AI infrastructure and AI apps such as Virtuals and aixbt, skyrocketing in valuation, ultimately peaking at 0.78% of the total crypto market cap in January.

Source: The Block, CoinGecko

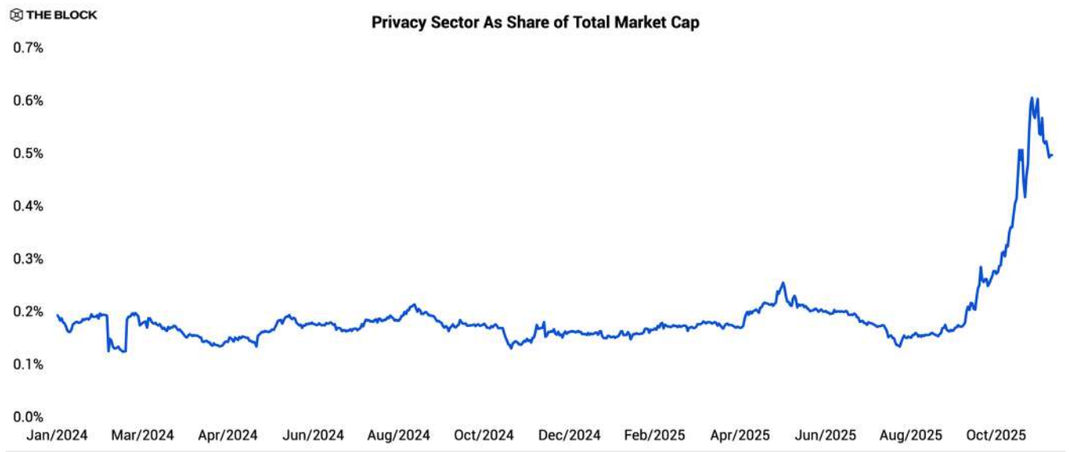
Briefly after the Crypto AI momentum was the continuous growth of the perpetual decentralized exchange (Perp DEX) sector, led by the breakout star of 2025: Hyperliquid. As of the publishing of this report, volumes on Perp DEXs continue to break new highs against centralized perpetual exchanges, making up over 18% of their trading volumes. In August, Hyperliquid alone reached nearly 14% of Binance's futures trading volumes, a momentous feat considering the latter is the world's largest cryptocurrency exchange by volume that had a multi-year headstart against the former.

Perp DEXs as a sector currently make up only 0.49% of the total cryptocurrency market, peaking at 0.59% in September. But, compared to other sectors this year, the trend

continued to show growth.

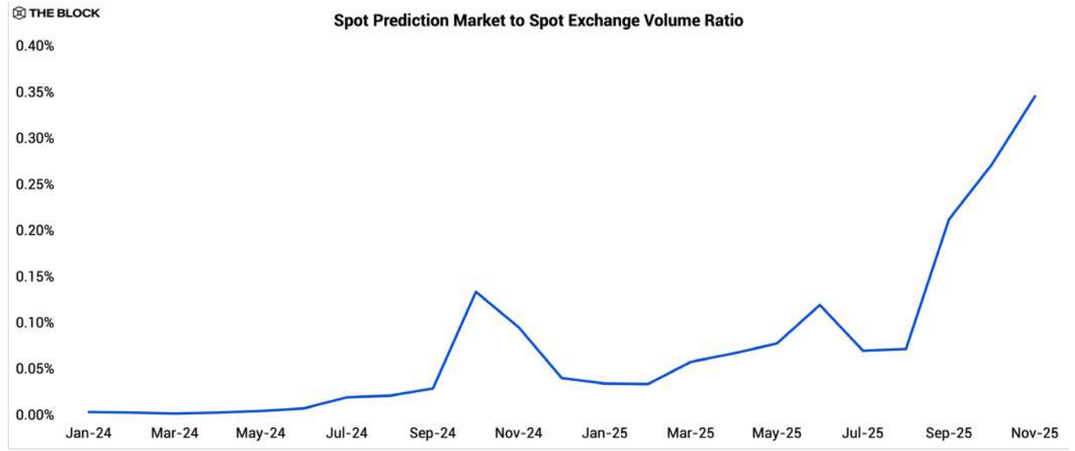
Source: The Block, CoinGecko

Nearing the end of the year, we saw a rise in interest in privacy coins, led primarily by Zcash. While privacy coins have been around for nearly a decade, there was a sudden surge in interest amongst traders in September, with the price of ZEC increasing by over 1,200% in a two-month span. This momentum also led to associated privacy coins like Monero's XMR to see positive price action over the same period. Currently, the top privacy coins make up slightly over 0.6% of the total cryptocurrency market cap.



Source: The Block, CoinGecko

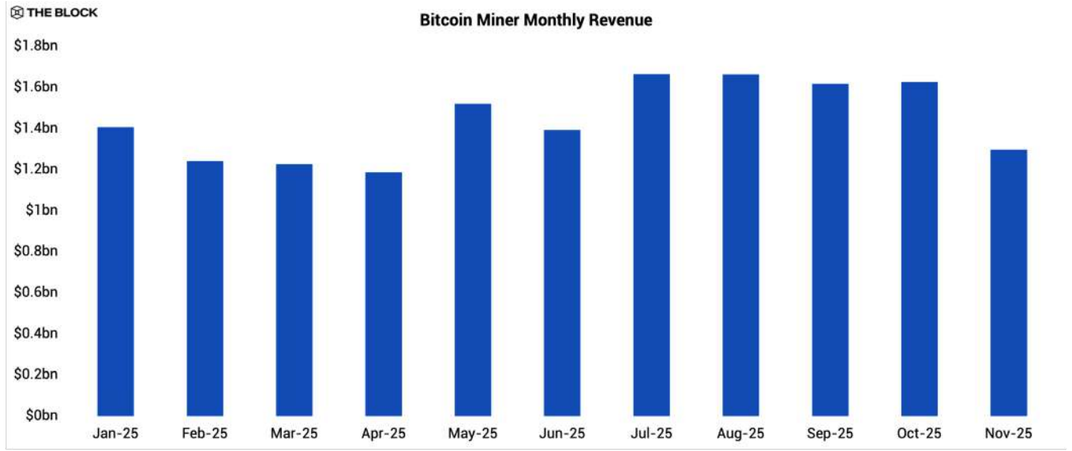
To round out the themes of the year are prediction markets. Alongside stablecoins, prediction market apps were among the few crypto-native themes that have branched out to achieve mainstream adoption. Jump-started by Polymarket's breakout moment during the 2024 elections, momentum continued in 2025. In 2025 alone, prediction markets including Polymarket and Kalshi raised a combined $3.6 billion in venture funding and have generated $28 billion in trading volumes, a 4.3X growth over the previous year. As a share of total crypto spot volumes, prediction markets make up nearly 0.4%, up over tenfold from the beginning of 2025.



Source: The Block, Kalshi

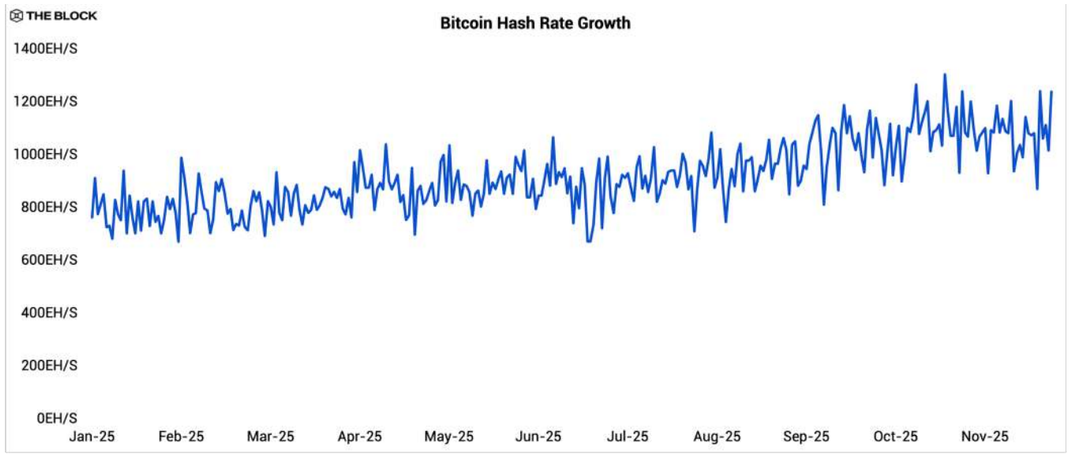
2. MINING

Following Bitcoin's fourth quadrennial halving event in 2024, Bitcoin miner revenue saw a small increase in 2025, benefiting from the positive price action of bitcoin. Miners are projected to generate $17.2 billion in 2025 compared to $14.7 billion the year prior. Despite the increase in total annual revenue, fees as a share of total revenue (which is made up of block subsidies and fee payments) saw an 82% drop. In 2024, miner fees as a share of revenue were approximately 7%. This year, that share has dropped to roughly 1%. This sharp decline stemmed from the unwinding of last year's Bitcoin onchain frenzy driven by Ordinals, BRC-20 tokens, and Runes.



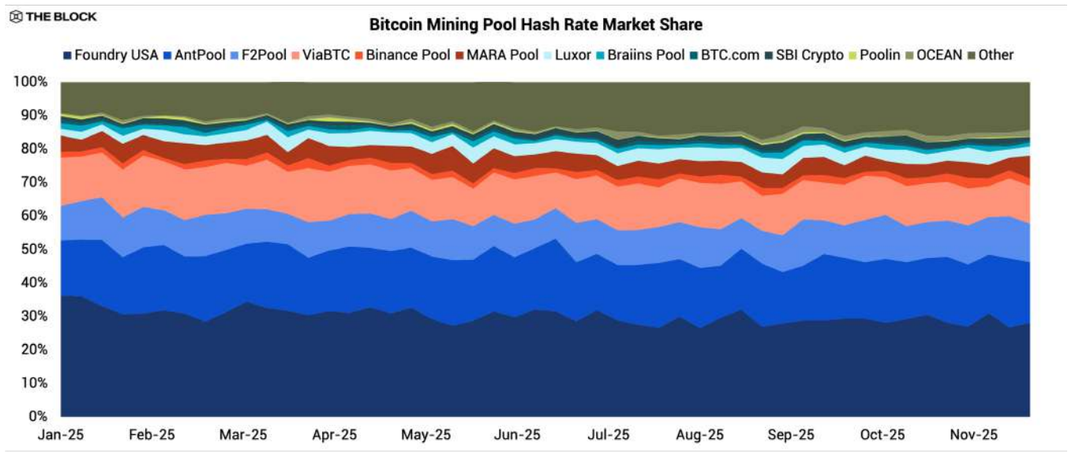
Source: The Block

Despite volatile price action for well over a decade, Bitcoin's hash rate has consistently grown as new mining entities enter the market to compete with ever-evolving mining hardware efficiencies. In 2025, Bitcoin's hashrate reached 1 zetahash for the first time in history, leading to some estimates suggesting Bitcoin now makes 0.80% of the world's electricity consumption.



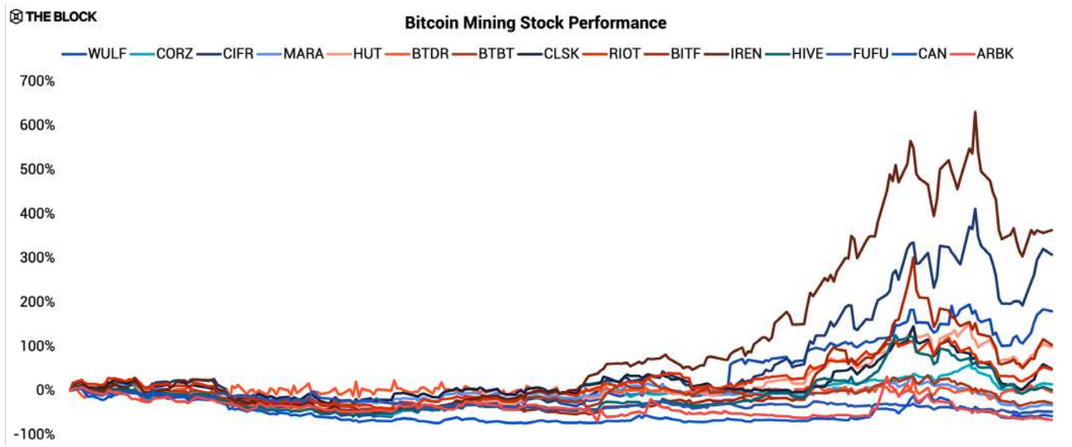
Source: The Block, Coin Metrics

For Bitcoin mining pools, Foundry USA, the five-year-old subsidiary of crypto conglomerate Digital Currency Group, remains the world's largest, accounting for 30% of the market share.



Source: The Block, mempool

In 2025, most publicly traded Bitcoin miners saw significant gains as they capitalized on the ongoing AI boom and accelerated their pivots toward offering AI infrastructure and services. The average return of top publicly traded Bitcoin-centric mining companies YTD is 62%, with the median returning 16%, compared to bitcoin's negative return for the year. For example, the best-performing Bitcoin mining stock in our tracked group this year was IREN, which completed a full AI pivot to providing data centers for AI companies, initially signalling its intent to provide AI data infrastructure in early 2025.



Source: The Block, Yahoo Finance

MINING OUTLOOK FOR 2026

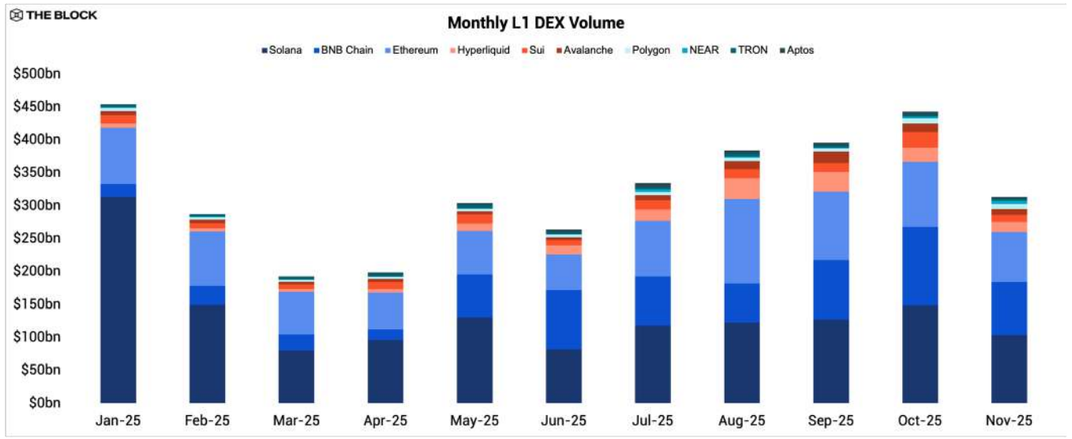
While Bitcoin mining revenue this year was saved by positive YoY price action, the popping of the onchain Bitcoin bubble saw fees collapse, making Bitcoin miners increasingly reliant on the bitcoin price increasing and an ever-decreasing reward subsidy to sustain their businesses. As AI infrastructure becomes a more attractive business line for miners, there is a growing risk that firms will gradually divert resources away from Bitcoin mining, potentially reducing the network's hash power and weakening Bitcoin's security over time. The Bitcoin community will continue to need to build an ecosystem that boosts demand to use the network.

3. LAYER 1

Against a backdrop of broadly weak token performance in 2025, Layer 1 (L1) activity increasingly split across distinct roles and narratives. Speculative flows concentrated on a handful of high-throughput venues, while Ethereum deepened its position as a settlement and data availability hub through L2-driven growth and falling fees. Stablecoins cemented their status as the ecosystem's killer use case, culminating in the launch of purpose-built "stablechains." At the same time, privacy-focused, performance-optimized, and app chain-oriented L1s sharpened their value propositions, setting up a base layer that is more fragmented but explicitly specialized heading into the next cycle.

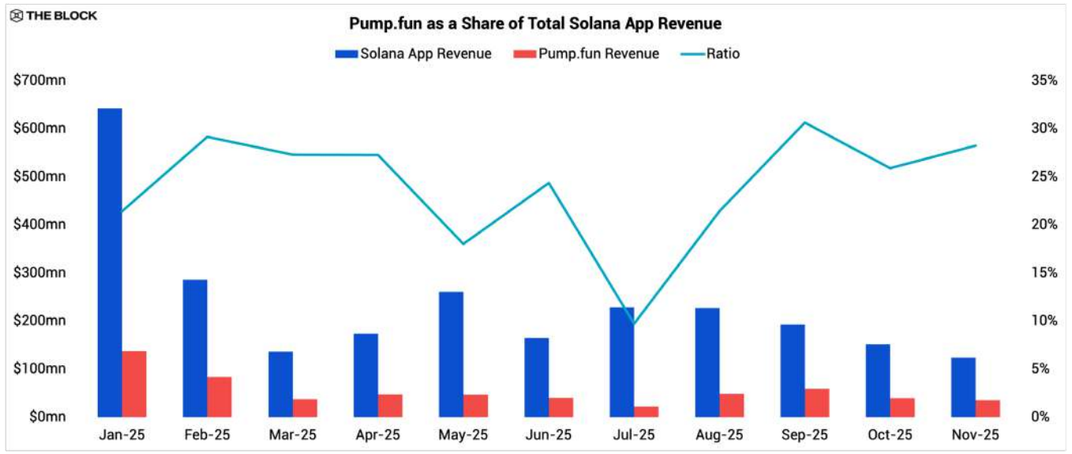
SPECULATION VERSUS SETTLEMENT

Retail demand for L1s in 2025 was still overwhelmingly driven by speculation, with the memecoin supercycle continuing to provide the clearest expression of that theme. High throughput, deep liquidity, and low fees made Solana and BNB Chain the natural venues to accommodate this flow. Across most of the year, Solana maintained a clear lead in L1 DEX volumes, only briefly ceding the top spot to BNB Chain in June and Ethereum in August.



Source: The Block, DeFiLlama

This dominance was heavily front-loaded. January marked an all-time high for Solana DEX volume, with the official $TRUMP and $MELANIA memes accounting for nearly half (~48.5%) of that activity. Pump.fun alone contributed around 23% of Solana's YTD app revenue, turning launchpads into a core part of the network's economics and reinforcing its reputation as a "casino chain." As the year progressed and memecoin momentum faded, Solana's DEX dominance gave way to a more balanced split with Ethereum and BNB Chain, highlighting the network's dependence on a narrow set of meme catalysts.

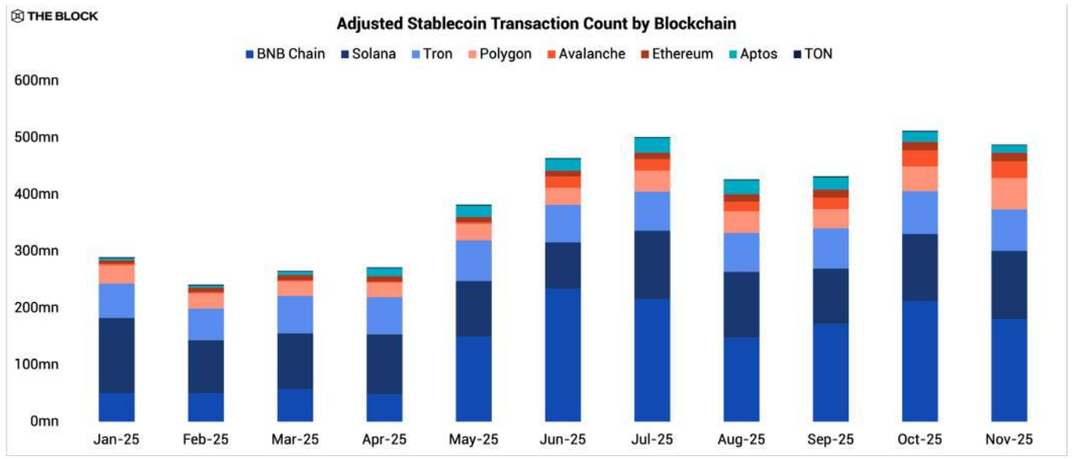


Source: The Block, DeFiLlama

Ethereum told a different story. Its renewed share of DEX volume sat atop an already dominant DeFi base, with TVL peaking above $97.5 billion. However, even as monthly transactions on Ethereum reached all-time highs, a growing share of day-to-day activity occurred on Layer 2s, with Base alone processing more than 3.3 billion transactions YTD compared with roughly 473 million on mainnet. The Pectra hard fork reinforced this shift, bundling execution and consensus layer optimizations that further entrenched Ethereum's rollup-centric roadmap. Over the same period, average mainnet transaction fees fell from around $7.25 on January 1 to lows near $0.19, levels not seen since early 2020, supporting mainnet's standing as an ideal settlement and data availability layer.

Meanwhile, BNB Chain's resurgence combined technical upgrades with renewed cultural momentum. On the protocol side, the Lorentz and Maxwell hard forks cut block times from 3 seconds to 0.75 seconds, allowing the network to better absorb bursts of activity. On the cultural side, CZ's presidential pardoning and declaration of a "BNB meme szn" helped redirect speculative energy toward four.meme, which ultimately accounted for roughly 21.8% of BNB Chain's YTD app revenue. Around this speculative core, DeFi on BNB Chain consolidated toward more traditional projects, including YZi Labs-backed perpetuals exchange Aster, which was well-positioned to capture perp DEX mindshare, and Lista DAO, a staking and lending protocol that saw roughly 188% YTD TVL growth.

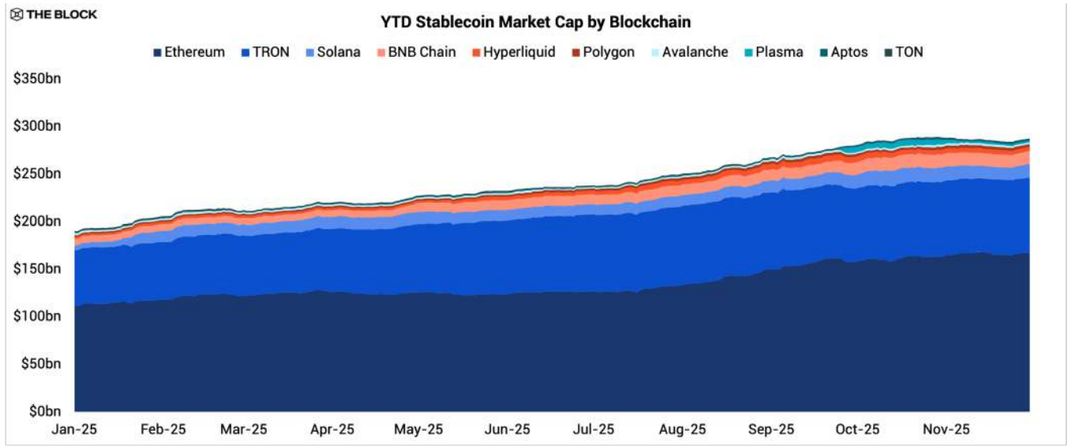
Where BNB Chain distinguished itself most clearly was in stablecoin activity. On an adjusted basis, excluding bots and other artificially inflationary behavior, BNB Chain averaged more than 138 million stablecoin transfers per month. Two initiatives were especially important in driving this growth: the "0 Fee Carnival," which enabled gasless transfers for leading stablecoins, and the BNB Chain-centric launch of World Liberty Financial's USD1 in March. The latter effectively made BNB Chain the primary rail for a politically charged, multi-billion-dollar stablecoin, positioning it as a hybrid ecosystem where memes, leverage, and payments increasingly intersect.



