

Special contribution by

Crypto Wallets 2025

Featured Wallets С x 0 BITGET AMBIRE BINANCE COINBASE IMTOKEN LAYER3 METAMASK PHANTOM GEM окх с. B TΡ reown \mathbf{Z} PRIVY RABBY RAINBOW REOWN RONIN SAFE TOKEN POCKET ZERION TRUST

Featured Chains



Editor's Note

Wallets are arguably the most widely used product in crypto. Whether explicitly or not, they are the gateway to nearly every onchain interaction—whether swapping tokens, minting NFTs, or participating in governance. Yet despite their central role, wallets remain surprisingly underexplored in data-driven research.

Part of the challenge is that "wallet" isn't a single category—it spans custodial and non-custodial models, EOAs and smart accounts, mobile apps and backend SDKs. Custodial wallets leave little onchain data, while non-custodial ones generate traceable signals—though these are fragmented across architectures (EOA, smart contract, EIP-7702 hybrids), standards (account abstraction has ERC-4337, Safe's <u>modular approach</u>, Argent <u>early adoption</u>, etc), and tooling layers. Today's wallet systems are often modular: Coinbase Smart Wallets may be deployed via apps like Zora with Privy managing access; Layer3 new wallet uses a smart account architecture built on abstraction layers like ZeroDev Kernel, Pimlico, Turnkey and <u>Dune Echo</u>; and tools like Privy or Reown's AppKit abstract wallet logic entirely. The boundary between frontend, backend, and wallet is increasingly blurred.

Therefore, rather than presenting a single unified narrative, this report is structured as an anthology of the wallet ecosystem. We explore the space through a series of standalone but complementary sections, each grounded in distinct dashboards, datasets, and methodologies. This format reflects the true nature of wallets today: diverse, fast-moving, and shaped by parallel innovations.

To continue improving this picture, we invite wallet providers, analysts, and researchers to reach out and share additional data, insights, and context. By working together, we can build the most accurate and nuanced map of wallet usage across crypto.

Key Insights

- **Wallet activity is surging:** From embedded swap transfers to UserOperations, nearly every metric points to rising onchain engagement through wallets. Whether via embedded DEX routers or smart account interactions, wallets are no longer passive interfaces—they're where much of crypto's daily activity happens.
- Wallet adoption is geographically diversifying: Emerging markets are driving a growing share of wallet activity, with countries like Nigeria, India, Vietnam, and Indonesia consistently ranking among the top user bases across many wallets analyzed. This trend highlights wallets' expanding role as financial access points in regions underserved by traditional infrastructure.
- **UX is converging toward seamlessness:** Passkeys, gas sponsorship, and chain abstraction are no longer experimental—they're becoming baseline. This reflects an industry-wide push to reduce friction and make complex interactions feel familiar, signaling a maturation in smart wallet design and implementation.
- Wallets are becoming self-contained superapps: The clearest trend is vertical expansion where wallets now embed swaps, staking, quests, bridging, and even game discovery. Rather than simply storing assets, they connect, curate, route, and increasingly *own* the user journey—blurring the line between tool and platform.
- **Infrastructure is becoming more modular:** Solutions like Privy and Reown show how wallet functionality is being abstracted into plug-and-play infrastructure—provisioned at login, embedded into apps, and invisible to end users. This shift enables apps to deliver wallet-powered experiences without exposing the underlying mechanics.
- **Dune's role in supporting wallet development:** Data, whether used as analytics or realtime for backend development, is the key to wallet innovation. Dune is looking to expand its role in making the wallet landscape more vibrant with additional developer solutions on realtime wallet data APIs.

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Introduction to Crypto Wallets

Crypto wallets are the primary interface for interacting with blockchain networks. They allow users to store and manage digital assets (like cryptocurrencies, NFTs, and tokenized assets), authorize transactions, and access onchain applications. Wallets don't store assets directly—instead, they secure the private keys that prove ownership and enable transactions.

Hardware vs. Software

- **Hardware wallets** (e.g., Ledger, Trezor) store keys offline for enhanced security but require physical interaction.
- **Software wallets** (e.g., MetaMask) are mobile, desktop, or browser-based—easier to use but more exposed to online risks.

Custodial vs. Non-Custodial

- **Custodial wallets** (e.g., Binance, Coinbase) are managed by third parties who control users' keys—simplifying access but requiring trust.
- **Non-custodial wallets** give users full control over their keys and funds—aligned with crypto's ethos but shifting security responsibility to the user. Almost all centralized exchanges offer a self-custodial wallet besides the default custodial one.

Security Models: MPC and Multisig

- MPC (Multi-Party Computation) splits a key across multiple devices or servers to avoid single-point exposure.
- **Multisig** requires multiple private key signatures to approve a transaction—common in DAOs and treasuries.

Smart Contract Wallets and Recovery

Smart contract wallets (or smart accounts) replace private keys with smart contracts. A key feature enabled is **social recovery**, allowing users to regain access via trusted guardians or devices. This blends the convenience of custodial models with the security and control of non-custodial systems.



Section 01 EOA Wallets

"MetaMask remains the bridge for millions entering Web3—offering global access while adapting to evolving user needs."