Source: The Block, Artemis

STABLECOINS VALIDATE PRODUCT-MARKET FIT

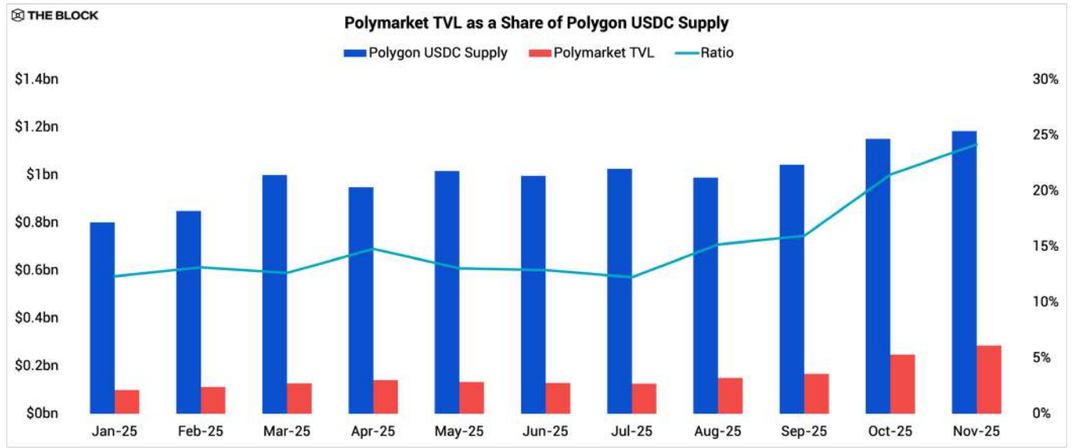
Stablecoins were one of 2025's defining themes. More than $90 billion of net new issuance lifted the total stablecoin market cap by roughly 45%, an acceleration of about $18 billion over 2024's growth. For L1s, this surge mapped closely onto the year's dominant narratives: memecoins, perpetual futures, institutional adoption, and prediction markets.



Source: The Block, DeFiLlama

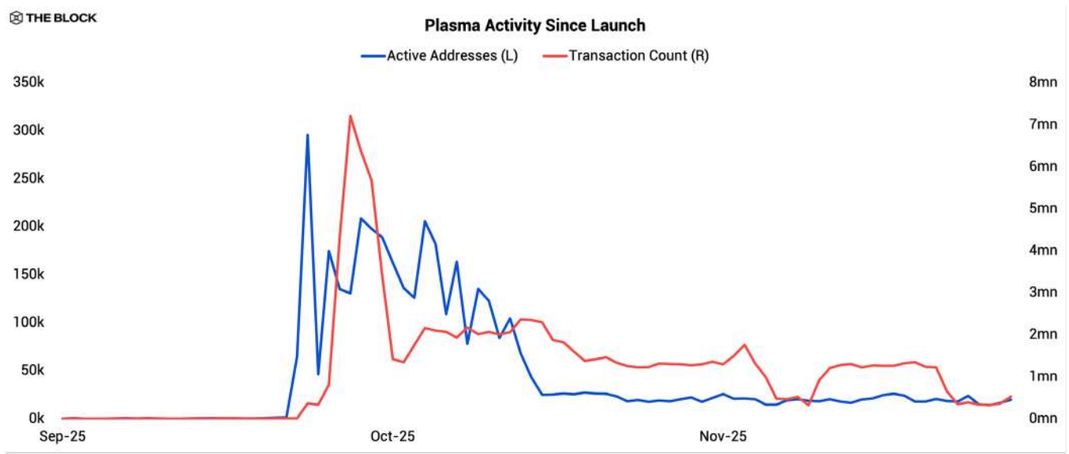
In percentage terms, Solana and Hyperliquid stood out as key beneficiaries. On Solana, stablecoin supply doubled in the first 23 days of the year as meme activity peaked, supported by roughly $4.5 billion in new USDC mints. Issuance slowed in subsequent months, but the network still recorded about 159% YTD growth, with PYUSD expanding to capture just over 7% of Solana's stablecoin float. Hyperliquid had a slower start, but all-time high perp volumes in the second half of the year helped drive roughly 118% YTD growth in its stablecoin base, tying liquidity directly to derivatives activity.

Aptos and Polygon followed a more institutional path, with stablecoin supply growing by about 142% and 76% YTD, respectively. On both chains, October deployments of around $500 million of BUIDL played an outsized role, accounting for about 57% of net new issuance on Aptos and roughly 40% on Polygon. Meanwhile, the increasing importance of prediction markets meant that a daily average of around 14% of Polygon's USDC supply was locked in Polymarket contracts.



Source: The Block, DeFiLlama, RWA.xyz

The proliferation of stablecoins spilled into network design itself through the emergence of stablecoin-centric L1s, or stablechains. These networks attracted more than $548 million of disclosed funding in 2025 on the promise of delivering purpose-built environments for stablecoin execution and settlement. Rather than competing on breadth of functionality, stablechains optimize around narrow but high-value use cases such as protocol-level compliance hooks, simplified fee models, or native onchain forex.



Source: The Block, Plasmascan

Plasma established itself as the early leader in this segment, ranking as the L1 with the eighth largest stablecoin supply less than three months after launch. Its adoption metrics have since fallen meaningfully from their initial peaks, with active addresses and transaction counts now a fraction of early post-launch levels. However, with Stable launching in early December, plus Circle's Arc and Stripe/Paradigm's Tempo still in testnet, it remains too early to tell whether stablechains can or will sustain durable, long-term use.

SPECIALIZATION AT THE BASE LAYER

Stablechains were only one expression of 2025's broader shift toward specialized L1s. While newer networks may still offer general-purpose execution, they increasingly organize around a clear core differentiator, such as privacy, performance, or customizability. The result is a more segmented landscape in which users route activity through chains explicitly optimized for their specific needs.

Within this shift, interest in the privacy narrative reached new highs. Monero, the long-time leader of privacy networks, became the center of controversy when Qubic, a "useful proof of work" chain, rapidly captured a large share of its hashrate, at times reportedly accounting for over half of total hashing power. Although Qubic framed its actions as

benevolent, many observers viewed the episode as an economic attack, illustrating how an otherwise sovereign network can be repurposed as a captive yield engine by and for external actors.

In the aftermath of Monero's hashrate turmoil, Zcash emerged as an unexpected focal point in late 2025. After years of underperformance relative to both BTC and XMR, ZEC posted gains of roughly 661% YTD, briefly overtaking Monero by market capitalization, and forcing the industry to revisit long-standing assumptions about transparency, compliance, and privacy as a fundamental right. A key driver of Zcash's revival was its full integration with NEAR Protocol's cross-chain intents stack, which allows both retail and institutional users to "step off" a transparent chain, transact inside Zcash's shielded pools, and return without leaving an obvious trail. The integration coincided with a clear inflection in shielding behavior, with Zcash's shielded supply market share rising from roughly 9% in January to highs of almost 24% in November.

Source: The Block, ZecHub

Zcash also provided a template for how privacy and compliance can coexist. While Zcash transactions are transparent by default, users can opt into fully encrypted transfers and selectively reveal details when required. This design pattern has begun to spread, with newer L1s like IOHK's Midnight Network and Digital Asset's Canton Network each implementing their own versions of selective disclosure. Together, these projects point to an emerging category of compliant privacy networks that preserve confidentiality without sacrificing auditability.

Performance-focused L1s formed another pillar of specialization. These networks are designed to feel invisible to end users, targeting web2-level latency and trading experiences that can rival centralized exchanges. Monad led mindshare in this segment, with its promise of parallelized EVM execution finally materializing with mainnet launch in late November. Early onchain activity, however, remained modest relative to the months of anticipation, in part due to unfavorable market conditions at launch. Fogo pursued a similar goal with a different stack, using an SVM-based design, a Firedancer client, and a curated validator set to minimize latency. Both projects are still in early phases, but together they illustrate the ecosystem's desire to close the performance gap between onchain and offchain trading.

Parallel to these developments was the rise of app chain hubs as coordination layers for specialized L1s. On Avalanche, this took the form of an expanded subnet architecture that allows custom L1s to set their own specifications while still connecting back to the primary network for security and liquidity. Initia pushed the same concept in a rollup-based direction, combining a coordination layer with an "Interwoven" rollup stack for app-specific chains. In both cases, differentiated experiences are delivered by purpose-built environments that plug into a shared base rather than by fully standalone chains.

LAYER 1 OUTLOOK FOR 2026

The bar for relevance keeps rising, yet clean consolidation around a small set of networks still feels remote. Instead, the landscape is likely to keep fragmenting at the base layer, with niche, specialized chains cycling in and out of prominence. In this environment, interoperability and cross-chain communication become paramount. By abstracting away individual L1s and routing activity seamlessly, these systems can provide the consistent, intuitive user experiences needed for mainstream adoption.

4. LAYER 2

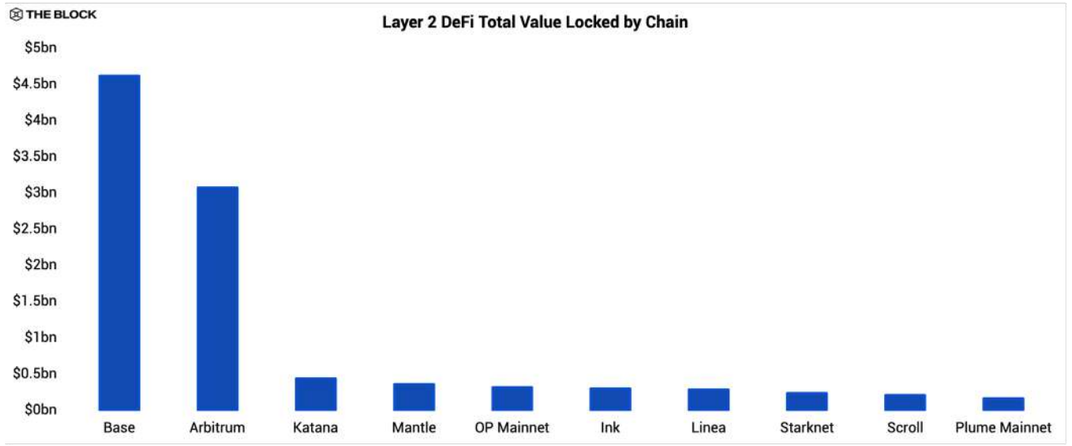
2025 has been the year that the Layer 2 narrative bifurcated: most new launches have become ghost towns shortly after airdrop farming cycles, while only a small handful of L2s have managed to escape this phenomenon.

Rollup ecosystems have matured from pure scaling experiments into distribution networks, while the key to growth is no longer technical superiority, but the ability to get their infrastructure embedded in as many channels, partners and external platforms as possible.

With major institutions launching or adopting their own L2 solutions this year, many of them have chosen to build on existing infrastructure rather than develop bespoke systems. The standout winner has been Coinbase's Base, built on the OP Stack, having dominated across users, transactions, and overall activity throughout the year.

TVL & LIQUIDITY CONCENTRATION

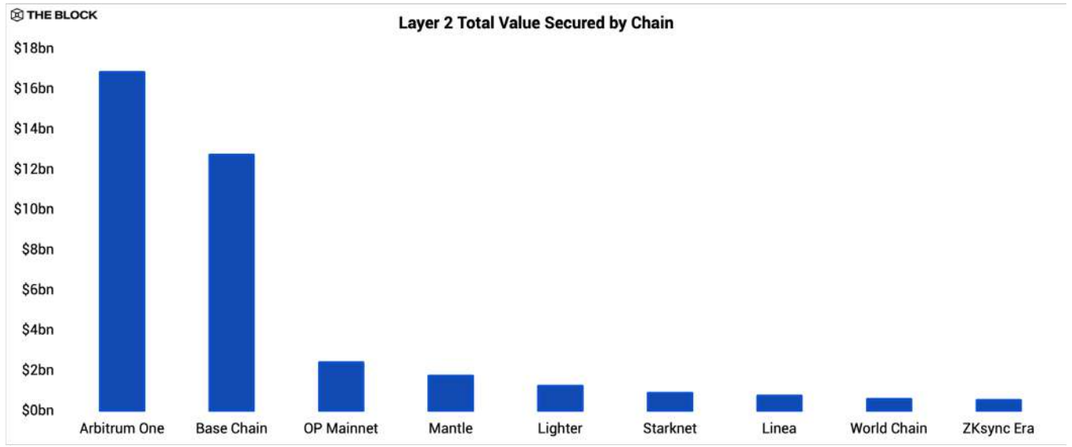
Layer 2 TVL expanded in 2025, but the growth was highly uneven. A clear power-law distribution has formed, with Base capturing the majority of new liquidity while most other L2s saw their TVLs stagnate or decline once incentive programs faded.



Source: The Block, DeFiLlama

TVL on Base rose from $3.1B in January to a peak above $5.6B in October, accounting for roughly 46.6% of all L2 DeFi TVL and extending what has essentially been uninterrupted exponential growth since launch.

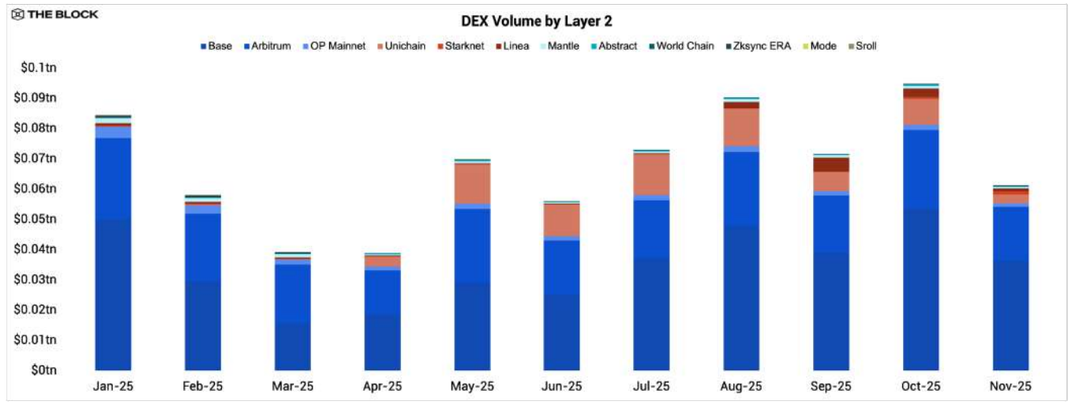
On the other hand, TVL on Arbitrum has remained largely stable YoY, edging down slightly from approximately $2.9 billion to $2.8 billion, which still represents over 31% of L2 DeFi TVL. OP Mainnet benefited from new Superchain partners, but it continues to lag in retail usage as consumer attention has shifted almost entirely toward Base.



Source: The Block, L2Beat

The data illustrates this divergence clearly. Base (46.58%) and Arbitrum (30.86%) dominate DeFi TVL for Layer 2s. Total value secured shows a similar hierarchy, with Arbitrum and Base together representing over 75 percent of the category. TVS measures all assets bridged to or held on a network, which provides a broader view than TVL that measures only assets actively used in DeFi.

USER ACTIVITY & ECOSYSTEM HEALTH

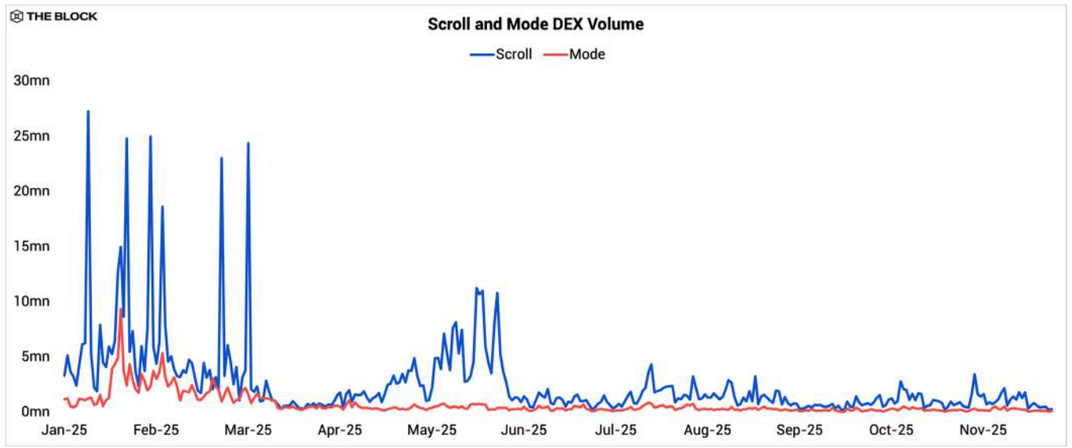


Source: The Block, DeFiLlama

Across all major activity metrics, Base showed the strongest sustained, organic growth in 2025. DEX volume, active wallets, and onchain interactions all point in the same direction. Over the course of the year, Base consistently captured around half of all DEX volume among L2s, benefiting from Coinbase's mainstream funnel, a growing mix of consumer-facing apps, and real usage from products like Aero, Echo and Morpho.

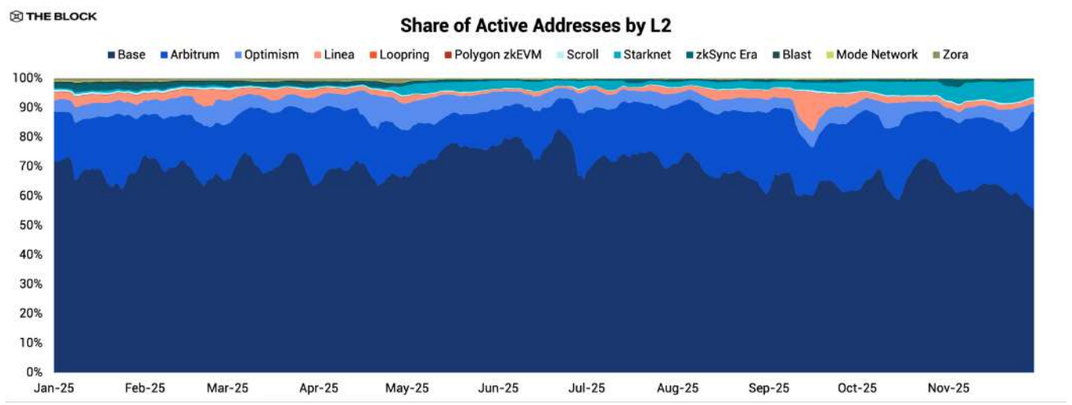
Morpho has quickly become a key driver of Base's growth, with deposits rising from $354 million in January to more than $2 billion at the time of this report. This growth is driven in large part by Morpho's integration into the Coinbase app, which significantly simplified access to onchain lending.

Meanwhile, the broader Superchain ecosystem shows strength through distribution, with Base, World Chain, Soneium, INK, and Unichain rollups expanding the OP Stack footprint.



Source: The Block, DeFiLlama

Many emerging L2s have followed similar trajectories with heavy, incentive-driven activity ahead of a token generation event, resulting in a points-fueled surge in usage, followed by a rapid post-TGE decline as liquidity and users migrate elsewhere, highlighting the mercenary nature of onchain participation and the challenge of establishing a true flagship application.



Source: The Block, GrowThePie

L2 LANDSCAPE: CENTRALIZATION, FRAGMENTATION, AND ENTERPRISE L2S

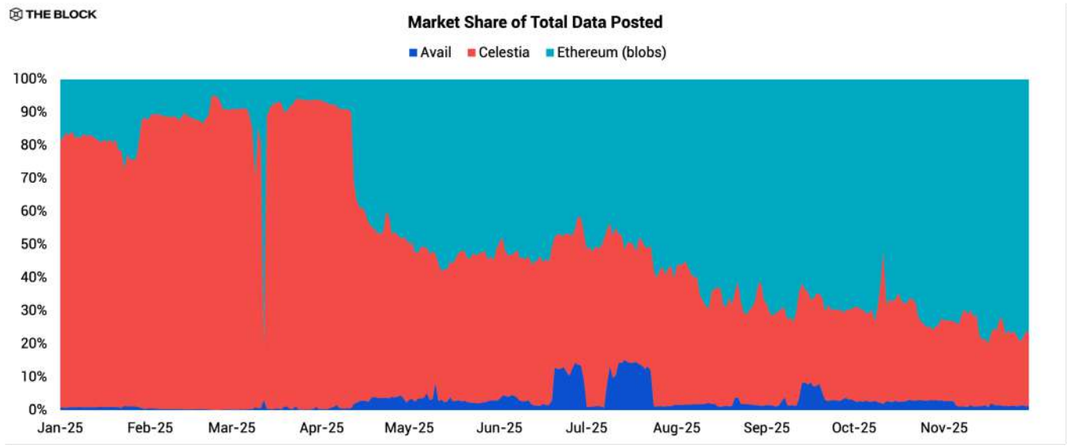
2025 marked the rise of the "enterprise rollup." Major institutions began launching or adopting L2 infrastructure, often standardizing on OP Stack deployments. Kraken introduced INK, Uniswap launched UniChain, Sony launched Soneium for gaming and media distribution, and Robinhood integrated Arbitrum for quasi-L2 settlement rails for brokerage clients.

The strategic insight is becoming clear: L2s win by distributing their infrastructure outward and partnering with large platforms rather than operating in isolation.

At the same time, the L1-to-L2 migration trend accelerated, with a notable portion of the industry having largely accepted that it is better to join Ethereum's shared network effects than attempt to rival them. For example, Celo and Lisk transitioned to OP Stack L2s, with the former secured by EigenLayer, while World Chain evolved from an application layer into a full OP Stack L2.

This has led to an increasingly fragmented L2 landscape where the number of chains continues to grow, but only a small subset matters.

Data Availability



Source: The Block, L2Beat

In early 2025, Celestia briefly appeared to dominate total data posted, but this was largely the result of short-lived activity from small sovereign rollups, test deployments, and airdrop-driven networks. These systems generated disproportionately high data volumes during their bootstrapping phases despite having minimal real economic activity. As incentives wound down and many of these chains either stabilized or became inactive, the volume of data posted to Celestia declined sharply.

At the same time, Ethereum has reasserted itself as the primary data-availability layer for rollups with strong user bases. The effects of EIP-4844, which launched in March 2024, became fully visible throughout 2025 as major rollups optimized their batching systems to take full advantage of blob-based data posting. Optimism, for example, upgraded its batcher to rely primarily on blobs rather than call data, cutting DA costs by more than half. zkSync reworked its proof-submission pipeline to compress state updates into fewer, larger blobs, reducing posting frequency and improving fee efficiency.

Linea followed a similar path, shifting its sequencer to a blob-first submission strategy

that meaningfully lowered its L1 data footprint. Enterprise-focused L2s also contributed to this shift, with several operating using centralized or hybrid DA setups. For example, Immutable zkEVM runs in validium mode with off-chain data availability, and Mantle uses a hybrid EigenDA-based approach. These designs lower costs but introduce additional trust assumptions, which raises security concerns compared to Ethereum's blob-based DA.

Overall, DA markets are fragmenting, but Ethereum remains the premium option.

L2 SECURITY & CENTRALIZATION: LITTLE DECENTRALIZATION AFTER YEARS OF PROMISES

Even though the rollup ecosystem has made progress in their decentralization efforts over the past year, most L2 networks are still far more centralized than they appear. Many L2s continue to rely on trusted operators, upgrade keys, and closed infrastructure, as 2025 has shown that decentralization is still treated as a long-term goal rather than an immediate priority.

Layer 2	State Validation	Data Availability	Sequencer Decentralization	Sequencer Failure (Enforcing Mechanism)	Proposer Failure (Escape Mechanism)	Exit Window
Arbitrum One	Fraud proofs	Onchain	No	Self sequence	Self propose	**10 days**
Base Chain	Fraud proofs	Onchain	No	Self sequence	Self propose	None
OP Mainnet	Fraud proofs	Onchain	No	Self sequence	Self propose	None
Mantle	Validity proofs	**External**	No	Self sequence	Cannot withdraw	None
Lighter	Validity proofs	Onchain	No	Forced via L1	Use escape hatch	None
Starknet	Validity proofs	Onchain	No	**Logged via L1**	**Security Council minority**	**7 days**
Linea	Validity proofs	Onchain	No	No enforcing mechanism	Cannot withdraw	None
World Chain	Fraud proofs (unverified)	Onchain	No	Self sequence	Cannot withdraw	None
ZKsync Era	Validity proofs	Onchain	No	**Enqueued via L1**	**Replace proposer**	None

Source: The Block, L2Beat

Centralized Sequencers Are Still the Norm

Sequencers are responsible for transaction verification on L2s and submitting state reconstruction data to the L1.

Most L2s still use a permissioned sequencer run by a single operator, which means censorship resistance and neutrality depend on the integrity of a single entity. Shared-sequencer networks like Espresso have continued to develop, but adoption remains limited. Astria, once a leading shared-sequencer effort, shut down entirely in 2025, underscoring how early and fragile this category still is.

The pattern is even more common among smaller, low-activity rollups, which often launch with a fully centralized sequencer, no clear plan for fraud proofs, a centralized DA committee, and emergency upgrade keys controlled entirely by the team. In these networks, the entire architecture still depends on trusting the operator.

Upgrade Keys and Governance Are Still Highly Centralized

While some L2s, such as Base, have improved their governance with longer timelocks or larger security councils, many chains can still be upgraded quickly by a small multisig. This leaves the door open to governance capture, insider mistakes, or key compromise.