– MetaMask Team

"Bitget Wallet reflects the growing demand for high-speed, mobile-first trading experiences in Web3—where swaps, staking, and dApps converge in a single interface designed to make crypto simple for everyone."

– Alvin Kan, COO of Bitget Wallet



Measuring Embedded Swap Activity

Dashboard: Wallet Overview

Data credits: <u>mausefalle</u> and <u>Oxpibs</u> for building the dataset and the main queries. Shoutout also to <u>lz_web3</u> for creating the dashboard that served as inspiration for this analysis.

One way to analyze onchain wallet usage—especially for externally owned account (EOA) wallets—is to track the activity of their **embedded swap functions**. For this section, we mapped known **router contract addresses** used by wallets like MetaMask, Rabby, Trust Wallet, Bitget, and others to power their in-app swaps.

Using the *tokens.transfers* table on Dune, we queried **transfer counts** and **transfer volumes** to these swap router addresses. This provides a proxy for swap usage originating directly from within EOA wallet interfaces.

Methodology

- **Scope:** We include all identifiable swap router contracts for major EVM-based EOA wallets.
- Metrics tracked:
 - **Transfer count** (number of token transfers to the router, proxying number of swaps)
 - **Transfer volume** (sum of token value transferred to the router)
- Breakdowns analyzed:
 - By chain
 - By wallet provider

Limitations

- **Tron, Bitcoin, and Solana** are not included due to limited label coverage and integration difficulty in the timeframe of this research. However, we were able to reliably source Solana data for **Phantom**, which is covered in a dedicated section below.
- The **completeness of wallet coverage** depends on available labels: some router addresses may be missing or outdated (e.g. older versions or unclassified deployments).
- This analysis **does not capture swaps routed via external dApps**—even if initiated by a wallet (e.g., a MetaMask user swapping directly on Uniswap)—nor does it include transfers between wallets.
- While **not a complete picture**, the resulting trendlines align closely with those from Dune Metrics' broader "<u>Transfer Volume</u>" charts (which looks at all net USD value transferred, not just embedded routers)—suggesting the data is directionally robust.





Source: Dune Metrics

Overall Trends in Swap Transfers and Volume

Swap activity via EOA wallets has shown strong long-term growth in terms of **transfer count**. From a peak of around **10 million weekly transfers** during the 2021 bull market (November 2021), activity has more than doubled to over **33 million** by May 2025. This steady rise includes a sharp spike in **March–April 2024**, marking a key inflection point in onchain trading behavior.

In contrast, **swap volume** has followed a more cyclical and market-sensitive path. After hitting an **all-time high of nearly \$10 billion** in May 2021, volume surged again to **\$8 billion** in November 2021 before entering a prolonged bear market phase. Interestingly, by the time the **FTX collapse occurred in November 2022**, both volume and transfer activity had already fallen to local lows—suggesting that much of the market contraction preceded the event itself. For most of 2022 and 2023, volume hovered around **\$2 billion weekly**.

A renewed wave of activity began in early 2024, with volume peaking at **\$9 billion** in March–April. From **November 2024 to March 2025**, swap volume consistently remained above **\$6 billion per week**, before dipping slightly. April and May 2025 have marked a new all-time-high and shown signs of another uptick, pointing to ongoing momentum heading into mid-year.

Swap Activity and Volume by Wallet Provider





Source: <u>charts</u>

OKX wallet has rapidly emerged as a dominant player in embedded swaps. Since first being trackable in mid-2022, its growth has been remarkable—reaching over **7 million weekly swaps** and **\$4 billion in volume** by March 2025. At its peak, OKX accounted for **40% of all swaps** and **47% of total volume**, underscoring its broad adoption. In mid-March 2025, the swap function was temporarily paused for security reasons, which led to a sharp drop in observable activity. While the feature has since been reactivated, the data post-relaunch is not yet reflected in this analysis.

While **Binance** has long been one of the dominant players in centralized exchanges, its self-custodial wallet, revamped in December 2024, had historically seen limited embedded swap activity—until recently. For most of early 2025, Binance Wallet averaged around 3 million weekly swaps and \$300 million in weekly volume. However, starting in late March, activity

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began to accelerate significantly. By the **end of April 2025**, Binance Wallet recorded **18 million swaps generating nearly \$3 billion in volume.** This trend continued into early May, with the first week reaching a new high of 33 million swaps and nearly \$9 billion in weekly volume. As of May, Binance Wallet leads all providers with approximately **80% of tracked swap activity by count** and **74% by volume**. The growth appears closely linked to a **zero-fee campaign** introduced in March 2025 and the vertical integration with its native BNB Chain.

Sitget wallet followed a similarly steep trajectory. From its early activity in 2022, Bitget quickly scaled to a peak of **18 million weekly swaps** and **\$2.6 billion in volume** by April 2024. At its high point, it represented **75% of swap count share** and **40% of total volume**, making it one of the largest contributors to embedded swap flows—particularly across Asian user bases (see Regional Trends section).