The exit window refers to the period during which users can withdraw their funds before an L2 executes an upgrade. However, several L2s lack reliable, trustless exit windows, meaning that if a sequencer goes offline or upgrade keys are compromised, users may not have a guaranteed or timely way to withdraw their assets safely.

State Validation Has Improved at the Top but Remains Weak Elsewhere

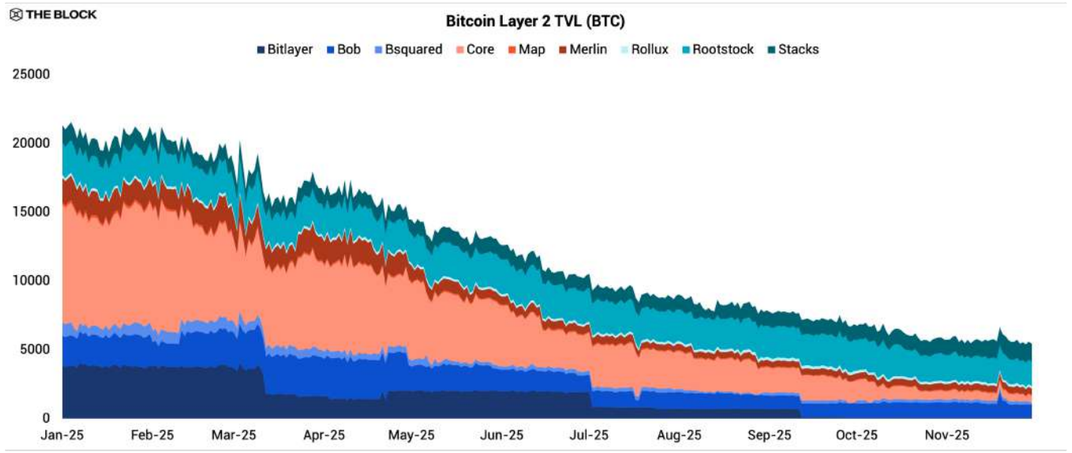
State validation refers to the type of proof system that L2s use for ensuring the correctness of their state.

The largest optimistic rollups have made progress. Arbitrum, OP Mainnet, and Base all have live, permissionless fraud proof systems and are now classified as Stage 1. However, many smaller optimistic rollups still do not have working fraud proofs. These chains remain at Stage 0, which means users must rely entirely on the operator to act honestly.

ZK rollups still depend on centralized proving circuits and centralized prover infrastructure. Generating proofs is technically demanding, so most networks rely on a single prover or a small, controlled set of circuits. A few teams, such as zkSync, have begun experimenting with external or distributed prover networks, but practical prover decentralization is still in the very early stages. Most ZK rollups continue to rely on trusted parties to validate state transitions.

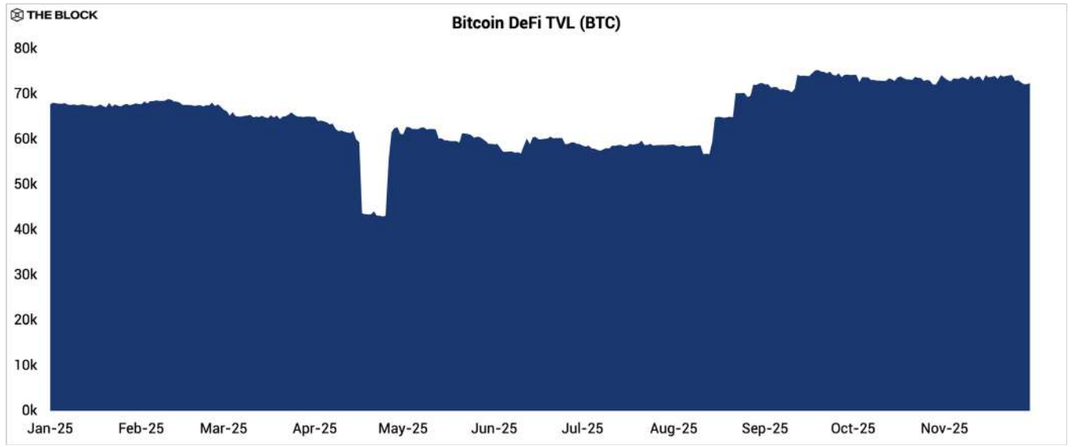
Despite years of promises, the average L2 still operates far closer to a sidechain than a trust-minimized rollup.

BITCOIN L2: ANOTHER YEAR OF NOISE OVER SUBSTANCE



Source: The Block, DeFiLlama

Bitcoin L2 TVL has shrunk by over 74% this year, while TVL in BTCFi has declined by 10%, from a cumulative TVL of 101,721 BTC to 91,332 BTC, representing just 0.46% of all Bitcoin in circulation.

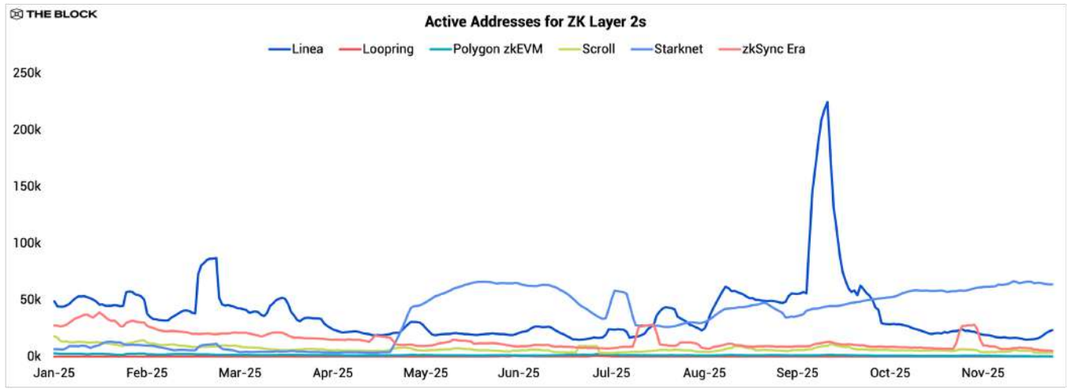


Source: The Block, DeFiLlama

This year saw yet another wave of raises for projects attempting to compete for the Bitcoin DeFi dream, with Build on Bitcoin (BB) raising an additional $9.5 million, totalling up to $21 Million with their previous raises from last year; Lombard raising another $6.75 million through their token sale in September, to add to their $16 million raised in 2024.

Despite these additional raises, the ecosystem has not grown since last year's explosion in TVL, and still remains dwarfed by the EVM ecosystem, with the two largest projects being Bitcoin restaking projects, Babylon Protocol and Lombard, with respective TVLs of $4.95 billion and ~$1 billion.

Launching the same existing primitives seen on EVM-based L2s on a BTC chain is not enough to attract liquidity or developers. With the Ordinals narrative fully played out, BTCFi is in desperate need of a novel catalyst and while "DeFi but Bitcoin" may still be able to attract VC money, the same cannot be said for builders.



Source: The Block, GrowThePie

Starknet, meanwhile, has benefited from the broader Q4 resurgence in ZK-driven narratives. Its pivot toward BTC-aligned functionality, combined with renewed market interest in quantum-resistant chains like Zcash, has helped reposition it as one of the few ecosystems gaining traction late in the year. The past two months have shown that user interest is returning to ZK rollups that offer new cryptographic capabilities, in sharp contrast to BTCFi's stagnation and its repeated attempts to repackage existing Ethereum primitives.

LAYER 2 OUTLOOK FOR 2026

With this year ending, the L2 landscape could be shaken up by the rise of MegaETH, which has become one of the year's most-watched projects. With a goal to offer parallel, high-throughput execution on an Ethereum-aligned L2, using a runtime where independent transactions can be processed concurrently rather than through a single global queue. This would enable developers to build computation-heavy, and more responsive onchain applications that feel closer to real-time for users. This has raised expectations for what

L2 performance should look like, though the real test will be whether its apps attract meaningful usage after launch.

Looking ahead, distribution is set to play an even larger role as more major consumer platforms explore launching their own L2s. Competition between ecosystems will intensify as liquidity concentrates around a few leading networks, and many smaller chains will continue to struggle to find a clear purpose.

5. DEFI

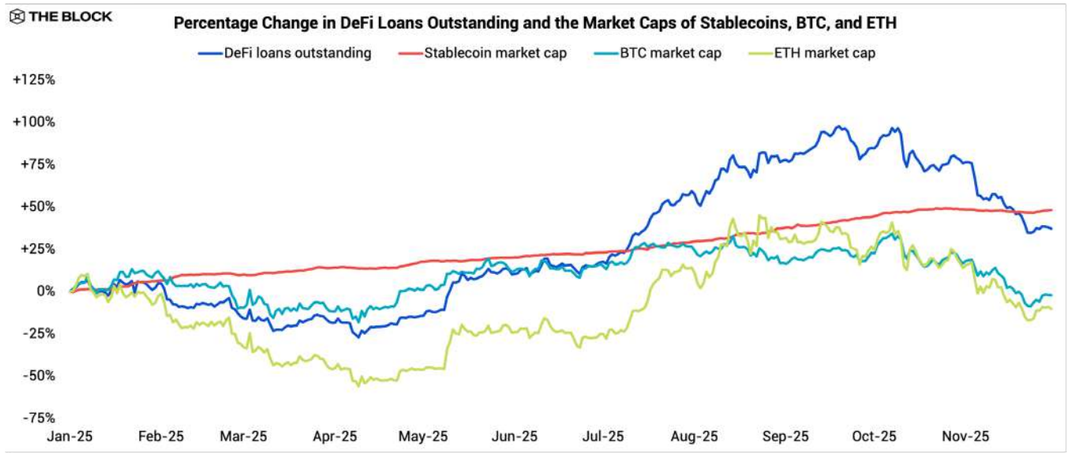
2025 pushed DeFi further along its maturity curve, with discernible credit cycles, growing institutional inflows, and increasingly robust trading venues. Onchain credit expansion resumed in H2 as risk appetite returned, while the ascent of RWA tokenization showed that institutions now view blockchain infrastructure as a viable distribution channel.

Trading dynamics also shifted. Perp DEXs posted ATH volumes, while spot DEX activity remained muted and largely driven by chain rotation rather than net growth. Prediction markets stayed active post-election and drew major investment.

Taken together, 2025 showed DeFi progressing toward a more durable equilibrium, with maturing primitives and expanding institutional alignment laying the groundwork for broader growth ahead.

ONCHAIN CREDIT EXPANSION CONTINUES

DeFi's credit engine continued to expand in 2025, though the trajectory was uneven. Total outstanding loans across major lending protocols rose 37.2% YTD, trailing the stablecoin market cap growth of 48.1%.

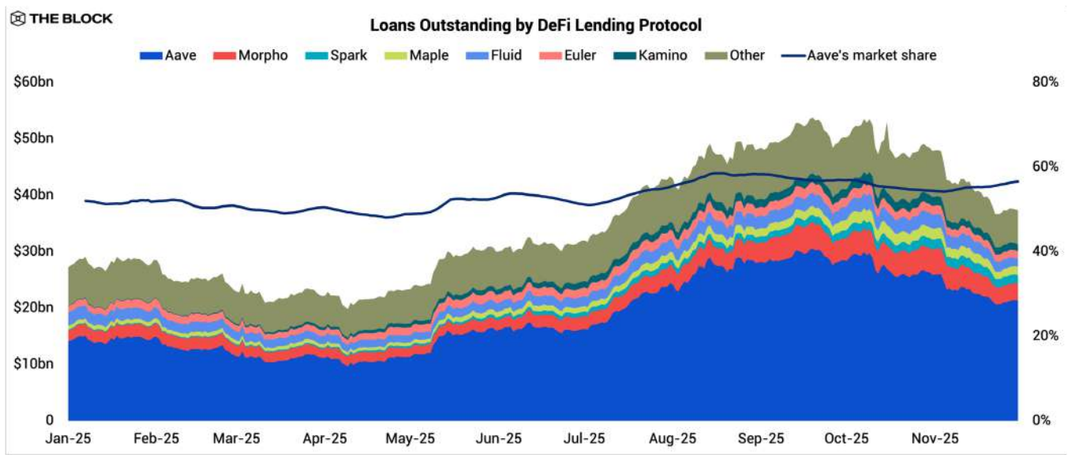


Source: The Block, DeFiLlama, CoinGecko

Credit contracted in H1 as borrowers remained cautious, but the trend reversed in H2 when borrowing accelerated and credit growth caught up with liquidity inflows. The full-year profile reflects a market shifting from risk aversion to reengagement, with leverage rebuilding alongside rising digital asset valuations, followed by noticeable deleveraging in Q4 as valuations softened.

Aave strengthened its position as the dominant lending venue, with its share of total debt rising from 52.0% to 56.5%. This trend reflects Aave's ability to retain and attract borrowing activity as liquidity returned to the system. Its core strength on Ethereum remains anchored by deep liquidity, while its multichain strategy continued to deliver.

Integrations with Plasma and Linea in Q3 generated meaningful activity, resulting in $1.8 billion and $190 million in borrowed liquidity, respectively.



Source: The Block, DeFiLlama

Aave is also widening its distribution on multiple fronts. Horizon, its RWA-focused money market, surpassed $176 million in loans outstanding and marked a credible entry into tokenized private credit. Meanwhile, an upcoming retail-focused mobile app signaled an effort to consolidate retail demand.

At the same time, challengers gained ground. Morpho overtook Spark and grew its loans outstanding from $1.9 billion to $3.0 billion, establishing itself as the second-largest lender. Its strategy was to expand into markets that Aave was slower to serve. Morpho now supports 29 chains versus Aave's 19. On Base, it became the largest lending market with $1.0 billion borrowed, ahead of Aave's $539 million.

A major catalyst was Coinbase's integration of Morpho as the infrastructure for its crypto-backed loan products. This distribution channel materially accelerated Morpho's growth. Morpho V2 then expanded into fixed-rate lending with defined maturities, giving the protocol a differentiated product line rather than relying solely on breadth.

Maple was the black horse of the year. Its outstanding loans grew from $181 million to $1.5 billion, an eightfold increase. Maple leaned into private credit provisioning and saw strong demand for its syrupUSD pools, where users deposit stablecoins permissionlessly and receive yield-bearing tokens backed by a portfolio of short-duration, overcollateralized loans to real businesses and lenders.

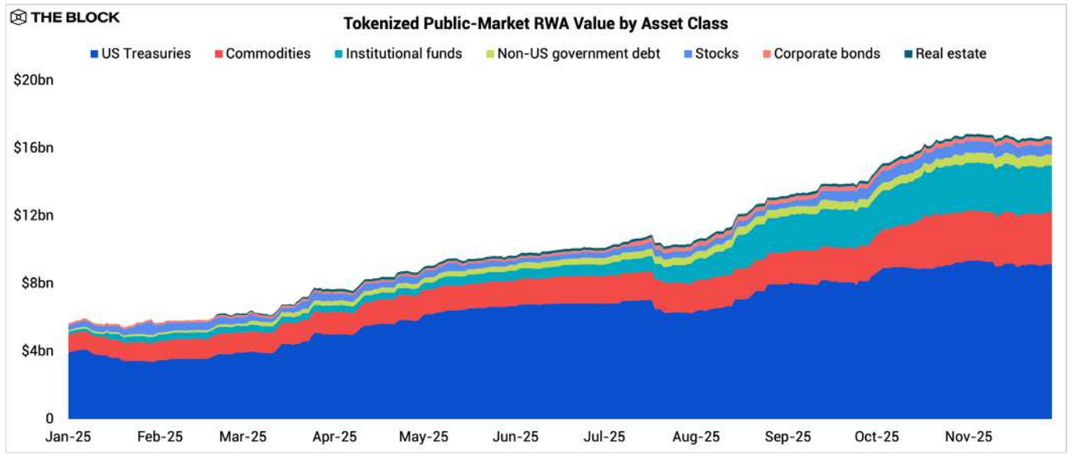
syrupUSD integrated with major DeFi protocols throughout 2025, including Spark, Morpho, Fluid, and Pendle. Spark also allocated $610 million to the syrupUSD pools, which was a primary driver of its expansion. By packaging institutional private credit into accessible, liquid tokens, Maple expanded the TAM of onchain credit and captured a segment that no other major lending protocol served effectively.

Across the sector, entrenched lenders consolidated their footing while newer competitors captured new ground. Aave expanded on multiple fronts, Morpho secured a powerful distribution channel, and Maple brought private credit onchain with improved accessibility.

The outcome is a lending landscape that is both more competitive and diverse. Looking ahead, sustained growth will require access to new borrower segments and stronger distribution channels, but ultimately still depends on rising digital asset valuations to provide the collateral base for further credit expansion.

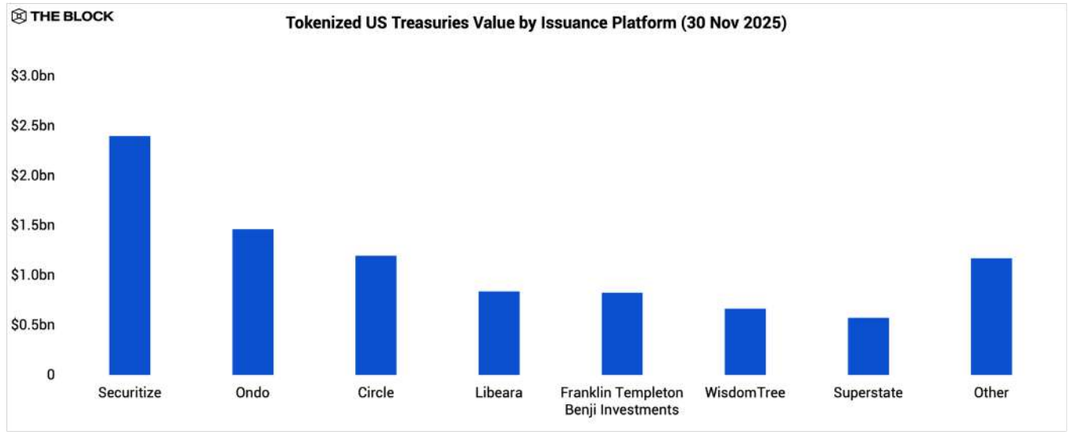
PUBLIC-MARKET RWAS CROSS THE ADOPTION THRESHOLD

2025 was the breakout year for RWA tokenization. After stalling in the post-2022 liquidity crunch, the RWA market regained momentum. Tokenized public-market RWA value grew from $5.6 billion to $16.7 billion YTD, marking the strongest expansion the sector has seen since inception. Growth was not confined to a single asset class, as US Treasuries, commodities, and institutional funds all saw meaningful inflows driven by distinct demand catalysts.



Source: The Block, RWA.xyz

Tokenized US Treasuries remained the largest RWA category, with tokenized value rising from $3.9 billion to $9.2 billion YTD. The standout instrument was BlackRock's BUIDL, issued via Securitize, which reached $2.3 billion in AUM. BlackRock's presence served as a credibility anchor for institutions previously hesitant to adopt tokenized fixed-income products.



Source: The Block, RWA.xyz

A growing set of onchain products now builds directly on top of BUIDL. Ethena's USDtb and Ondo's OUSG both leverage BUIDL as a core reserve asset, effectively making it the backbone collateral layer for an expanding class of tokenized cash and Treasury products.

Tokenized commodities remained the second-largest category, with tokenized value rising from $1.1 billion to $3.1 billion YTD, nearly a threefold increase. This expansion was overwhelmingly driven by tokenized gold products such as Tether's XAUT and Paxos' PAXG. XAU's +60.7% YTD performance and its move to new ATHs drew retail inflows from speculators seeking alternative exposure without leaving the DeFi ecosystem amid changing macro conditions.

Tokenized institutional funds were the clear rising star this year. Their tokenized value surged from $170 million to $2.7 billion YTD as crypto-native investors diversified beyond digital assets. Anemoy's JAAA led the segment with $1.0 billion in AUM, seeded by Grove, an institutional-grade credit infrastructure protocol within the Sky ecosystem. JAAA provides onchain exposure to AAA-rated CLO tranches aimed at capital preservation and steady income.

Other notable tokenized funds included the Superstate's USCC, which provides access to a crypto carry trade strategy and accumulated $440 million in AUM. Meanwhile, Blockchain Capital's digital venture fund, BCAP, reached $359 million in AUM. These products demonstrate that RWA tokenization can support discretionary and actively managed strategies, not just passive fixed-income exposures.

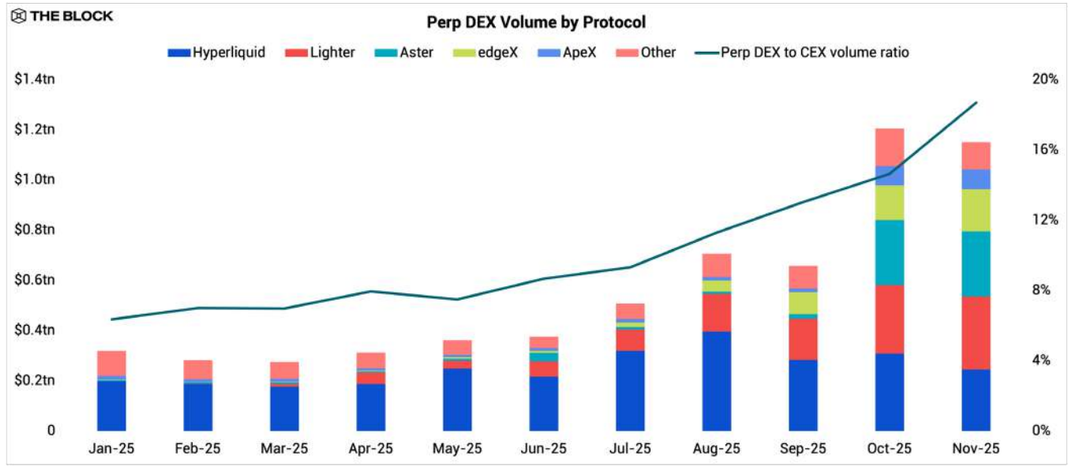
Several smaller categories also gained traction but remained niche, including non-US sovereign debt, public equities, corporate bonds, and real estate. Limited liquidity and operational constraints likely kept these segments small, though early experimentation suggests that issuers are testing broader asset classes as infrastructure matures.

The defining theme of 2025 was that tokenization finally became a distribution technology that institutions were willing to use at scale. Public blockchains proved to be increasingly efficient venues for issuance, settlement, and investor access, while interoperability with major DeFi protocols improved the utility of tokenized RWAs beyond simple buy-and-hold use cases.

Looking ahead, continued institutional participation is likely to deepen as the product spectrum widens. Further integration with lending markets and onchain treasury systems will increase both the usefulness and appeal of RWAs, positioning tokenization as a central pillar of digital capital markets.

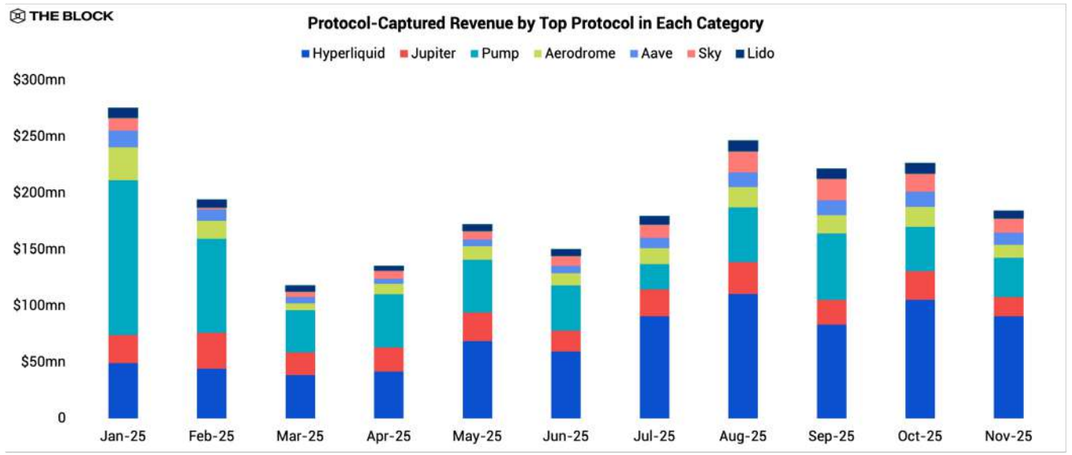
PERP DEXS BREAK RECORDS AMID NEW ENTRANT PUSH

2025 was a defining year for onchain derivatives. The DEX-to-CEX perpetual futures volume ratio tripled from 6.3% to 18.7%, marking a significant shift in a market long dominated by centralized venues. This trend reflects a narrowing efficiency gap as execution speed, liquidity depth, and overall user experience on perp DEXs improved enough to accommodate more sophisticated traders. October recorded the highest onchain derivatives volume to date, propelled by the sharp market drawdown on October 10.



Source: The Block, DeFiLlama

Hyperliquid entered the year as the undisputed leader among perp DEXs. Its annualized volume rose from $564.7 billion in 2024 to $3.0 trillion in 2025, and it consistently remained one of the most profitable protocols in DeFi when measured by protocol-captured revenue, excluding supply-side revenue paid to liquidity providers. Its moat was built on speed, deep organic liquidity, and a sticky user base. But by mid-year, Hyperliquid's dominance began to face real pressure from a new wave of well-funded challengers.



Source: The Block, DeFiLlama

Lighter emerged in H2 as the most aggressive new entrant. Its zero-fee model attracted crypto-native traders, while its multistage points system fed directly into future airdrop eligibility and pulled in incentive farmers. Lighter capped off its breakout year by closing a funding round in Q4 that included a rare strategic participation from Robinhood, signaling potential future integration or alignment between centralized trading apps and onchain derivatives infrastructure.

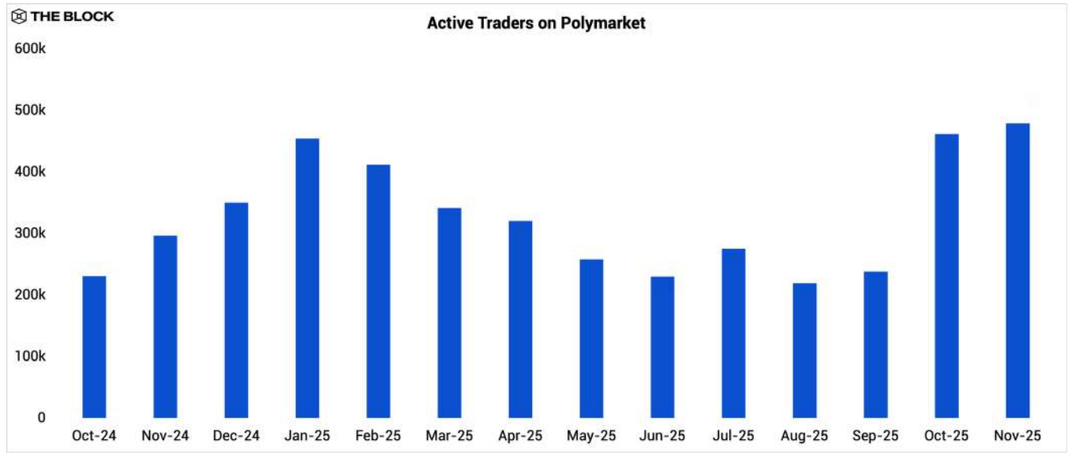
Aster also gained relevance in Q4, driven largely by its affiliation with Binance. Backed by YZi Labs (formerly Binance Labs) and closely aligned with the BNB Chain ecosystem, Aster benefited from distribution channels few protocols can access. It also undercut Hyperliquid's trading fees by a narrow margin, positioning itself as a lower-cost alternative. Its multistage points system mirrored Lighter's approach and helped accelerate user acquisition. This combination of distribution, cost advantages, and incentives made Aster one of the protocols capable of contending with Hyperliquid's lead.

Across the segment, the competitive landscape is intensifying. Hyperliquid remains the incumbent, but the influx of capital and incentives suggests its lead is not guaranteed. The dynamic resembles prior cycles, most notably the rise and fall of dYdX, where early dominance did not translate into permanent market share.

Looking ahead, the arms race is likely to continue. Well-funded challengers will keep leveraging low-fee structures, points systems, and strategic partnerships to chip away at Hyperliquid's position. But this competition elevates the overall user experience and continues to close the gap with centralized counterparts.

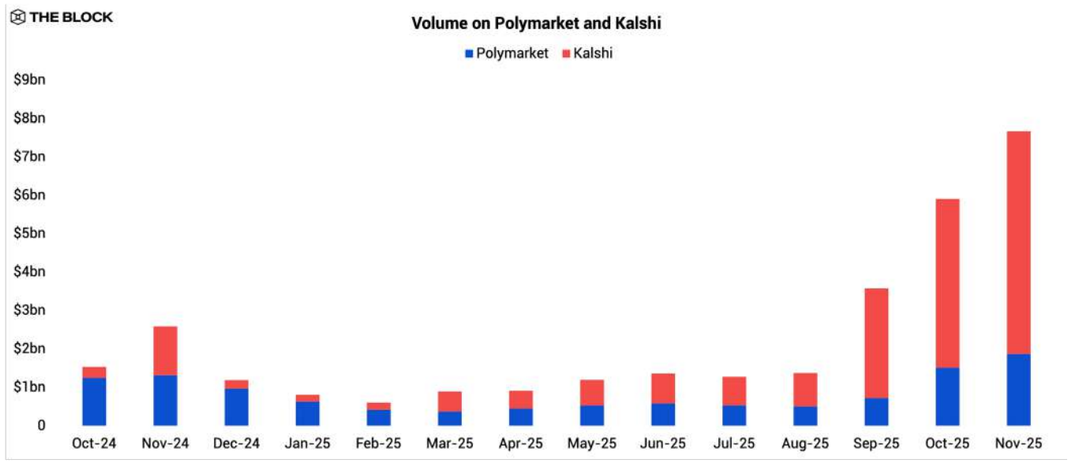
PREDICTION MARKETS STAY RELEVANT POST-ELECTION

Prediction markets experienced a slowdown after the US presidential election in November 2024, with volume falling off in the months that followed. Even so, the election cycle demonstrated the potential of prediction markets to a broader audience, and monthly active traders on Polymarket rose post-election as users stayed for newly listed event markets despite lower overall trading volume.



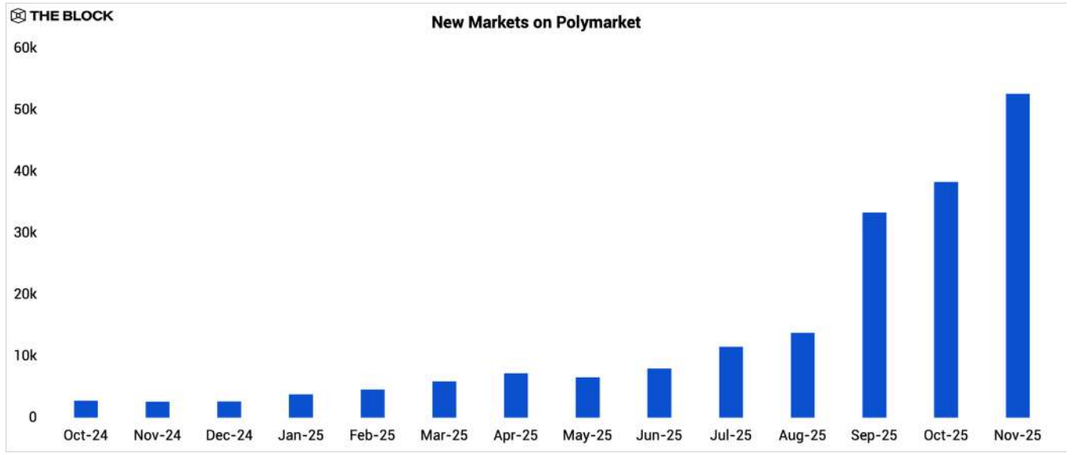
Source: The Block

Trading activity rebounded heading into September 2025 as new catalysts emerged. This shift was driven by Kalshi's partnership with Robinhood, which opened a substantial retail distribution channel, and by the commencement of major sports seasons, which funneled traffic toward Kalshi's sports-event markets.



Source: The Block, Kalshi

This competitive pressure appears to have prompted Polymarket to accelerate the pace of new market creation beginning in September to retain user engagement. Both platforms then posted record volumes in November: Kalshi processed $5.8 billion, while Polymarket reached $1.9 billion.



Source: The Block

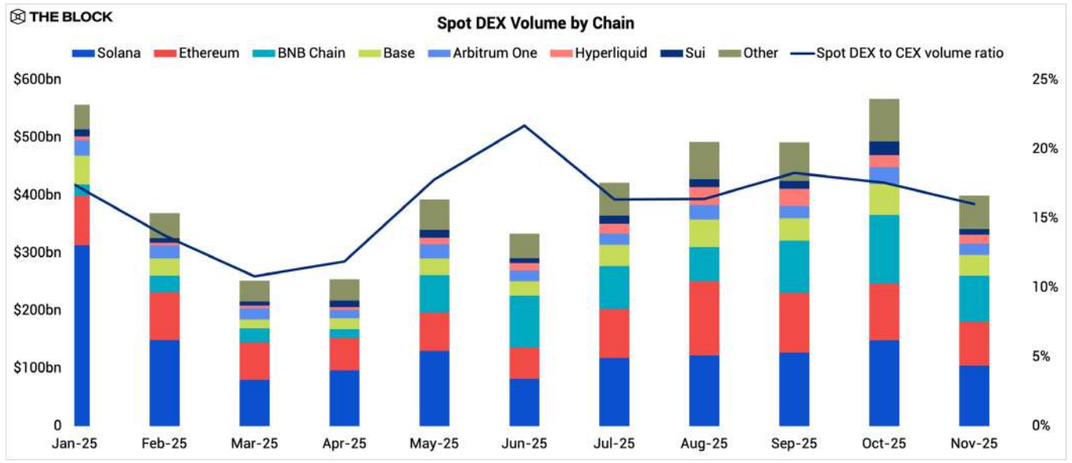
Kalshi operates as a CFTC-regulated centralized platform, whereas Polymarket is fully onchain. In 2025, Polymarket acquired a CFTC-licensed derivatives exchange and clearinghouse for $112 million, enabling it to reënter the US market after receiving CFTC approval in November.

Both platforms secured major investment rounds in 2025, underscoring growing institutional conviction in event contracts as an emerging derivatives category. Polymarket raised $2 billion in October from Intercontinental Exchange, the parent company of the NYSE, at a $9 billion valuation. Meanwhile, Kalshi raised over $1 billion across multiple rounds during the year, putting its latest valuation at $11 billion. The size and pedigree of these investors mark a turning point in the sector's legitimacy.

Looking ahead, both well-funded giants are now positioned to go head-to-head into the 2026 US midterm cycle, a period associated with elevated volume. With strengthened balance sheets, resolved regulatory hurdles, broader distribution, and expanding product breadth, the upcoming election cycle is likely to generate the largest prediction market activity to date.

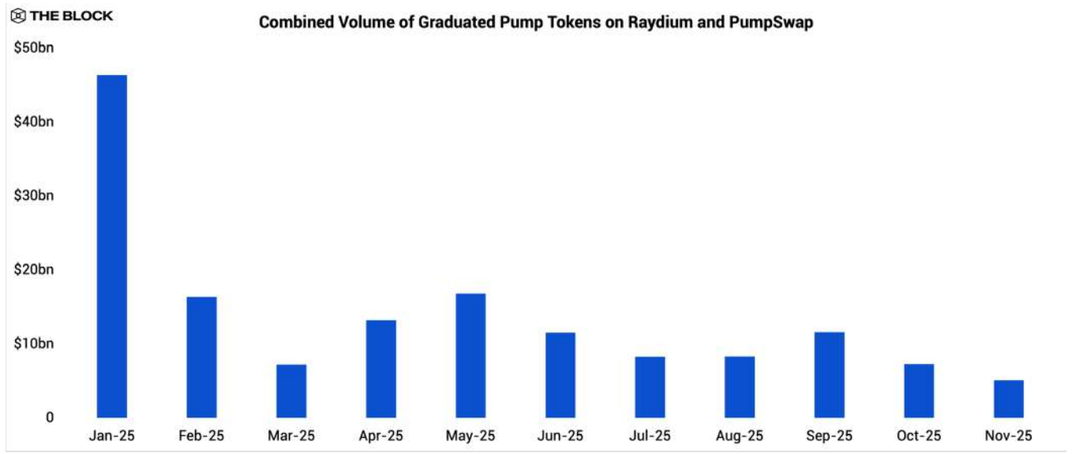
SPOT TRADING ACTIVITY SHIFTS AS LAUNCHPAD HYPE FADES

Spot DEX activity in 2025 lacked a clear upward trajectory. Volumes fluctuated throughout the year but ultimately failed to meaningfully outpace broader market growth. The most striking shift came from chain-level rotation: Solana's monthly spot trading volume, which began the year at $313 billion in January, fell to $104 billion by November, a 66.7% decline that marked the unwinding of last year's retail-driven memecoin mania.



Source: The Block, DeFiLlama

Pump, the dominant Solana launchpad of 2024, saw its graduated token trading volume on Raydium and PumpSwap crater from $46.4 billion in January to $5.1 billion in November, a 89.0% drawdown. Retail enthusiasm for launchpad-incubated tokens collapsed, and the churn-and-flip cycle that had propelled Solana's spot DEX activity in 2024 did not reappear at the same scale in 2025.



Source: The Block, DeFiLlama

Meanwhile, BNB Chain moved in the opposite direction, with its monthly spot trading volume more than quadrupling from $19.3 billion in January to $80.3 billion in November. As Solana's retail liquidity evaporated, speculative flows did not disappear but migrated to BNB Chain. BNB Chain absorbed a sizable portion of retail speculation, with a long-standing microcap trading culture that proved resilient as interest in Solana memecoins cooled.

Across the ecosystem, the DEX-to-CEX spot volume ratio hovered below 20% throughout the year, underscoring that the structural efficiency gap in spot trading remains largely unchanged, a sign that spot DEXs have reached maturity on the infrastructure side. The general appetite for onchain spot trading did not vanish in 2025 but simply reshuffled. Unless a new catalyst emerges to drive sustained token turnover, the trajectory of spot DEX activity will hinge on shifts in retail sentiment shaped by broader macro conditions.

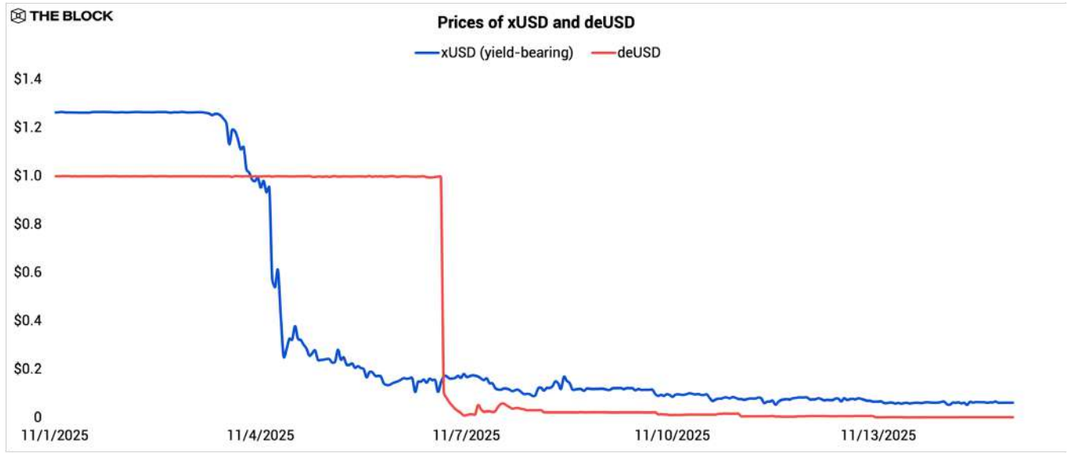
COMPOSABILITY AMPLIFIES SYSTEMIC RISKS

Composability has long been one of DeFi's defining strengths. Protocols can integrate with each other permissionlessly, assets can be rehypothecated across venues, and new financial primitives can be built by stacking existing ones like modular components. It improves capital efficiency, enables rapid innovation, and creates powerful network effects.

But it also creates tight coupling between systems. When assets or assumptions break within a single protocol, their effects can propagate across the ecosystem. The Stream Finance incident in November 2025 became the clearest example of how this same strength can evolve into a vector for systemic risk.

Stream allowed users to deposit assets in exchange for xUSD, a yield-bearing stablecoin marketed as being backed by market-neutral strategies run by external fund managers. That assumption collapsed when one of the appointed fund managers disclosed a $93 million loss in executing strategies with allegedly minimal directional exposure, leaving xUSD materially undercollateralized. Stream immediately halted deposits and redemptions, and xUSD began to depeg as confidence evaporated and liquidity fled secondary markets.

The depeg quickly exposed the fragility of composability. Elixir's stablecoin, deUSD, was partially backed by xUSD-denominated exposure, while xUSD itself held deUSD in its collateral mix, creating a circular collateralization loop that became untenable once xUSD breached parity.



Source: The Block, CoinGecko

Shortly after xUSD lost its peg, Elixir froze deUSD minting and redemptions, and deUSD depegged as markets repriced the interconnected exposure. What began as an isolated failure of an external fund manager cascaded into a multi-protocol unwind solely because the two stablecoins were tightly interlinked through composable collateral frameworks.

The contagion also spread to lending protocols. Several money markets on Morpho and Euler had hardcoded a $1 collateral value for xUSD. This design was intended to prevent accidental liquidations during temporary market volatility, but it backfired once the depeg became persistent. Borrowers were able to take out loans against xUSD at full face value even as the token traded well below par, creating pockets of bad debt that the protocols were forced to absorb.

Composability is not inherently problematic, but it requires risk controls that assume any one component might fail at any moment. Looking ahead, DeFi protocols must account for cross-protocol exposures and design frameworks that can respond to black swan events. Composability remains one of DeFi's greatest advantages, but without stronger guardrails, it will continue to magnify systemic risks just as efficiently as it accelerates innovation.

DEFI OUTLOOK FOR 2026

The progress made in 2025 positions DeFi for a steady expansion phase. Institutional investment across RWAs, derivatives, and prediction markets reflects rising confidence in onchain infrastructure. These systems are approaching parity with their centralized counterparts in execution and reliability, shifting competition toward distribution and regulatory positioning rather than technology alone.

Even so, macro conditions remain the primary driver of scale. Credit creation, market depth, and retail participation will hinge on broader liquidity conditions. If global liquidity turns supportive, DeFi's mature infrastructure could translate into more durable growth. Still, sustained expansion will require stronger risk management to mitigate systemic vulnerabilities inherent to a composable ecosystem.

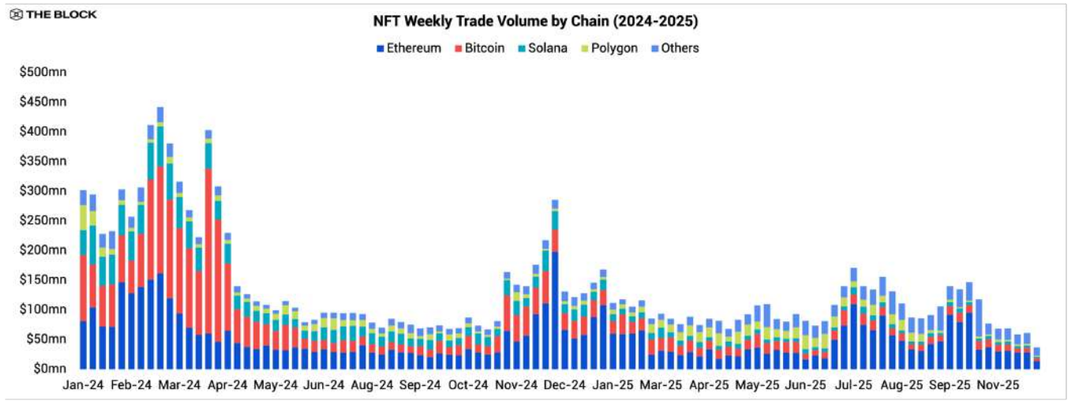
6. GAMING AND NFTS

The NFT market entered 2025 already in a downtrend and never managed to reverse course. Across chains, trading activity shrank and concentrated into a small set of IPs and incentive programs, while most collections and verticals saw little organic interest. This consolidation is starkly reflected in the data, where total annualized NFT trade volume for 2025 stood at $5.5 billion, a sum that significantly trails 2024 levels, underscoring just how far the sector has declined from its peak.

A NARROWER, MORE CONCENTRATED NFT MARKET

Ethereum solidified its position as the primary venue for what activity remained. Approximately 45% of NFT volume in 2025 took place on the Ethereum mainnet. Bitcoin and Solana, which briefly captured attention during the 2023–24 Ordinals and SOL NFT

cycles, lost ground, with Bitcoin's share of NFT trade volume falling to about 16%, less than half of the prior year, while Solana's share fell to single-digits.



Source: The Block

The takeaway from this section is straightforward: NFT trading became smaller and more Ethereum-centric. Liquidity thinned out, secondary trading in most collections slowed, and chains that had previously benefited from narrative tailwinds struggled to retain mindshare.

PLATFORM & PRODUCT SHIFTS

Though aggregate volumes declined, 2025 was not static on the product side. Marketplaces and creators experimented with new primitives and business models, in many cases moving away from NFTs as the sole onchain object.

Zora's Pivot to "Coins"

One of the clearest examples of this shift came from Zora. Early in the year, Zora began deprecating NFT minting and comment features in its app and, in late February 2025, introduced a "Coins" upgrade. With this change, each new post on Zora is minted as its

own ERC-20 "coin" with a fixed 1 billion supply, rather than a traditional NFT.

This pivot effectively turned creator posts into lightweight, fungible micro-tokens rather than unique collectibles. The change can be read as an explicit bet that users prefer liquid, low-friction instruments, which can be accumulated, traded and used in incentive schemes over illiquid, one-off NFTs whose value often depends on thin secondary markets.

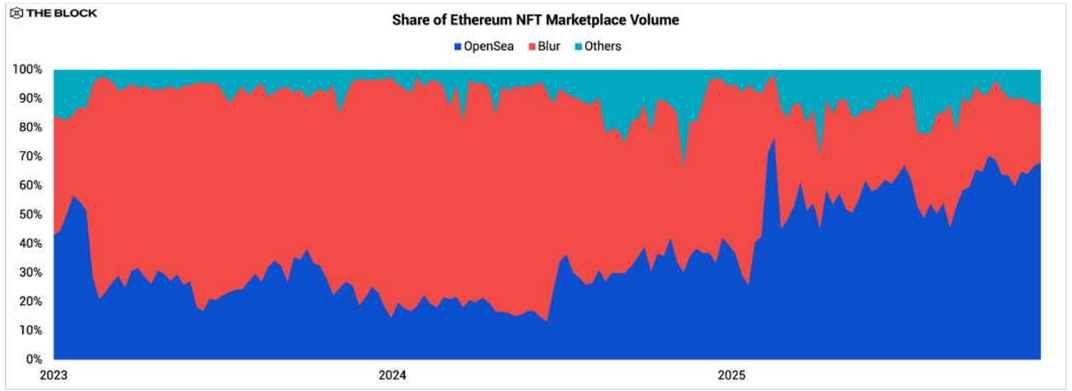
Marketplaces as "All-In-One" Platforms

Zora was not alone in broadening its scope. Major NFT marketplaces, most notably OpenSea and Magic Eden, continued to position themselves as multi-asset platforms rather than pure NFT listing sites. Both pushed deeper into token swap functionality and more general-purpose trading features alongside their core marketplace businesses, reflecting where liquidity and user interest have migrated.

OpenSea Reclaims Top Market Share

In the case of OpenSea, nowhere was the changing marketplace landscape clearer than in the Ethereum NFT market share rotation. Roughly three years after losing the top spot to Blur, OpenSea regained the lead in 2025 and widened that gap materially over the course of the year.

At the start of 2025, OpenSea's share of Ethereum/EVM NFT marketplace volume stood at around 36%, against Blur's 58% share. By late 2025, OpenSea had climbed to over 67%, while Blur's share dropped to below 24% as total NFT volume conducted on OpenSea achieved double-digit year-on-year (YoY) growth, exceeding $1.4 billion, even as sector-wide volumes fell. Blur's volumes for the year moved in the opposite direction, declining by over 73%.



Source: The Block

NOTABLE EVENTS

Against the backdrop of declining aggregate activity, only a handful of developments meaningfully shaped the NFT narrative in 2025. Most revolved around the distribution of tokens tied to NFT IP or experiments in verticals with clear, tangible utility.

Magic Eden Token

Magic Eden's token launch and incentive programs were among the year's main catalysts on the marketplace side. The sequence unfolded in three beats. The ME token airdrop in December 2024, the expansion of its staking and trading mechanics in April, and the announcement of a retroactive rewards program in August.

Despite these milestones, Magic Eden's marketplace volumes remained on a downward trajectory for much of the year, managing to generate bursts of engagement but failing to fully offset the broader decline in NFT demand. This underscores a central theme of 2025, while incentive programs may direct existing liquidity, they struggle to conjure it in a shrinking market.

NFT IPs Launching Liquid Tokens

A second major thread was the move by prominent NFT collections to issue fungible "ecosystem tokens" as a way to create liquid exposure to their brands. The most visible examples were:

- Pudgy Penguins – PENGU
- Doodles – DOOD
- Azuki – ANIME

These launches shared a common goal of transforming static NFT collections with limited trading into broader token ecosystems that supporters could trade, stake, or use in future products. Their price paths, however, underline how difficult it was in 2025 to sustain enthusiasm for culture-linked tokens.

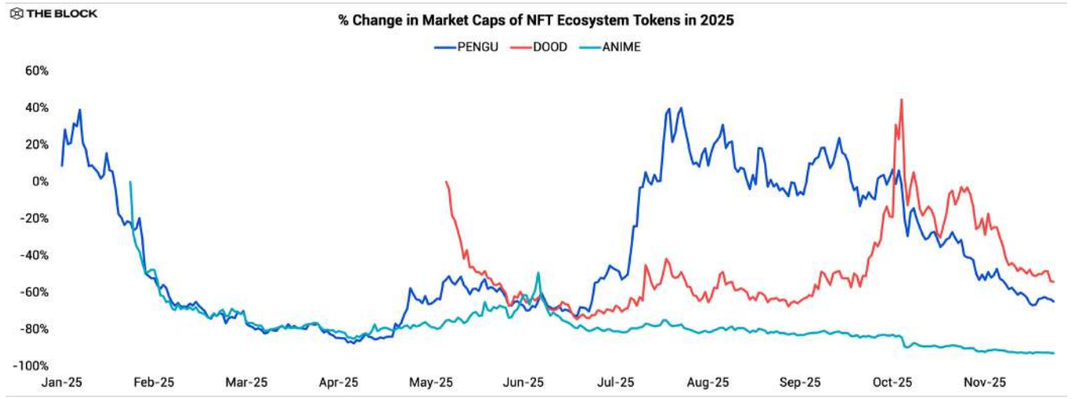
PENGU launched in late 2024 and entered the new year strong. In the first week of the year, it was up nearly 40% in price, before declining by more than 90% over the next three months. It then staged an impressive rebound in Q2, tenfolding its valuation over a three-month period, only to bleed lower again through the back half of the year. At the time of writing, PENGU is down more than 60% year-to-date (YTD).

This kind of pattern is consistent with a launch that initially benefitted from airdrop-driven speculation and narrative momentum, particularly given Pudgy's strong brand recognition and off-chain presence, but struggled with:

- Limited organic demand once early incentives were exhausted,
- A lack of clear token sinks or utility beyond trading and potential future rewards,
- A challenging macro backdrop for risk assets and "culture coins" in general.

DOOD, the Doodles ecosystem token, followed a similar script but with its own timing. After launch, DOOD fell by nearly 75% within less than two months, then entered a consolidation phase, and later rallied approximately 160% in September–October 2025. That rebound proved transient, as by late 2025, DOOD is down almost 50% YTD.

ANIME, Azuki's token, stands out mainly for how little relief it experienced. Launched in late January 2025, ANIME declined soon after listing and, unlike PENGU or DOOD, never saw a meaningful bullish period. Instead, it drifted lower throughout the year and currently sits down more than 90% YTD, making it the weakest of the three major NFT ecosystem tokens, as broad fatigue toward "culture coins" appears to have outweighed any initial curiosity.



Source: The Block, CoinGecko

Across the three tokens, their aggregated YTD return is around –67%, which places it alongside the memecoin and gaming GMCI sector indices, shown earlier in chapter 1 of this report, as the worst-performing segments of the market.

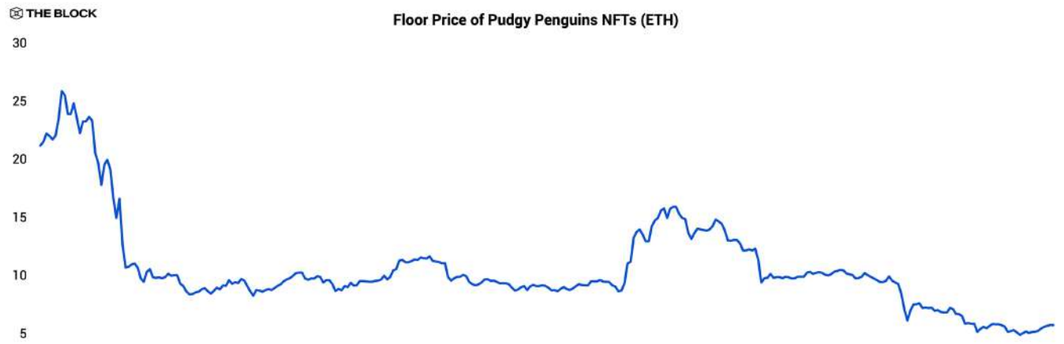
The takeaway is not that the concept of ecosystem tokens is fatally flawed, but that 2025 offered little structural demand for culture-driven coins. In an environment where liquidity was scarce and investors increasingly prioritised clear cash-flow or protocol utility, tokens whose value rested primarily on brand affinity struggled to maintain traction. Without strong sinks, revenue-sharing or governance rights, these assets are often traded more like levered call options on short-lived narratives than long-term proxies for IP value.

Pudgy Penguins: Tapping into the Mainstream

If 2025 was defined by a small number of NFT collections that continued to build despite a weak market, Pudgy Penguins sits near the top of that list. From a brand and distribution perspective, the project had one of the busiest years in the sector:

- The team launched Abstract, a dedicated blockchain built on a Layer-2 stack, on mainnet in January 2025.
- Walmart and Target continued stocking Pudgy toys and merchandise, extending a retail footprint that now reaches a broad non-crypto audience.
- A Pudgy-branded animated series rolled out on YouTube, further cementing the IP's presence in digital media.
- The brand gained sports visibility via a NASCAR Darlington livery in August.
- Pudgy appeared as a large plush doll in Season 2 of the Apple TV series "Platonic" and teased a collaboration with DreamWorks' Kung Fu Panda IP in November.

These developments are proof that NFT IP can meaningfully penetrate mainstream culture, even when onchain metrics look weak. However, despite the steady stream of positive IP developments, the Pudgy Penguins NFT floor price is down roughly 75% YTD.



Source: The Block

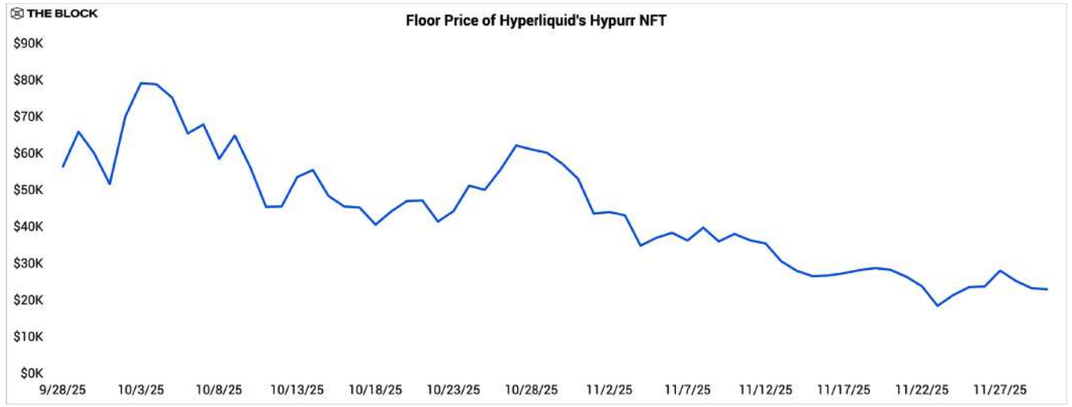
Meanwhile, PENGU, the associated ecosystem token, has also underperformed, sitting around -60% YTD, but still faring somewhat better than the NFTs themselves. This suggests that for investors seeking exposure to the Pudgy brand, the token may have become the more practical and liquid proxy, even if its economics are not directly tied to cash flows from merchandising or media.

The Pudgy case underlines a wider structural issue for NFT projects and IPs. Bullish developments for an IP do not automatically accrue to its NFTs or tokens. Mass-market consumers engaging with toys, shows and collaborations may never touch the blockchain primitives that originally bootstrapped the brand.

Hyperliquid's Hypurr

While many NFT projects moved toward fungible tokens, some token-native communities experimented in the opposite direction by issuing NFTs as status and engagement layers on top of existing ecosystems, with Hyperliquid's Hypurr NFT being a leading example.

Hypurr was distributed to Hyperliquid community members under eligibility rules that rewarded active participation on the exchange prior to its TGE back in November 2024. On secondary markets, it debuted with a floor price of more than $55K, with an all-time high of about $79K, before gradually retracing to a floor around $28K.



Source: The Block

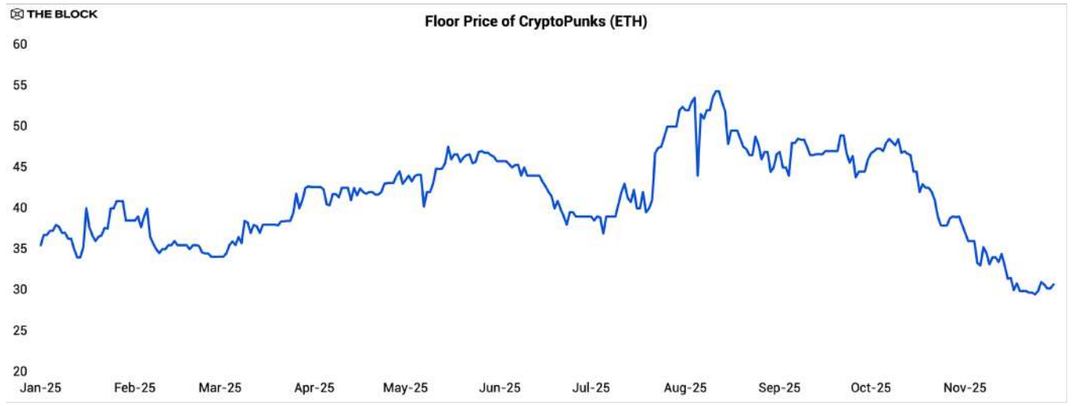
The early strength can be attributed to a combination of a highly engaged trader base with strong loyalty to the platform, the status-signaling value of owning a scarce NFT linked to a successful exchange, and expectations of future utility (e.g., access, rewards, or governance).

As weeks passed and concrete utility remained limited, prices drifted lower, reflecting profit-taking and the reality that not all collectors are willing to treat high-priced NFTs as long-term illiquid badges.

Hypurr demonstrates that tokens to NFTs are still a viable direction when built on top of an existing community with demonstrated product-market fit. But it also highlights the importance of clearly defined roles for these NFTs, whether as access passes, loyalty instruments, or collectible trophies, if they are to sustain value beyond initial enthusiasm.

CryptoPunks' Brief Rally

Even in a quiet year, CryptoPunks managed to generate a short burst of attention. The collection's floor price rose by roughly 40% between July and August 2025, to a peak of around 54 ETH in mid-July. However, since that local high, the floor has nearly halved, sitting near 30 ETH at the time of writing.



Source: The Block

What makes this episode notable is not only the magnitude of the move but its relationship to ETH. From the beginning of 2025 to just before the July run-up, the correlation coefficient between the Punks floor price and ETH was around –0.28, indicating a weak, slightly inverse relationship.

During the three-week rally itself, the correlation coefficient rose only modestly to 0.24, still a weak link and consistent with an idiosyncratic, likely whale-led squeeze rather than a broad risk-on move. The notable shift came after the peak.

From the local top onward, the correlation with ETH climbed to 0.87, meaning Punks effectively reverted to trading as a high-beta proxy to ETH, typical of post-blow-off behaviour where once collection-specific catalysts fade, market participants return to treating the asset as another levered way to express a view on the underlying chain, rather than as an entirely separate trade.

Pokémon TCG & Gacha Verticals

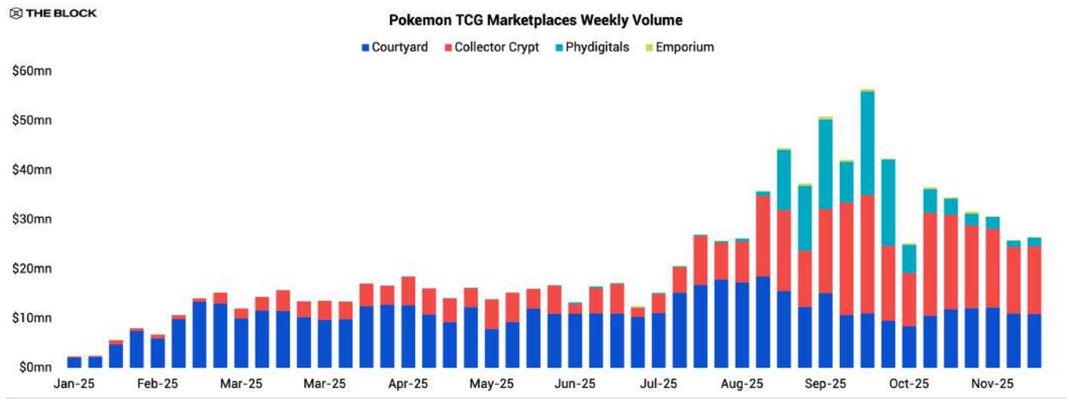
While most NFT art and PFP collections struggled in 2025, one area that demonstrated clear product-market fit and monetization was the ecosystem around Pokémon trading cards. A cluster of marketplaces, notably Collector Crypt and Courtyard, leveraged crypto rails to facilitate trading, ownership,and gamified “gacha” mechanics for physical and digital Pokémon cards.

MARKET STRUCTURE

On an annualized basis, trading volume across Pokémon TCG marketplaces surpassed the $1 billion mark in 2025, with more than half coming from Courtyard and 1/3rd from Collector Crypt.

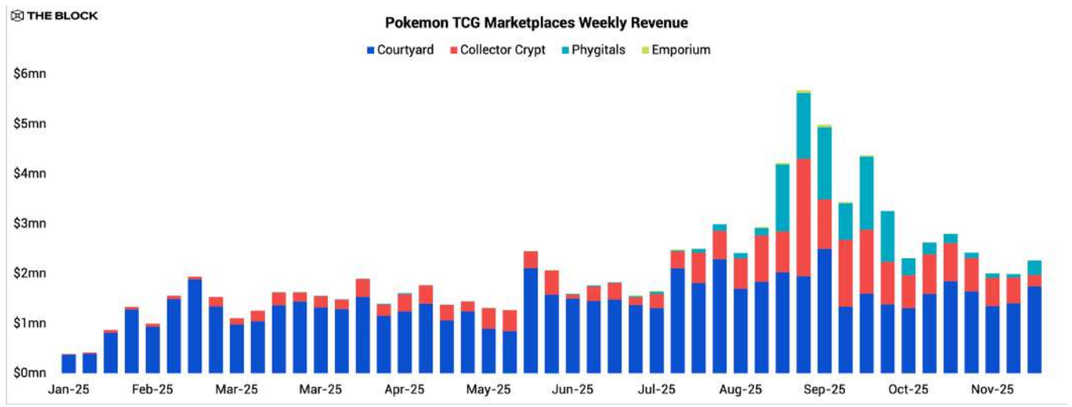
Courtyard maintained relatively stable activity over most of the year, averaging $11 million in trading per week. On the other hand, Collector Crypt followed a more dynamic path where its weekly volumes grew steadily throughout H1 before inflecting sharply after the public sale of its CARDS token on Solana in August.

During the first seven months of 2025, prior to the CARDS public sale, Collector Crypt facilitated roughly $100 million in total volume, averaging $3.3 million per week. In the four months since, total volumes more than doubled while average weekly volumes quadrupled, reflecting a virtuous loop between token incentives, platform liquidity and user engagement.



Source: The Block, Dune (@zkayape)

The CARDS token itself launched at a valuation of $67 million, briefly peaking above $760 million, and later retracted to around $110 million, all within roughly two and a half months. While the token’s own trajectory mirrors broader risk-asset volatility, it clearly played a catalytic role in accelerating platform usage.

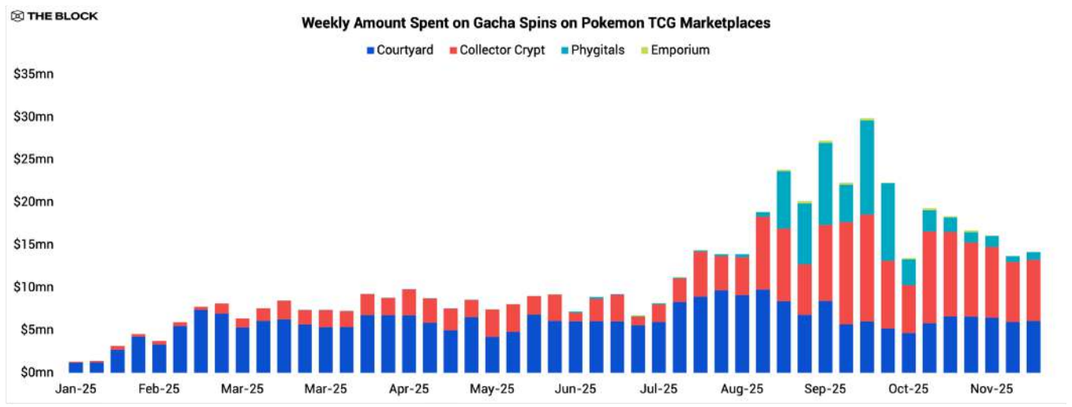


Source: The Block, Dune (@zkayape)

On the revenue side, these marketplaces generated an annualized total of ~$107 million in 2025, with approximately 68% of that from Courtyard and 22% from Collector Crypt. The combination of recurring trading fees, premium services and buyback mechanisms gives this vertical a more tangible revenue base than many purely speculative NFT projects.

Gacha Mechanics

A key driver of engagement was the gacha spin mechanic, effectively a crypto-enabled loot box for sealed Pokémon products or curated card drops, with users spending an annualized ~$571 million on gacha spins throughout the year.



Source: The Block, Dune (@zkayape)

Gacha works by allowing users to pay a fixed amount for a randomized chance at high-value cards or sealed products. From an economic perspective, it combines the thrill of randomness familiar from physical card packs, transparent odds and settlement enforced by onchain mechanics and the ability to immediately trade or consign wins on the same platforms.

These features make it relatively straightforward to model expected value and arbitrage opportunities while still tapping into the emotional appeal of collecting. High spending persists because the mechanic caters to both collectors who value the cards themselves and speculators who are willing to pay for the optionality embedded in each spin.

The data shows that more than half of economic activity on these platforms is tied to gacha, underscoring how powerful a well-designed, game-like mechanic can be when combined with a beloved IP and deep-rooted card culture.

Positioning as a Specialized Sub-Vertical

Relative to the broader NFT market, Pokémon TCG marketplaces operate as a specialized, higher-trust sub-vertical with clearer monetization. Their business models are anchored in:

- Verifiable custody and trading of valuable physical/digital cards,
- Recurring fee revenue from both secondary trading and gacha spins, and
- Buyback and reward programs that recycle a portion of earnings into inventory or community rewards.

In a year when many generalist NFT platforms saw volumes and fees compress, this vertical stands out as one of the few areas where user behaviour, revenue and token incentives are tightly aligned. It remains niche relative to total crypto volumes, but it provides a compelling template for how NFTs and tokens can underwrite real economic activity tied to fandom and collectibles rather than purely speculative hype.

NFT/GAMEFI'S "FUNDING VS. REALIZED VALUE" DISCREPANCY

The intersection of NFTs and gaming has been a major investment theme since the Axie Infinity boom, but 2025 data suggests that the sector has failed to justify the scale of capital deployed.

Venture investors have continued to fund NFT and GameFi projects, albeit at a slower pace compared to prior years, with the sector attracting just $1 billion in annualized capital, a roughly 65% decline from 2024 levels. Meanwhile, the aggregate market cap of NFT/gaming tokens is down over 60% YTD, reflecting both price declines and the underperformance of many launched titles.

Source: The Block

Moreover, the current aggregated market cap of NFT/gaming tokens stands at ~$14 billion, which is lower than the cumulative historical funding into the sector of ~$19 billion. In other words, on a mark-to-market basis, investors could, in theory, buy the entire liquid token exposure to the sector for less than the total amount of venture capital that has been allocated to it over the years. This disconnect between capital raised and realised token value reflects a string of projects that attracted substantial funding but struggled to achieve durable adoption.

NFT AND GAMING OUTLOOK FOR 2026

Looking ahead to 2026, the data from 2025 points toward a K-shaped curve for the industry of NFTs, NFT-adjacent IPs and tokens, where a small subset continues to build audiences and occasional liquidity spikes, while the long tail of collections and ecosystems drift lower in both attention and price.

In the base case, NFT trading volumes remain moderate, with activity concentrated in the "upper leg" of that K-shape with projects such as Pudgy Penguins, CryptoPunks and specialised ecosystems such as Pokémon TCG, where they may see enough user engagement, off-chain distribution, or clear monetization to justify ongoing infrastructure and marketplace support. The "lower leg" consists of the majority of 2021–24 vintage collections, where volumes remain thin, floors grind down and token experiments have

little impact beyond short-lived rallies.

One of the central lessons of 2025 is that bullish IP does not automatically translate into appreciation for associated NFTs or tokens. The ownership primitives that launched these brands are only one layer of the stack, and they increasingly coexist with mass-market channels such as retail shelves, streaming platforms and social media, that may drive most of the audience and revenue.

For investors and builders, the most prudent stance is therefore highly selective optimism. The sector is smaller, more concentrated and more demanding than ever before. But within that narrower field, projects that can align onchain assets with real products, revenues and communities may still find room to grow, even if the days of broad, indiscriminate NFT rallies are behind us.

7. TRADFI AND CRYPTO

Institutional cryptocurrency adoption crossed a critical threshold in 2025. Bitcoin and Ethereum spot ETFs accumulated $31 billion in net inflows while processing approximately $880 billion in trading volume, establishing regulated exposure vehicles as core infrastructure. Digital asset treasury companies emerged as a parallel access mechanism, with firms raising $29 billion to deploy into on-balance-sheet cryptocurrency positions. Stablecoins expanded beyond trading infrastructure into commercial payments, supported by partnerships with companies such as Stripe, Visa, and PayPal that integrated digital dollars into mainstream transaction rails.

Public markets welcomed crypto-native firms as Circle, Gemini, Bullish, and Figure completed successful listings, while M&A activity consolidated around strategic capabilities rather than distressed acquisitions.

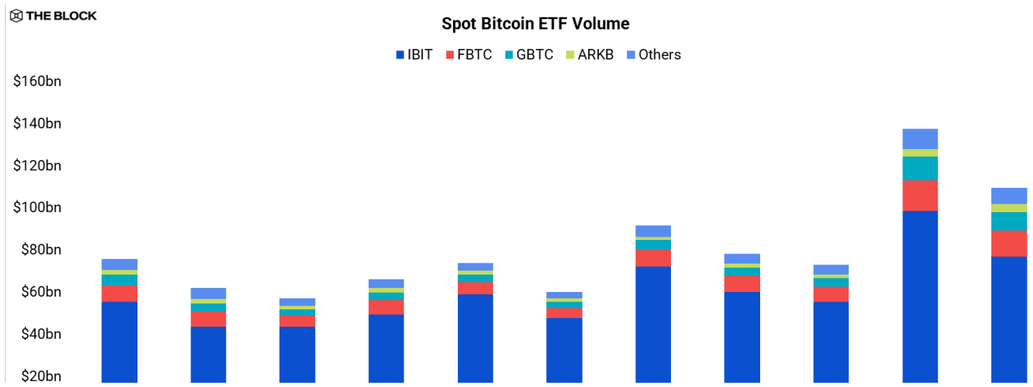
The regulatory environment also underwent a fundamental shift. Following Trump's inauguration, the SEC withdrew enforcement actions, approved staking-enabled ETF products, and streamlined crypto ETF listing standards. Congress passed the GENIUS Act in July, establishing the first comprehensive federal stablecoin framework with reserve requirements, redemption mechanisms, and disclosure standards.

Collectively, these advances have established crypto as a legitimate asset class and viable financial infrastructure for the future.

ETFS

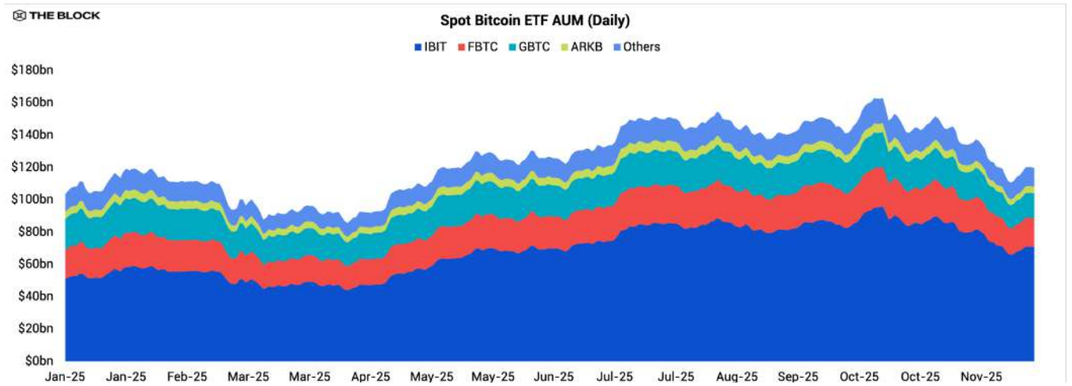
Bitcoin ETF

The institutionalization of Bitcoin accelerated meaningfully in 2025, with spot ETFs serving as the year's primary structural catalyst. Across the 12 products, spot ETFs generated approximately $880 billion in trading volume as of November 2025, a 37% increase from $646 billion in 2024. Net inflows reached $16 billion for the year, and institutional allocators represented a growing share of incremental demand, reflecting the asset class's deepening penetration into traditional portfolios. Despite turbulent Bitcoin price performance, total ETF AUM rose 16% to $120 billion by November, underscoring the stickiness of institutional flows.



Source: The Block, Yahoo Finance

BlackRock's IBIT maintained a commanding lead, with $70 billion in AUM, approximately 59% of all spot Bitcoin ETF assets. Its trading dominance, however, moderated over the year as IBIT's share of daily volume fell from roughly 80% in mid-2025 to about 70% by November as adjacent issuers captured more flow. Fidelity's FBTC reached $17 billion in AUM, while Grayscale's GBTC managed $15.5 billion, though the latter continued to bleed assets due to its 1.5% annual management fee, six times higher than the 0.25% charged by IBIT and FBTC.

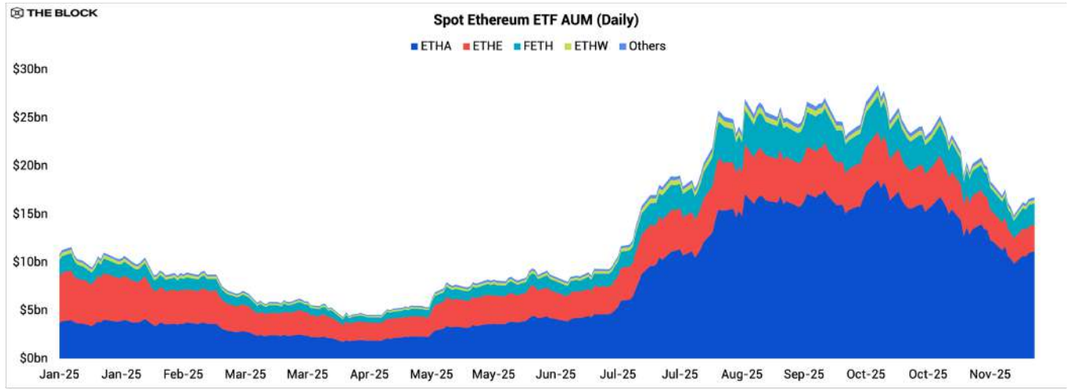


Source: The Block

Institutional participation also broadened beyond hedge funds as the year progressed. A global survey by AIMA and PwC found that 55% of hedge funds were invested in crypto (up from 47% a year earlier), with an average allocation of about 7% of assets, though most kept exposure below 2%. Roughly 67% of these crypto-invested funds used derivatives or structured products such as ETFs rather than holding coins directly, and the survey represented about $982 billion of hedge fund assets out of roughly $5 trillion industry-wide AUM. Endowments and long-horizon allocators also became more visible ETF buyers. In Q3 2025, Harvard Management Company increased its position in BlackRock's IBIT by roughly 257%, bringing its ETF stake to about $442.8 million, which made IBIT Harvard's largest publicly disclosed U.S. equity holding.

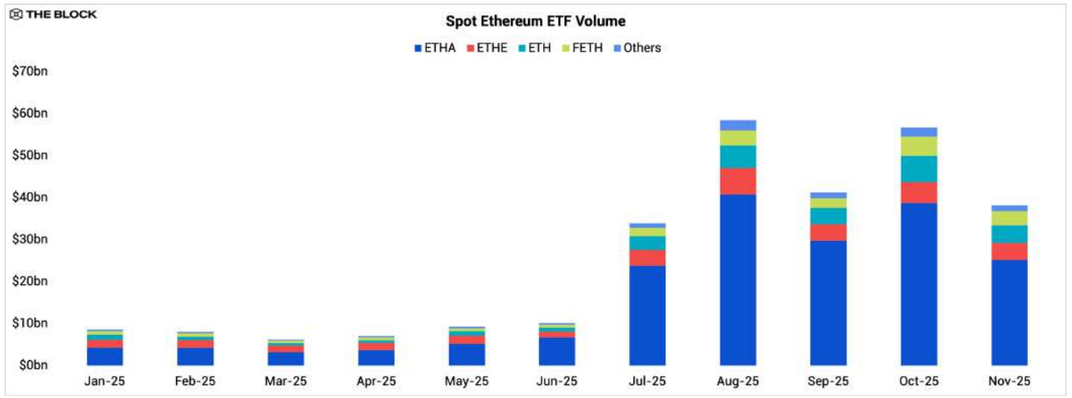
Ethereum ETF

Ethereum ETFs followed a similar trajectory, albeit at a smaller scale, recording $277 billion in cumulative trading volume through November 2025. AUM increased by $6.2 billion year-to-date, with momentum building in H2 2025 as ETH rallied into the $4,000s. BlackRock's ETHA emerged as the dominant product, capturing 60–70% of category volume and replicating IBIT's leadership structure in Bitcoin. ETHA reached $11.1 billion in AUM by the end of November, while Grayscale's converted ETHE saw steady outflows as investors rotated toward lower-fee alternatives.



Source: The Block, Trackinsight

The performance gap between Bitcoin and Ethereum ETF products remained substantial. While Bitcoin ETFs attracted $16 billion in net inflows during 2025, Ethereum products captured a fraction of institutional interest. Daily trading volumes for Ethereum ETFs averaged $1.2 billion, marking 31% of their Bitcoin ETF counterparts at $3.9 billion. The underperformance reflected Ethereum's price action relative to Bitcoin, despite continued institutional adoption of the network as the preferred onchain settlement method.

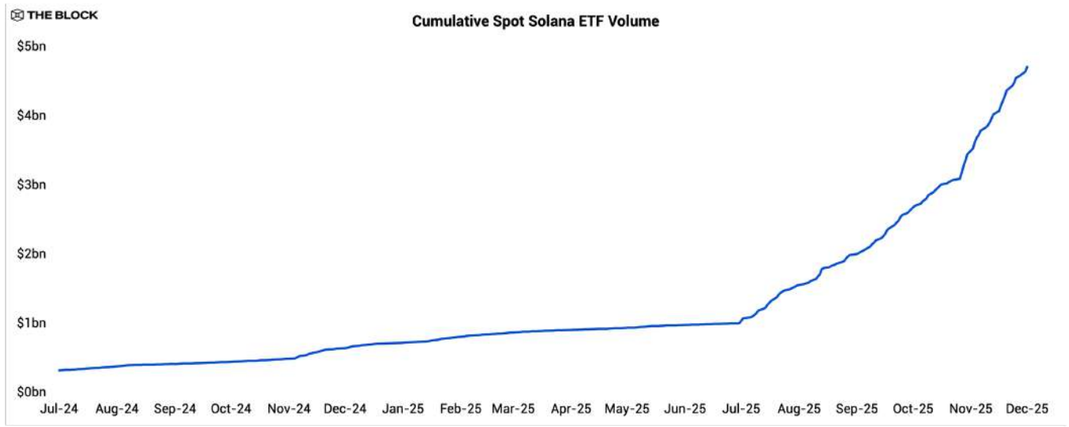


Source: The Block, Yahoo Finance

A continued headline for ETH ETFs was the absence of staking functionality across most products. Asset managers submitted amendments throughout the year proposing staking integration, but the SEC provided no timeline for approval. Grayscale, however, broke from the pack in early October having received approval to enable staking for its spot Ethereum ETFs (ETHE and the Ethereum Mini Trust), becoming the first U.S. issuers to doso. Even with Grayscale's launch, the broader category still left most ETF holders forfeiting roughly 2.98% in potential staking rewards.

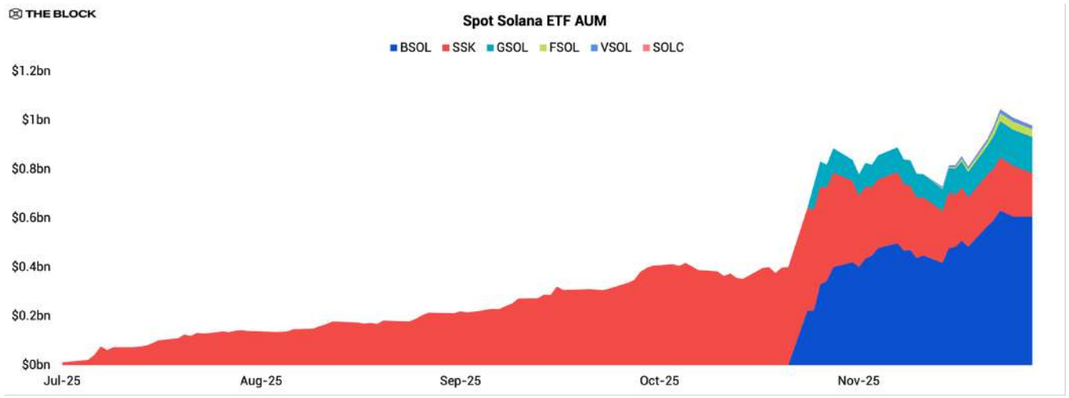
Solana and Altcoin ETFs

The ETF landscape expanded materially beyond Bitcoin and Ethereum in 2025, marking the first meaningful push of long-tail crypto assets into regulated wrappers. Solana led this wave, with eight spot-plus-staking ETF applications and six products going live by November. Collectively, live SOL ETFs generated over $4.6 billion in cumulative volume, driven by Solana's rising prominence as a high-throughput blockchain with growing TradFi interest.



Source: The Block, Yahoo Finance

Staking functionality became the defining innovation of this cohort. The staked Solana ETFs launched in November 2025 were among the first ETFs to offer direct staked exposure, distributing validator rewards while maintaining a standard ETF structure. These products accumulated $1 billion in AUM by the end of November, signaling robust institutional appetite for yield-generating crypto instruments. With Solana's staking rewards around 7%, the ETF wrapper unlocked a previously inaccessible total-return profile compared to spot-only vehicles.



Source: The Block, Trackinsight

These staked SOL ETF launches may serve as the template for staking-enabled products across the asset class. The regulatory approval of staking within ETF structures helped clarify regulatory debates about whether staking rewards constitute new securities issuance or materially alter the nature of the ETF. The introduction of yield generation capabilities could reshape investor expectations for cryptocurrency ETF products, particularly as fee compression continues across the category.

Beyond Solana, issuers filed applications for a slew of spot crypto ETFs throughout the year. Cryptocurrencies represented span long-standing coins like LTC, XRP, ADA, to more recent projects including HYPE, SUI, PENGU, and TRUMP. The approval timeline for these products is likely to extend into 2026, contingent on broader regulatory clarity regarding cryptocurrency classification.

The regulatory environment for alternative crypto ETFs shifted considerably in 2025. The SEC introduced generic listing standards for commodity-based trust shares that allow exchanges such as Nasdaq, NYSE Arca, and Cboe to list qualifying spot crypto ETPs without requiring asset-specific 19b-4 filings. To qualify, underlying assets must be traded on an established, CFTC-regulated futures market (typically seasoned for at least 6 months) and be subject to robust surveillance-sharing agreements. These reforms shorten the potential approval timeline from as long as ~240 days to roughly 60–75 days for products that fit the standardized criteria, and they are supplemented by 2025 SEC guidance that clarifies disclosure expectations, risk factors, and market-structure considerations for crypto ETFs. As additional spot products tied to assets such as XRP and other large-cap tokens work through this new regime, the SEC's treatment of these filings is likely to set de facto standards for evaluating proof-of-stake economics, token distribution and vesting models, staking and yield-bearing features.

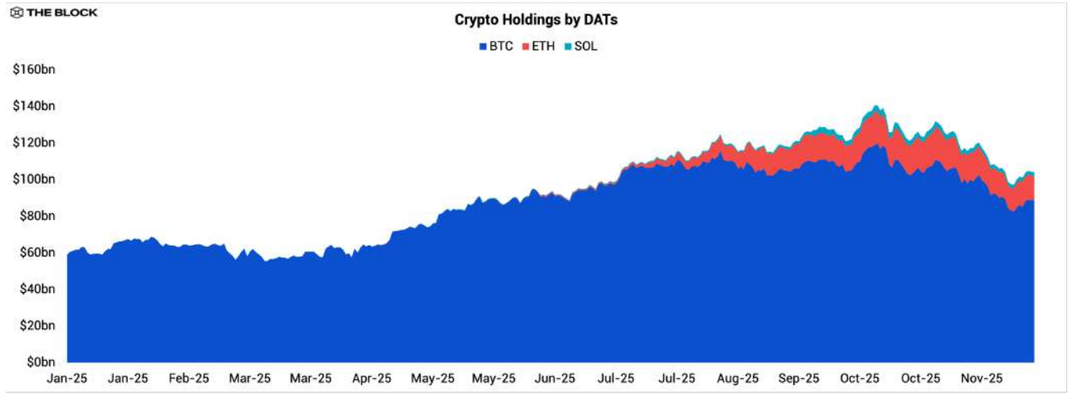
DIGITAL ASSET TREASURIES (DATS)

DAT Boom

A defining development of 2025 was the emergence of digital asset treasury (DAT) companies as a major new institutional pathway into crypto. These publicly traded entities allocate substantial portions of their balance sheets to cryptocurrencies, often abandoning or deprioritizing prior business lines to focus exclusively on accumulating digital assets. While Strategy pioneered the model in 2020, 2025 marked the first year in which the structure scaled into a full-fledged market category. Capital raised for DAT-style treasury purchases surged from $11 billion in 2024 to nearly $30 billion in 2025, reflecting both rising investor appetite for leveraged crypto exposure and management teams' willingness to use equity markets to scale holdings. As of November, over 100 DAT companies were active, spanning a wide range of assets well beyond Bitcoin. For this report, we tabulated fully completed fundraises, excluding authorizations and multi-tranche raises that are still in progress.

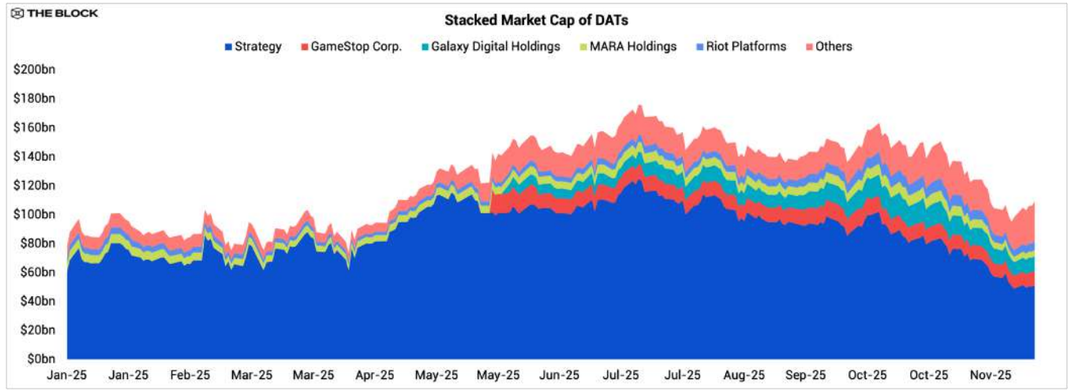
At their core, DATs effectively function as leveraged, publicly traded crypto accumulation vehicles. They raise capital through equity or debt issuance and deploy proceeds directly into crypto purchases. Unlike ETFs, however, DATs can trade at premiums or discounts to NAV, which introduces a structural lever. Companies can capitalize on elevated share prices by issuing equity above intrinsic value and purchasing crypto at spot, creating accretive increases in per-share token exposure when premiums are high.

Unsurprisingly, Bitcoin remains the dominant asset for DAT treasuries. As of November, public companies collectively held ~1.06 million BTC, or about 4.7% of the total supply. Strategy remained the largest holder with 650,000 BTC, followed by Bitcoin miner Marathon Holdings at 53,250 BTC. New entrants including Semler Scientific and Metaplanet adopted increasingly aggressive accumulation strategies, issuing substantial private placements and ATM programs to maintain optionality for additional purchases.



Source: The Block, Yahoo Finance

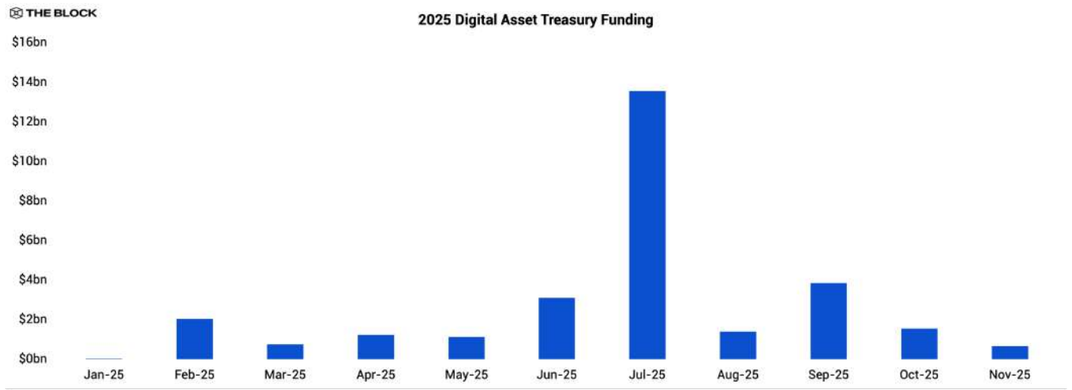
Price action across the DAT cohort, however, highlighted the model's inherent cyclicality. Collective market capitalization peaked around $170 billion before retracing to ~$100 billion late in the year. The drawdown reflected a combination of cryptocurrency volatility, premium compression, and investor rotation toward higher-conviction issuers. The consolidation reinforced the advantages of early scale, as first movers captured liquidity, analyst coverage, and balance-sheet depth that remain difficult for smaller entrants to replicate.



Source: The Block, Yahoo Finance, Stock Analysis

Capital Raises & Strategy

Digital asset treasury companies executed aggressive capital-raising strategies throughout 2025. Total financing exceeded $29 billion, more than double 2024 levels, with most deals structured as private placements or ATM issuances by companies already holding digital assets. Crypto-native venture firms led many of these private placements, with DCG, Pantera, Galaxy, Dragonfly, and Polychain emerging as repeat participants across multiple deals. The concentration of capital underscored the specialized investor base supporting the DAT model.

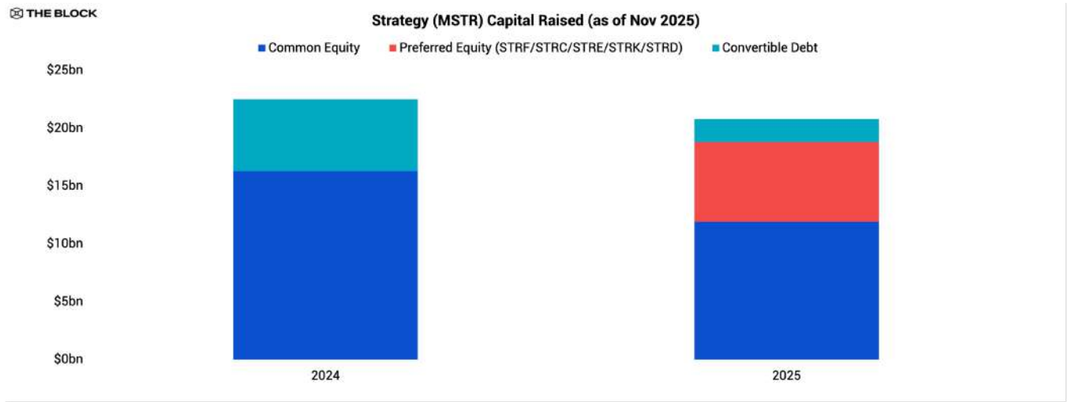


Source: The Block

Strategy's own fundraising activity, though still dominant, moderated slightly from $22.6 billion in 2024 to $20.8 billion as of November 2025. This total reflects both completed raises and the partially funded portions of ongoing at-the-market and other issuance programs.

Beyond traditional equity and convertible debt instruments, Strategy launched five perpetual preferred stock series, each engineered for a distinct investor profile. The varying features allowed the company to access capital from conversion-seeking equity investors

(STRK), pure fixed-income allocators demanding cumulative payment protections (STRF), yield-focused buyers accepting non-cumulative terms for higher rates (STRD), and rate-sensitive investors requiring floating dividends (STRC). The fifth (STRE) helped Strategy tap into the European market. Collectively, these preferred instruments have raised $6.9 billion in 2025, significantly expanding Strategy's toolkit beyond conventional equity or convertible notes.

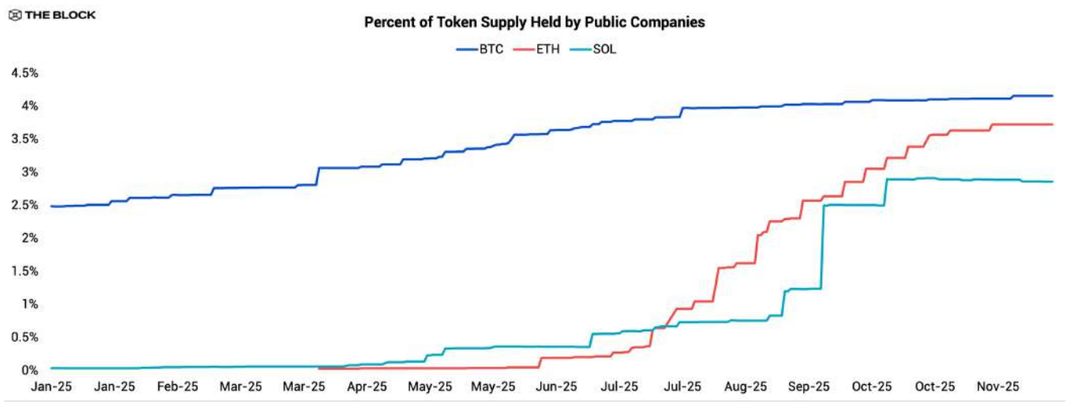


Source: The Block, Strategy

The Question of Sustainability

By Q4, Bitcoin fell 23% between October and November, exposing the structural fragility of the DAT model during market drawdowns. DATs rely on continued investor confidence in both price appreciation and the company's ability to accrete holdings through advantageous capital raises. When both weaken, the model becomes materially more challenging. Premium compression removes the incentive to issue new shares, discounts to NAV make issuance actively dilutive, and falling token prices reduce collateral value. If premiums disappear for an extended period, DATs may be forced to halt accumulation altogether or face the decision of raising dilutive capital at sub-NAV valuations. In extreme scenarios, a compression of mNAV along with a prolonged drawdown in cryptocurrency prices may force DATs to sell their underlying tokens. Given the concentration of digital assets among public companies, forced DAT liquidations could meaningfully impact

market depth, especially in thin liquidity environments. Signs of this stress began to emerge late in 2025. As of November 2025, 3 DATs: Sequans, FG Nexus, and ETHZilla have sold about $168 million of Bitcoin and Ethereum in order to fund operations and stock buybacks. While small relative to total DAT holdings, the sales demonstrate how quickly the narrative can shift when premiums contract and conditions tighten.



Source: The Block, CoinDesk

STABLECOINS

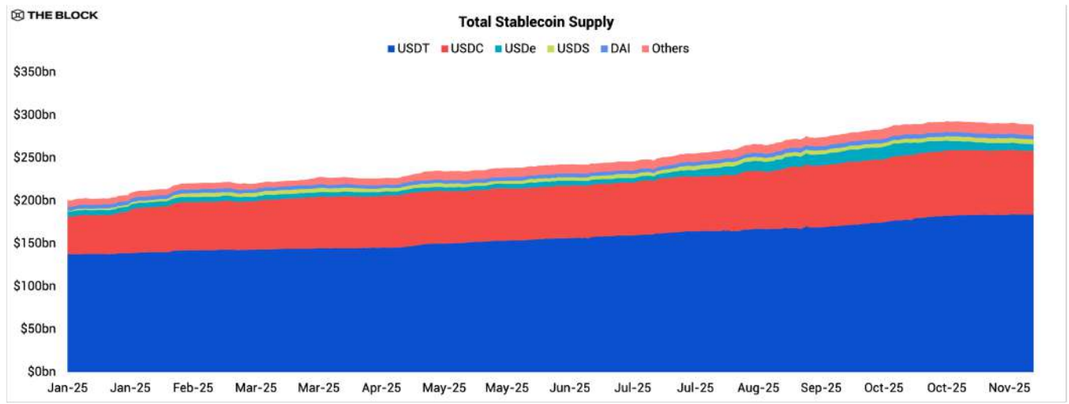
Stablecoins Crossing the Chasm

Stablecoins crossed a significant adoption threshold in 2025, evolving from a utility in the crypto market to a core component of global payment infrastructure. With total circulating supply sitting just under $300 billion, payment processors, fintech platforms, and card networks accelerated integration efforts and expanded stablecoin-native products at unprecedented scale. Stripe set the tone early in the year, acquiring Bridge for $1.1 billion and moving to launch Stablecoin Financial Accounts across 101 countries, enabling businesses to hold USDC and USDB balances while transacting seamlessly across fiat and crypto rails. The firm also introduced Open Issuance in September, a framework that

allows enterprises to launch and manage their own stablecoins with reserves custodied by BlackRock, Fidelity, and Superstate.

PayPal expanded PYUSD across Ethereum, Solana, and Stellar, introduced a 4% rewards rate on PYUSD held within its platform, and enabled merchant acceptance for over 100 cryptocurrencies via Pay with Crypto, targeting 20 million merchants. This transformed PayPal into one of the most expansive global distribution channels for retail-facing stablecoin payments.

Visa also deepened its commitment to stablecoin settlement. The network added support for USDC, PYUSD, USDG, and EURC across Ethereum, Solana, Stellar, and Avalanche, settling hundreds of billions in stablecoin volume through its infrastructure. Together, these developments signal that stablecoins have evolved from sandboxes to standard components of global payment infrastructure.



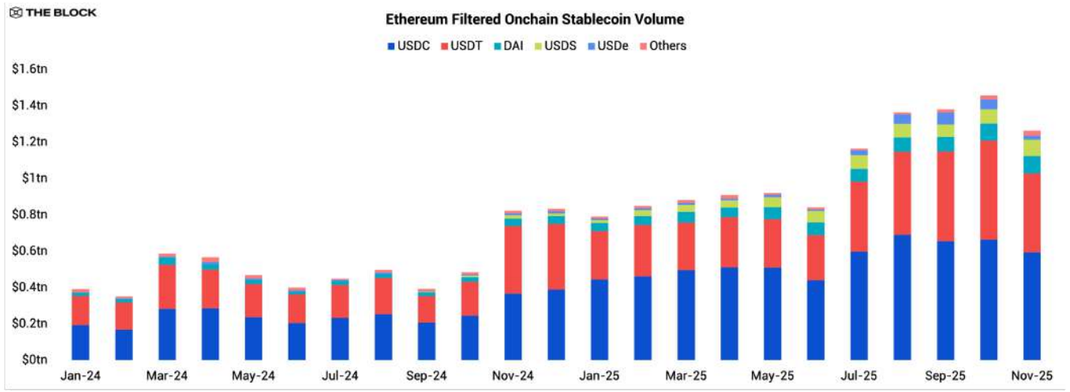
Source: The Block, DeFiLlama

Regulatory progress for stablecoins advanced in parallel, with several jurisdictions implementing comprehensive stablecoin frameworks. Most notably, the United States passed the GENIUS Act in July, establishing federal stablecoin regulation with reserve requirements, redemption mechanisms, and disclosure standards. The European Union's Markets in Crypto Assets regulation (MiCA) came into full effect, requiring stablecoin issuers to be authorized by EU regulators and maintain full reserves in highly liquid

assets. In Singapore, the MAS finalized a Single-Currency Stablecoin (SCS) framework applying to tokens pegged to SGD or G10 currencies, with requirements on reserve assets, segregated custody, monthly attestations, and redemption rights. Hong Kong passed its Stablecoin Bill, establishing licensing requirements for issuers operating in the jurisdiction. These frameworks provided clarity for issuers and institutional users while establishing consumer protection standards.

Stablecoins Onchain

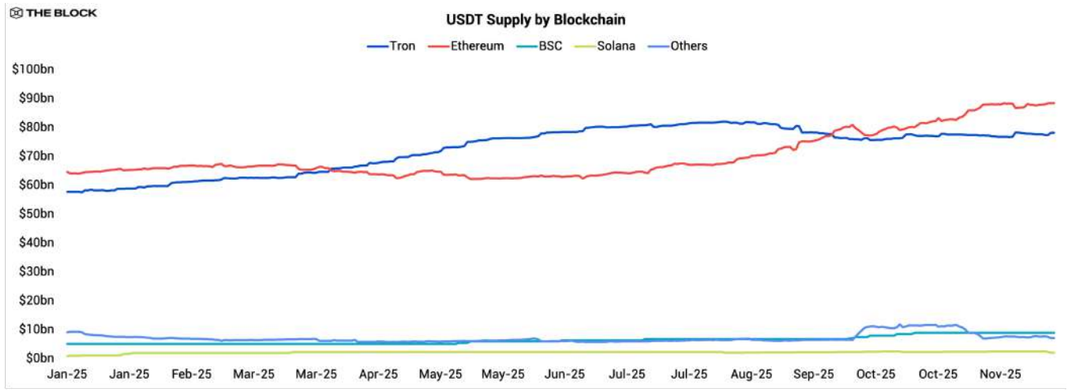
Onchain stablecoin activity reached all-time highs in 2025, mirroring the surge in mainstream adoption. Ethereum stablecoin volume reached $30 trillion on an unadjusted basis, a 75% increase from 2024. Adjusted stablecoin transaction volume, which filters out bot activity and artificially inflationary transactions, reached $11.8 trillion, up 89% year over year. While initially used as a tool for crypto trading, stablecoins have increasingly become the preferred medium for remittances, B2B payments, treasury flows, and settlement for fintech and card networks.



Source: The Block

Tether

Tether remained the dominant stablecoin issuer in 2025, holding 63% market share with $185 billion USDT in circulation and processing over half a trillion dollars in monthly transaction volume. The company's supply concentrated with $102 billion on Ethereum, surpassing Tron in September and representing nearly half of total USDT circulation. Ethereum's substantial USDT presence supported DeFi protocols and institutional trading infrastructure. As regulations around stablecoins shifted, Tether announced plans to establish a U.S. subsidiary to manage compliance with federal stablecoin legislation, positioning itself to operate within the new regulatory framework while maintaining its global market leadership. This will help Tether begin a strategic push into the US market, with plans to launch USAT, a US-native USD stablecoin explicitly designed for domestic regulatory compliance, expected to launch around year-end.

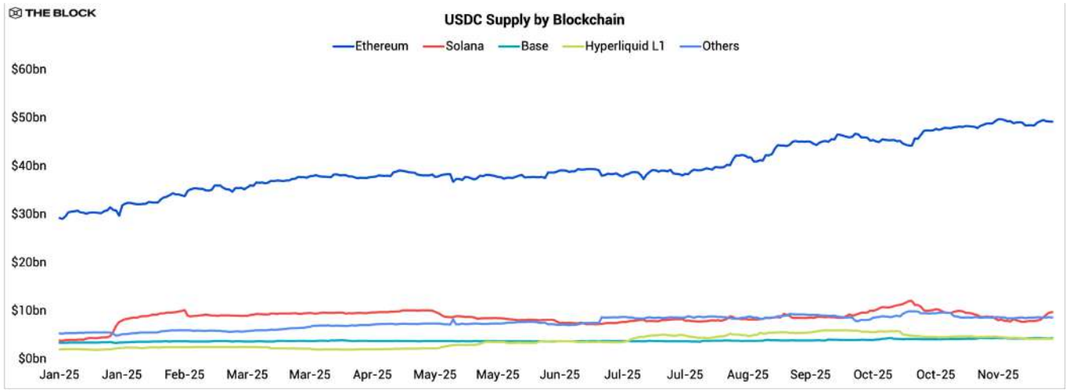


Source: The Block, DeFiLlama

USDC

USDC strengthened its position as a leading stablecoin, reaching a market share of approximately 30% with roughly $76 billion in circulation. Ethereum remained USDC's largest network with approximately $49 billion in circulation, followed by significant deployments on Solana with $7 billion and both Hyperliquid and Base with $4.3 billion apiece. The growth of USDC on Base and Solana proved particularly notable, driven by DeFi activity, payment applications, and memecoin trading that required stablecoin

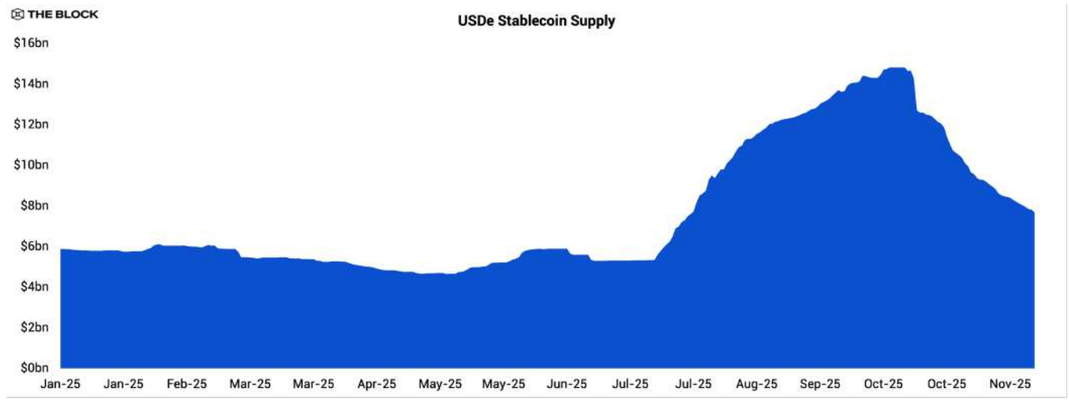
liquidity on high-throughput networks. Circle's public market debut in June further solidified USDC's reputation as the stablecoin most tightly integrated with traditional financial infrastructure. Its role in early-stage banking pilots positioned the asset as a credible solution for institutions requiring high regulatory assurance.



Source: The Block, DeFiLlama, Coin Metrics

Ethena Challenging the Duopoly

2025 also saw the stablecoin landscape expand beyond the USDT and USDC duopoly, driven by the emergence of Ethena's USDe, a crypto native alternative. USDe grew from under $6 billion to over $14 billion in circulation at the highs, capturing roughly 3% of total stablecoin supply. Unlike fiat-backed competitors, USDe operates as a synthetic dollar backed by cryptocurrency collateral and delta-hedging strategies that generate yields for holders. The protocol's yield-bearing mechanism, which generates returns through funding rate arbitrage by shorting perpetual futures against spot cryptocurrency holdings, attracted users seeking passive income without sacrificing stablecoin stability. USDe's rise demonstrated growing demand for crypto-native alternatives that maintain dollar stability while offering economic incentives absent from traditional reserve-backed stablecoins.



Source: The Block, DeFiLlama

Ethena's success with yield distribution added to the pressure on the reserve-backed issuers to develop competitive incentive structures within regulatory constraints. While the GENIUS Act's framework prohibited stablecoin issuers from directly paying interest to holders, it prompted creative approaches to value sharing that technically classified returns as rewards or promotional benefits. Coinbase introduced a rewards program offering USDC holders returns on their balances, structuring the payments as platform incentives rather than direct interest. PayPal implemented a similar model, offering PYUSD holders a 4% annual rewards rate on balances held within the PayPal ecosystem, framing the yield as a loyalty program benefit. These workarounds allowed compliant stablecoin issuers to compete with yield-bearing alternatives while maintaining technical adherence to regulatory restrictions on direct interest payments, though the economic effect for users remained functionally identical to interest.

IPO, VC, M&A - MAKING FRIENDS WITH WALL ST

Public Markets

Source: The Block, Yahoo Finance

After several years defined by regulatory uncertainty and muted risk appetite, 2025 marked a decisive turning point in crypto's relationship with public markets. The roster of high-profile IPOs signaled that equity markets were once again enthusiastic about digital asset exposure.

Circle's June debut on the New York Stock Exchange was a watershed moment that demonstrated the depth of institutional appetite for crypto exposure. The stablecoin issuer priced its offering at $31 per share, raising approximately $1.1 billion, but the true signal came from investors who drove shares up nearly 290% on the first day of trading. The stock eventually climbed toward $240 before settling around $66 by November. This IPO provided a strong readout on institutional appetite for upcoming crypto-native companies.

The momentum continued through Q3 and Q4 with a cluster of high-profile listings. Bullish, the cryptocurrency exchange backed by billionaire Peter Thiel, completed

another successful public debut in August, raising $1.15 billion through its listing on the New York Stock Exchange. The exchange, which had built its infrastructure on the Solana blockchain and positioned itself as an institutional-grade trading platform, priced shares that valued the company at approximately $5.6 billion.

Gemini, founded by the Winklevoss twins, debuted at $28 per share with a $3.3 billion valuation after raising $425 million. The exchange positioned itself explicitly as a compliance-focused alternative to offshore competitors, securing strategic backing from Nasdaq through a $50 million private placement and partnerships to offer custodial services and trade management infrastructure to institutional clients. While Gemini remained unprofitable with $165 million in net losses during 2024, the company's regulatory standing and institutional partnerships attracted sufficient investor interest to complete an oversubscribed offering.

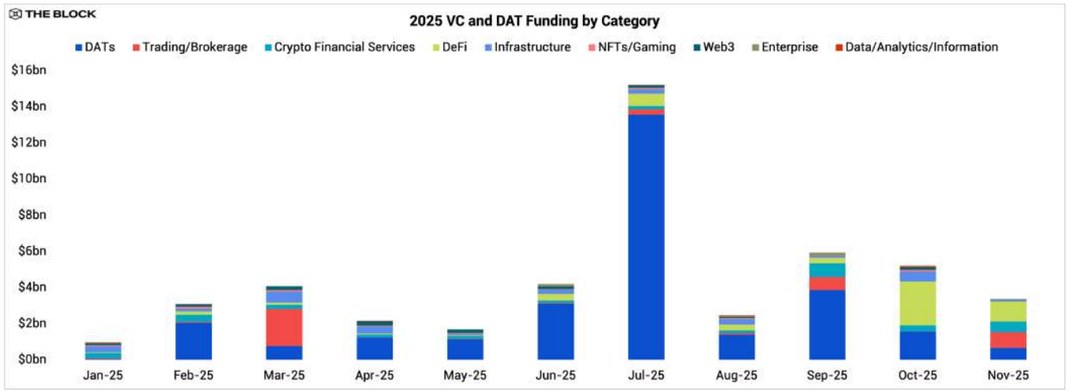
Figure emerged as another significant IPO, pricing at $25 per share and raising $787.5 million at a $5.3 billion valuation. Co-founded by SoFi veteran Mike Cagney, the HELOC company represented more than $14 billion in onchain value by using Provenance blockchain to help reduce loan processing times from the industry standard of 42 days to just 10 days.

The pace of public market activity reflected broader regulatory shifts under the Trump administration. The Securities and Exchange Commission closed enforcement actions against major crypto firms, including Gemini, Coinbase, and Kraken, while shifting toward a more supportive framework through initiatives like Project Crypto. This regulatory clarity proved catalytic for firms that had long contemplated public listings but hesitated amid an uncertain enforcement environment. Public crypto companies performed well amidst this backdrop. The Global Digital Assets Equity Index, climbed as high as 83% YTD before settling back to 16% towards November.

Private Markets

The venture capital landscape operated against the backdrop of digital asset treasuries that challenged the competitive dynamics for traditional VC deployment. DAT vehicles absorbed $29 billion between January and November 2025, representing 60% of total

cryptocurrency-related capital when combined with the $19 billion in venture deals. DAT vehicles offered institutional investors a new method of cryptocurrency exposure rather than venture positions, diverting funds that historically flowed to startup equity. Notably, some venture capital funds have actively diversified to DATs, with some firms specifically raising capital for a DAT-focused fund.



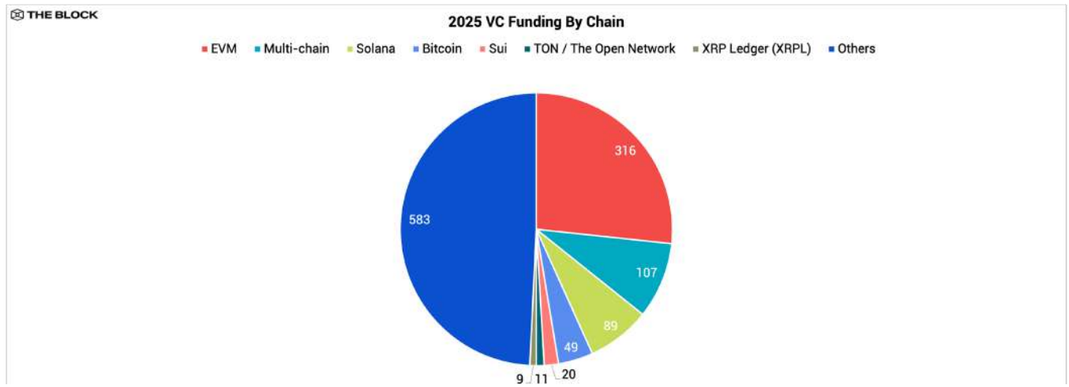
Source: The Block

Yet venture capital deployment remained resilient, reaching $18.9 billion in 2025, up 22% from $13.8 billion in 2024. However, the rise in dollars deployed is contrasted with shifts in the number of projects raised. Traditional venture deal count dropped 60%, falling from 2,932 transactions in 2024 to just 1,183 in November 2025. The compression in deal count alongside increased dollar deployment pushed average transaction sizes higher, from approximately $4.7 million in 2024 to $16 million in 2025. Capital concentrated among growth and later-stage companies rather than seed ventures, as investors demonstrated a clear preference for established projects over spreading out cheques over multiple speculative early-stage bets.

The year opened with considerable momentum as Q1 recorded $5.2 billion in funding, anchored by MGX's $2 billion investment into Binance, the largest single deployment of the year. Activity moderated through Q2 with $2.5 billion before accelerating to $4.8

billion in Q3. Q4 currently sits at $6 billion with December to go, capturing Polymarket's $2 billion and Kalshi's $1 billion raises.

At the ecosystem level, EVM chains continued to dominate as the preferred destination for venture capital deployment, representing the largest single category in blockchain funding. Developers consistently chose Ethereum and EVM-compatible chains for new project launches, drawn by the ecosystem's extensive tooling infrastructure and proven track record. Stablecoin concentration on Ethereum and EVM-compatible chains created natural alignment for new projects, reinforcing the network effect.



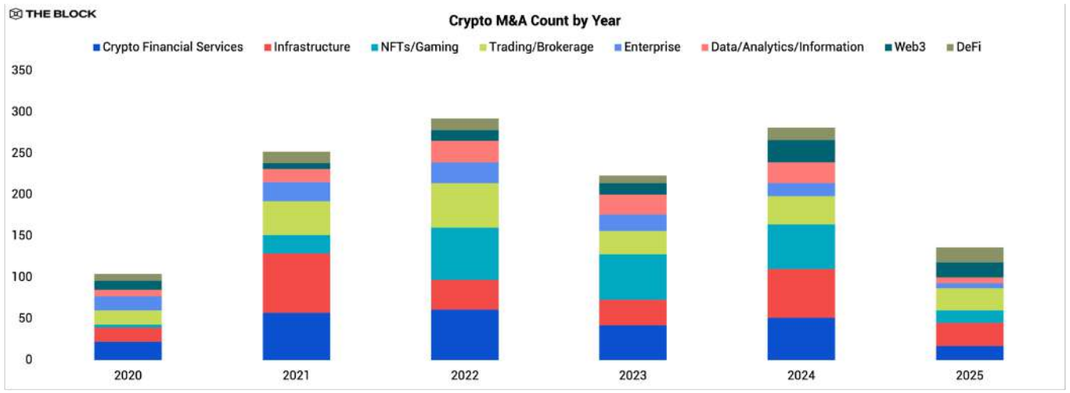
Source: The Block

Multi-chain projects emerged as the second-largest category, driven by spikes in activity across different ecosystems. Capital chased solutions that could capture liquidity across both Solana and EVM, mirroring user behavior as traders followed momentum and narratives across chains. This cross-chain behavior created appetite for projects capable of serving multiple ecosystems simultaneously rather than forcing users to choose between platforms.

As the year progressed, DATs faced persistent mNAV compression, eroding premiums across multiple instruments. This compression suggests institutional appetite for publicly traded cryptocurrency exposure may be moderating, potentially freeing capital to flow back toward traditional venture positions.

Mergers and Acquisitions

Crypto M&A activity contracted in 2025, declining 52% from 281 deals in 2024 to 136 as of November. The pullback reflected a shift from opportunistic asset acquisition to strategic consolidation, with buyers focusing on capabilities that strengthened regulatory posture or expanded product suites. Coinbase led with eight acquisitions, followed by Jupiter with four and Kraken with three deals.



Source: The Block

The year's most significant transactions demonstrated the industry's shift toward building a comprehensive financial infrastructure. Coinbase acquired derivatives exchange Deribit for $2.9 billion in May, adding institutional-grade options capabilities to its platform and Echo.xyz for $375 million to democratize private market raises. Kraken purchased retail brokerage NinjaTrader for $1.5 billion and props platform Breakout, extending its reach into trading markets. Ripple paid $1.25 billion for Hidden Road in April, gaining prime brokerage infrastructure. FalconX's acquisition of 21Shares merged prime brokerage services with ETF issuance capabilities, positioning the combined entity across institutional product distribution. Sector-level activity clustered around Infrastructure, which led activity with 28 transactions, followed by Trading and Brokerages with 27 deals, and Web3 with 18.

ICO Revival

2025 saw a renewed rise of community-driven token launches, marking the most substantial revival of the ICO model since 2017–18. Initial coin offering platforms, including Echo, Kaito Launchpad, and Legion, facilitated project fundraises that prioritized community ownership over institutional concentration. This surge reflected a growing skepticism among developers toward traditional VC structures, which were criticized for concentrating token allocations among insiders and offloading risk to public markets.

Community launchpads enable broader distribution, with projects raising capital directly from smaller participants rather than a handful of institutional backers. Echo facilitated more than 54 private deals throughout late 2024 and 2025, while Kaito processed an additional 14 launches during the year.

Major exchanges validated the launchpad model through strategic acquisitions and partnerships. Coinbase acquired Echo while Kraken partnered with Legion, signaling institutional recognition of the importance of community alignment in token distribution. The moves reflected exchange interest in controlling earlier-stage deal flow and cultivating relationships with projects before public listings.

8. REGULATION

USA

2025 marked a decisive regulatory reset in the United States, beginning with Gary Gensler's resignation as SEC Chair in January, ending an enforcement-heavy era that saw the SEC bring over 100 enforcement actions against crypto companies during his tenure.

Paul Atkins was sworn in as the 34th SEC Chairman on April 21, 2025, having served as a former SEC Commissioner from 2002 to 2008 and co-chair of the Token Alliance since 2017. Atkins brought extensive cryptocurrency experience to the role. His appointment signaled a fundamental shift from regulation by enforcement toward enabling compliance and fostering innovation. Early actions under the new SEC leadership included withdrawing crypto-related enforcement actions and establishing clearer regulatory frameworks for digital asset oversight.

The most significant regulatory development of 2025 was the passage of the Guiding and Establishing National Innovation for U.S. Stablecoins Act (GENIUS Act). Signed on July 18, it was the first comprehensive federal legislation regulating stablecoins in the United States. The GENIUS Act established a rigorous regulatory framework for payment stablecoins. Key provisions require issuers to maintain 100% reserve backing with liquid assets like U.S. dollars or short-term treasuries, implement strict anti-money laundering and sanctions compliance programs, and provide monthly public disclosures of reserve composition. The legislation created both federal and state regulatory pathways, with banks and nonbanks able to issue stablecoins through subsidiaries under oversight from the OCC, Federal Reserve, or FDIC. State regulatory options exist for smaller issuers with under $10 billion in outstanding stablecoins.

The law prohibits interest payments to holders and requires technical capability to freeze or seize tokens when legally required. Furthermore, in insolvency scenarios, the law grants stablecoin holders priority over all other creditors. The GENIUS Act also includes provisions preventing members of Congress and senior executive branch officials from issuing payment stablecoins during their public service, though controversies emerged around Trump administration-affiliated stablecoin projects.

Following the GENIUS Act, the House passed the Digital Asset Market Clarity Act (CLARITY Act) in July. Building on the Financial Innovation and Technology for the 21st Century Act (FIT21) that passed the House in 2024, the CLARITY Act sought to establish a comprehensive market structure for digital assets. The legislation grants the CFTC exclusive jurisdiction over digital commodity spot markets while maintaining SEC jurisdiction over investment contract assets. It also establishes a registration regime for digital commodity exchanges, brokers, and dealers under CFTC oversight. However, as of late 2025, the CLARITY Act awaits Senate action.

EUROPE'S MICA IMPLEMENTATION

2025 was the first full year of Europe's landmark Markets in Crypto-Assets Regulation (MiCA), which introduced a comprehensive, harmonized regulatory regime for digital assets. The regulation implemented a two-phase approach, with stablecoin provisions (covering Asset-Referenced Tokens and E-Money Tokens) effective from June 30, 2024,

followed by crypto-asset service provider (CASP) licensing requirements from December 30, 2024.

MiCA established harmonized rules across all 27 EU member states, including passporting rights allowing CASPs authorized in one country to operate throughout the EU. The regulation requires 1:1 reserve backing for stablecoins, mandatory audits, comprehensive AML/KYC compliance, and market abuse prevention measures. The European Securities and Markets Authority (ESMA) oversees enforcement alongside national competent authorities.

TRADFI AND REGULATION OUTLOOK FOR 2026

The regulatory landscape continues evolving rapidly as jurisdictions balance innovation with consumer protection and financial stability. Key themes shaping 2025 and beyond include the implementation timeline for U.S. stablecoin rules as federal agencies develop implementing regulations, the reconciliation of House and Senate market structure bills to create comprehensive digital asset legislation, ongoing MiCA implementation across EU member states with potential refinements based on early enforcement experience, and jurisdictional competition as regions vie to become global crypto hubs through favorable regulatory frameworks.

The shift from regulation by enforcement toward purpose-built legislative frameworks represents a fundamental maturation of crypto regulation globally. While challenges remain around DeFi oversight, cross-border flows, and institutional participation rules, the establishment of clear stablecoin frameworks in major jurisdictions provides a foundation for continued digital asset adoption and integration into mainstream finance.

2025 demonstrated that institutional cryptocurrency adoption reached an inflection point, transitioning from experimental pilots to structural integration across traditional finance. The convergence of regulated ETF products, publicly traded digital asset treasury companies, comprehensive stablecoin legislation, and cooperative regulatory frameworks created the most supportive conditions for institutional participation.

The reopening of public markets to crypto companies and continued stablecoin adoption by traditional payment providers signal industry maturation beyond speculative cycles toward operational sustainability. While challenges remain around long tail ETFs, premium sustainability for treasury companies, and the full implementation of new regulatory frameworks, the year established cryptocurrency's presence in mainstream financial infrastructure. The shift from regulatory hostility to engagement, the diversification of access vehicles, and the consolidation of market structure position the industry for continued institutional adoption in the years ahead.

RESEARCH FROM OUR SPONSOR

WHEN CRYPTO CRIMINALS LEARN AND ADAPT

AI IMPERSONATORS, PERSONALIZED ATTACKS, AND OPERATIONAL SOPHISTICATION HEIGHTENED THE THREAT TO DIGITAL ASSET PORTFOLIOS.

GK8’S TAKE ON THE SHIFTS THAT RESHAPED 2025

We observed several consistent patterns across the crypto crime ecosystem in 2025. Attackers are reusing effective techniques more frequently, personalizing their operations around specific individuals, and organizing themselves in ways that resemble structured workflows rather than isolated opportunistic activity. These changes are not tied to one particular type of attack. They appear across technical exploits, social-engineering attempts, key-hunting operations, and infrastructure targeting.

One of the notable drivers behind this shift is the growing availability of AI systems that can automate or enhance tasks previously requiring manual labor. Combined with the increasing volume of leaked data, AI allows attackers to reach more targets, tailor their approach, and rely less on human involvement. The effect is visible in multiple dimensions

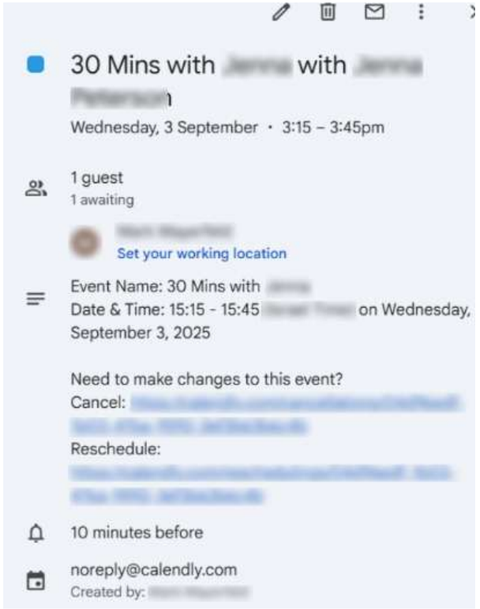
of criminal activity: outreach, reconnaissance, impersonation, software, and even real-time interaction.

Data collected by GK8 from underground sources throughout 2025 supports this observation. Mentions of "crypto" in threat-actor discussions grew significantly compared with the previous year. Searches for "partners" (i.e. accomplices), requests related to high-balance targets, and conversations involving deepfake or AI-assisted calling all saw notable increases. These shifts suggest that attackers are not only becoming more active but are also seeking ways to scale, specialize, and coordinate more effectively.

WHERE THESE SHIFTS ARE ALREADY TAKING SHAPE IN THE REAL WORLD

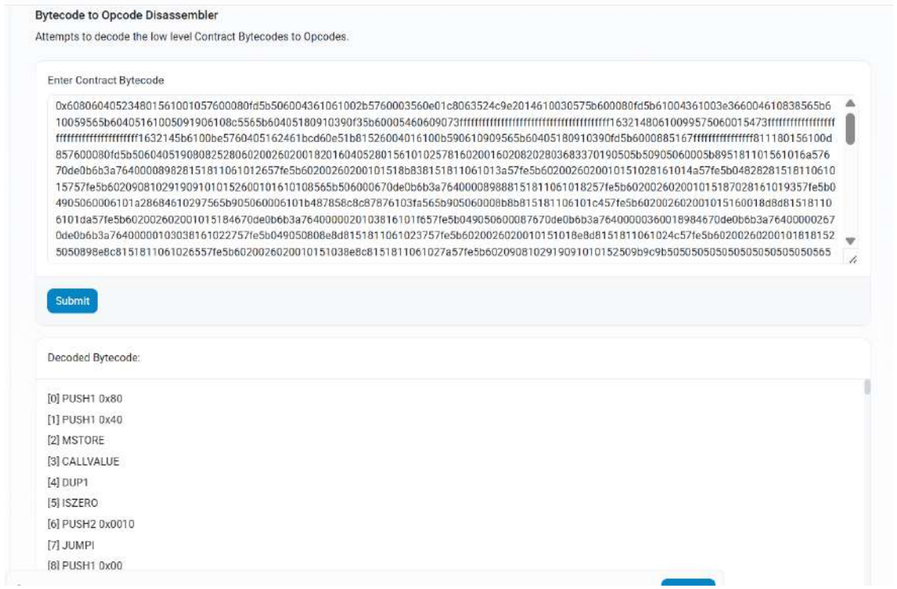
In 2024, attacks involving real-time Zoom deepfake models were still rare and generally viewed as something new. At the beginning of 2025, the first incidents with fake Zoom video calls started appearing in news reports. Attackers posed as colleagues or partners in attempts to trick victims into installing malicious files or granting access to internal systems. One such case involved an unsuccessful attempt to fool the co-founder of L2 ecosystem Manta Network, whom the attackers approached through a deepfake video call prepared in advance, with a scripted scenario and a visually accurate impersonation.

By the end of the year, the pattern was no longer exceptional, and the targeting had broadened beyond company executives. In our case, three such attempts were directed at GK8 employees, and in a break from the typical practice, the most recent one focused on an employee outside the senior leadership tier. Notably, none of these attempts succeeded in compromising GK8's network, systems, or operational capabilities. Similar attempts were also reported by other organizations in the industry. This indicates that deepfake-enabled video call attacks are becoming not only more personalized but also more widely applied, extending to roles that were not traditionally considered primary targets. A second important point is that the success of the fake Zoom attacks prompted threat actors not only to replicate the technique but to commercialize it. Many are now adding their own versions of this attack to their service portfolios and offering them more frequently.



Scam invitation to a fake Zoom meeting, received by one of GK8's executives.

A parallel dynamic played out on the technical side following the 2025 Balancer exploit. Once a contract was published illustrating how the flaw in the pool's rounding and scaling logic enabled the drain, onchain copycat transactions and testing attempts emerged within days. Multiple Balancer forks were found to have inherited the same vulnerability, creating a wave of probing activity, even if not all attempts resulted in confirmed secondary exploits. The Balancer incident quickly became a reference point for attackers and analysts alike, illustrating how a successful technical method can propagate across the ecosystem as soon as its mechanics are understood.



Code decoded from one of the forks identified in the Balancer attack.

We cannot discuss 2025 without referencing the Bybit incident, the largest centralized-exchange breach to date - $1.5BUSD. Rather than exploiting a protocol flaw, attackers infiltrated the exchange through a compromised workstation belonging to a developer at Safe{Wallet}, an external service provider. This supply-chain intrusion highlights a different but complementary trend: well-resourced threat actors are increasingly willing to conduct multi-step, infrastructure-level operations to reach large high-value targets across the crypto ecosystem. This reinforces the idea that 2025's incidents were not isolated anomalies but part of a broader pattern of operational maturity across different attack types.

FROM HUMAN CALLERS TO AI-DRIVEN SOCIAL ENGINEERING: A CASE STUDY IN CRIMINAL SCALING

These incidents sit within a broader transformation of social-engineering activity. Caller-based scams, voice impersonation, and outreach operations have shifted from ad-hoc efforts to coordinated workflows, with AI now integrated directly into the interaction layer.

A useful illustration of these processes is the evolution of a single threat actor who, over a few months, developed an AI-based calling tool into a full-service criminal call center platform. Traditional "callers" and the growing interest in them among threat actors, were covered in a previous GK8 report. Their role is straightforward: they contact a target by phone or video call, impersonate someone the victim might trust, and guide them through a sequence of actions designed to expose credentials, install software, or approve transactions. In many cases, callers work within larger fraud workflows, coordinating with malware operators, phishing teams, or money-extraction specialists. Their effectiveness depends on their ability to sound convincing, respond naturally, and adapt to the victim's reactions in real time. Some calls follow simple scripts; others are more elaborate, involving multi-step preparation and impersonation of internal company contacts. But in most cases, callers remain a labor-intensive resource that requires training, coordination, and human availability, all of which limit scalability.

The mentioned above threat actor, active on a known darknet forum, now promotes his AI-assisted calling systems. Instead of relying on human actors, the scammer began testing models capable of holding natural conversations, switching languages, and executing pre-defined manipulation scenarios. He is looking for clients who want to incorporate his product into their scam operations, claiming it will help them sound less like an automated system and better adapt to each potential victim. It can also increase the number of targets they are able to process per day.

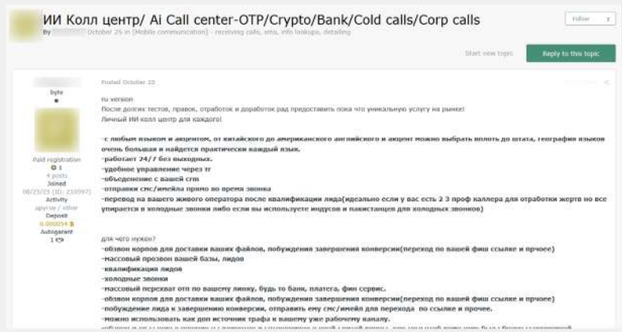
This is the same threat actor who, within a few months, evolved from offering a simple AI-driven "caller prototype" to advertising a full AI-based call-center service. The early version of his setup looked like an extension of traditional voice phishing, or vishing: a tool that could place calls, read messages, and mimic certain accents. By the end of

the year, however, they presented a fully productized service with multilingual support, accent (including choosing accents by the U.S. state) control, CRM integration, corporate outreach, Telegram control, and optional hand-off to human closers.


ИИ Колл центр/прозвон.

Translated from Russian:

August 2025:
Good day!
I'd like to give an overview of my capabilities to find a couple of comrades for joint work-and to retire early.
I'm ready to offer my AI for:
• calls to your databases;
• calls to cold and warm leads;
• qualifying leads right on the call and, if desired, transferring them to a live operator-or sending SMS, email, etc., during the call;
• targeted calls to trick the victim into sharing OTPs, installing software, opening files-anything at all;
• customizing the system to implement any scenario for getting installs, corporate networks, leads, and more.
Why my solution beats your call center staffed with *:**
• flexible API and integrations with various tools and services-for example, connecting knowledge bases, sending SMS and email right during the call;
• ultra-realistic voices with a wide choice of languages and accents-forget endless struggles in tough geos with accent detection, etc.; my voices sound better than native speakers, and I'll pick any language you need to open geos that used to be blocked by that barrier;
• voice cloning-down to an identical match with the original;
• mass calling-up to 1,000 calls simultaneously, 24/7;
• SIP integration for calls with caller-ID spoofing;
• creating agents for targeted calls by crafting the perfect prompt that will lead the victim to the logical end of the scenario-the agent will be indistinguishable from a human;
IMPORTANT: this is not a dumb bot that reads a script. This is a professional defined in the prompt-one who thinks, argues, and gets results: speaks professional lingo, asks precise questions, counters, and argues. Flexible setup-from a "hard" script to a live expert dialogue;
with a prompt, you can spin up any persona-from a bank employee to a Nobel laureate and a neurosurgery expert. If you've ever used an LLM and you're used to chat format, just move it into a phone call and imagine the possibilities compared to ordinary call centers with Indians.
I've also implemented scenarios involving intercepting bank OTPs and cloning a bank's branded voice. If you have interesting services for intercepting OTPs, PIN codes, etc., we can collaborate.
In short, I'm ready to consider any monetizable proposals. Please suggest only proven scenarios where you've already achieved results and need help scaling, since I've spent a lot of time and money on my side and don't want to waste it on your tests.


ИИ Колл центр/ Ai Call center-OTP/Crypto/Bank/Cold calls/Corp calls

Translated from Russian:

October 2025:
After long testing, edits, scripting and improvements - happy to offer a unique service on the market! Personal AI call center for everyone!
any language and accent, from Chinese to American English, accent can be chosen down to the state, huge language geography, almost any language is available.
• works 24/7 no days off.
• convenient control via TG
• integration with your CRM
• sending SMS/email right during the call
• transfer to your live operator after lead qualification (perfect if you have 2-3 pro callers to close victims, but everything depends on cold calls, or if you use *** for cold calls)
What is it for?
• corporate outreach to deliver your files, push to complete conversion (click your phish link, etc.)
• mass dialing your base, leads
• lead qualification
• cold calls
• mass OTP interception via your link, be it bank, payment, fin service.
• corporate outreach to deliver your files, push to complete conversion (click your phish link, etc.)
• push lead to complete conversion, send SMS/email to click the link, etc.
• can be used as additional traffic source to your existing channel.
• outreach and pressure on clients and employees of your leaked corp so the company becomes more cooperative
• any mass scam calls

• I emphasize that the bot does not speak from a script, but conducts a conscious dialogue.

I can implement any scenario that can be scaled and monetized, will put special emphasis on the second one because monetization terms matter! open to dialogue and your suggestions!

HUNTING WHALES, SEEKING PARTNERS: WHAT THREAT ACTORS TALKED ABOUT IN 2025

The trends we observed in real incidents throughout 2025 are reflected clearly in the way threat actors communicated across underground forums during the same period. While dark web sources' conversations do not represent the entire ecosystem, they offer a consistent snapshot of what attackers are interested in, what tools they use, and how they coordinate their operations. Across these conversations, three themes stood out consistently.

Forum activity reflected the same patterns we saw in real incidents: increased collaboration, more focus on high-value targets, and growing discussion of AI-enabled tooling.

Below are selected examples from the broader set of forum-analysis results collected for this report.

Data Scope: Data was gathered from 86 threat actor forums (discussions were analyzed in both English and Russian) for the period between January and the end of November in both 2024 and 2025, using the same time frame for comparison.

Request:	Jan. 1 - Nov. 30 2024	Jan. 1 - Nov. 30 2025
Mentions of "crypto" (English + Russian)	168,000	236,000

Within the discussions that mentioned "crypto":
Indicators of growing collaborations:

Request:	Jan. 1 - Nov. 30 2024	Jan. 1 - Nov. 30 2025
Mentions of "partner" (English + Russian)	12,000	101,000
Mentions of "caller" (English + Russian)	104	204

Indicators of increased interest in high-value targets (such as "high balance work," "high net worth," "top tier," "whales," and "big targets").

Request:	Jan. 1 - Nov. 30 2024	Jan. 1 - Nov. 30 2025
Mentions of high-value-target-related words (English + Russian)	202	347

Indicators of increased interest in AI

Request:	Jan. 1 - Nov. 30 2024	Jan. 1 - Nov. 30 2025
Mentions of "deepfake" (English + Russian)	434	910

Source: KELA

Taken together, the forum data points to a threat ecosystem maturing at speed. Conversations around collaboration, high-value targeting, and AI-enabled tooling all rose sharply, with some, such as mentions of deepfakes, more than doubling year-over-year. The patterns show attackers concentrating on what scales: clearer role division, higher-return victims, and automation that accelerates operations. These discussions offer a preview of the tactics threat actors are preparing to amplify next.

2026 OUTLOOK: ADAPTIVE, AI-ENABLED CRYPTO ATTACK ECOSYSTEMS

The shifts in 2025 make the near-term outlook relatively clear. There is no indication that attackers will move away from AI or personalization in 2026; instead, both are likely to deepen and expand. And when we consider how quickly effective techniques are repeated within the threat-actor ecosystem, it becomes even more evident that the successful attack patterns observed in 2025 will not remain isolated. Once a method demonstrates a reliable return, whether a deepfake-enabled outreach, an AI-assisted calling flow, or a credential-theft pipeline, it tends to reappear, adjust slightly, and surface again in different environments.

In 2026, we should expect more attacks where AI plays an active role not only in content generation but in live interactions. Call flows, outreach messages, and even parts of decision-making during social-engineering attempts can be increasingly delegated to AI agents. These agents will be able to adjust tone, language, and scenario in real time, based on the target's responses. At the same time, attackers are likely to experiment with entirely new AI-driven approaches that have not yet appeared in observable incidents, because the availability of powerful off-the-shelf AI tools lowers the barrier to creative misuse.

Target selection is also likely to become more granular. Rather than focusing only on executives or obvious "high-profile" roles, attackers will continue to identify individuals who sit at important operational chokepoints: those who can initiate crypto transfers, modify whitelists, deploy software, or influence access decisions. As in the Zoom

deepfake cases, these individuals may not perceive themselves as prime targets, even though attackers do.

On the infrastructure side, the same logic applies. Supply-chain compromises like the one used in the 2025 Bybit breach may become more common, as attackers look for indirect pathways into systems that are otherwise well protected. Workflows around stealers, log parsing, wallet-draining logic, and laundering are likely to become more integrated and more automated. AI can help correlate information across large volumes of stolen data, identify promising victims, and propose the most suitable attack path for each one.

A similar progression is likely on the smart-contract side. The 2025 Balancer incident showed how quickly a technical flaw in a widely reused codebase can be analyzed, tested, and probed across forked implementations. Even though not all probing attempts resulted in confirmed exploits, the response demonstrated that DeFi vulnerabilities tend to propagate far beyond the initial protocol. In 2026, we should expect attackers to continue examining shared architectures, inherited logic, and cross-protocol code reuse as opportunities for repeatable exploitation. As AI tools improve code analysis and automated vulnerability testing, this part of the threat landscape may become more systematic as well.

The net effect is a threat landscape where attacks are:

- more adaptive to the individual target,
- more automated end-to-end,
- more tightly integrated with data leaks and device compromise,

In this environment, the distinction between "technical" and "social" attacks will matter less. Many of the most impactful incidents are likely to involve both: compromised devices or logs combined with targeted outreach, deepfake-based contact, or AI-assisted callers pushing the victim toward a specific action.

SECURITY IMPLICATIONS FOR 2026: GUIDANCE FOR CRYPTO FIRMS AND KEYHOLDERS

Based on the patterns identified in this report, companies and asset holders need to recalibrate their security assumptions. The principles below outline the controls and practices required to stay resilient in the years ahead.

CORE SECURITY PRINCIPLES FOR 2026 AND BEYOND

Assume all client and internal device data may be compromised

Compromise of a single user's device, whether via a stealer, social engineering, or exploitation, should be treated as a plausible scenario. As a result:

- Sensitive data (seed phrases, private keys, configuration files) must **never** be stored as plain text, notes, screenshots, or in clipboard buffers on any device, neither personal nor work-related.
- Encourage out-of-band verification procedures for critical operations. For example, require a secondary channel (phone, hardware token, face-to-face verification) before executing high-risk actions.

Minimize dependency on human trust and memory

Human factors (social engineering, coercion, phishing) remain among the most exploitable weaknesses. To mitigate:

- Enforce multi-party approval for all significant transactions, access grants, or configuration changes.
- Separate duties: custody, transaction initiation, and approval should be handled by different individuals or systems.

- Do not rely on a single person's judgment or memory; automate checks; enforce policy-based controls; and log all critical actions.

Adopt multi-layered custody architecture

Given the combination of risks (technical exploits, social engineering, insider threats), custody must be designed to survive partial compromise. Recommended structure:

- Maintain a **tiered custody model**: Impenetrable Vault for long-term holdings, warm wallets for necessary liquidity, and minimal hot wallet exposure only for immediate operational needs.
- For institutions and custodians: ensure that custody solutions comply with high security standards, including independent audits, certification, transparent governance, and regular penetration testing.

Treat human-centric vectors (AI calls, social engineering) as first-class threats

The rise of AI-assisted calling, deepfakes and personalized outreach shows that attackers can target people, not just code or infrastructure. To mitigate:

- Provide ongoing security training to all staff, not just executives, covering social engineering, deepfake awareness, and safe handling of credentials.
- Implement strict operational hygiene: disable copy-paste of sensitive data, forbid storing secret keys in digital notes, avoid sharing credentials via chat or email.
- Require out-of-band confirmation for requests involving sensitive data or urgent actions (e.g. "approve transfer now," "install update," "grant access").

Assume attacks will continue to evolve and scale

Given how quickly methods from 2025 spread across different actors and platforms, future attacks may become more adaptive, automated, and harder to trace. Therefore:

- Design for resilience, not just prevention. Expect some level of compromise. The goal is to contain and limit impact, not promise total invulnerability.
- Maintain periodic reviews and updates of security policies. As attackers adopt new tools or tactics, defenses must evolve too.

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