MetaMask was the undisputed leader during the early stages of the swap market. Until late 2022, it regularly captured 80%+ of total swap volume, largely unchallenged. While its relative share has declined with increased competition, MetaMask remains highly relevant—responsible for 1.4 million weekly swaps and over \$700 million in volume as of April 2025, or roughly 10% of total trades and 20% of volume. Its position reflects both its foundational role in the self-custodial wallet space and its continued popularity across regions.

© Coinbase Wallet, launched in 2020, shows a distinct pattern. While its weekly trade count has hovered around 600K at peak and 160K more recently, it has consistently outperformed in terms of volume. In June 2024, it hit a **\$1 billion weekly volume peak**, accounting for **11%** of all tracked swap volume. As of April 2025, it's processing **\$80 million weekly**. The introduction of Coinbase Smart Wallet in mid-2024 has diversified user flows, with activity now split across custodial Coinbase accounts, Coinbase Wallet EOAs, and smart accounts.

Trust Wallet launched its embedded swap feature in May 2023 and has since maintained steady momentum. Weekly swaps grew from 400K to 700K, and volume climbed from \$150M at launch to over \$300M in April 2025. Trust also saw several spikes over 2024, with weekly activity surpassing 1 million swaps and \$800M in volume. It now holds ~3% of trade share but a consistently higher ~10% of volume, suggesting adoption by larger, possibly institutional users.

Originally launched as a portfolio management tool, **Zerion** evolved into a full-fledged wallet in mid-2022, adding embedded swap functionality across multiple chains. While swap activity peaked in Q2 2023 at **nearly 3 million weekly swaps**, Zerion now processes around **200,000 swaps per week**, reflecting a shift toward more deliberate usage. Volume data reveals a striking pattern of sustained growth: since March 2021, Zerion has recorded **five**

consecutive ATHs, once a year, culminating in **\$65 million in weekly swap volume** in January 2025. This trend—marked by rising value per transaction—positions Zerion as a platform increasingly favored for **high-value**, **lower-frequency trades**.

Rabby, unlike other wallets, doesn't route swaps through a standard router address. Instead, its swap logic routes trades directly to DEX routers. Following the team's recommendation, we monitored **fee recipient addresses** and inferred swap volume. Although we didn't filter out non-fee transactions like ETH↔WETH wraps, the data still reveals a clear trend: Rabby's swaps tripled from **30K weekly in June 2024** to **90K in April 2025**. Volume, while more volatile, frequently exceeded **\$250M**, and rarely dropped below **\$50M** between November and February—highlighting its growing relevance.

Rainbow saw modest embedded swap usage through most of 2023, averaging **10K weekly** swaps and **\$10M in volume**, until a sharp spike in **December 2023** pushed activity to **400K** swaps and **\$460M in volume**. Post-surge, activity stabilized at a higher baseline—**~100K** weekly swaps and **\$25–30M in volume**. A second wave in Q4 2024 brought an all-time high of **440K swaps**, reinforcing a cyclical pattern where each peak sets a higher "new normal." The December surge likely aligned with Rainbow's Points rewards announcement and airdrop expectations.

One of the earliest multi-chain wallets, **TokenPocket** averaged **250K weekly swaps** from 2022 to mid-2024, holding ~10% of activity and ranking second only to MetaMask. While its share fell with rising competition, absolute numbers surged to **2M swaps and \$320M in volume** by April 2025. Despite high swap counts, its **~10% volume share** suggests usage skewed toward smaller, frequent trades. TokenPocket's expansion into markets like **India**, **Nigeria**, **and Indonesia**—alongside growing adoption in Africa and Latin America—has supported its continued growth.

✓ imToken was a leading Ethereum wallet during the early DeFi boom, especially in Asia. It held over 60% of swap volume until mid-2021, when MetaMask overtook it. Through 2022, it remained strong with ~30% share, before newer entrants like OKX and Trust gained ground. As of April 2025, imToken still accounts for ~10% of total swap volume, despite representing a small share of trades—highlighting its focus on high-value over high-frequency usage. Swaps have grown steadily since 2022, now exceeding 25K weekly, while volume has remained stable around \$500M weekly, suggesting a loyal user base. Its declining share reflects broader ecosystem expansion, not reduced usage.



Chain Distribution of Embedded Swaps





Source: charts

The evolution of embedded swaps across blockchains mirrors broader market dynamics: **Ethereum** dominated early on, followed by the rapid rise of **BNB Chain** and **Polygon**, and more recently, the growing influence of **L2s** like **Arbitrum**, **Optimism**, and **Base**.

Ethereum was the initial home of most embedded swap activity, accounting for almost **100%** of swaps until March 2021. Since then, while swap count kept increasing—rising from ~700K in 2021 to **1.4M** in 2025—its relative share has steadily declined, now sitting at around 20%. In contrast, volume has fluctuated more dramatically, peaking at **\$10B** weekly in 2021, dipping to **\$200M** in 2023, and hovering around **\$2B** in 2025. Importantly, Ethereum continues to serve as the value settlement layer, resisting better in terms of volume share (still ~40%), even as activity shifts elsewhere.

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BNB Chain (BSC) has shown the most consistent and substantial growth in embedded swaps. Weekly swap counts grew from ~2M in 2021 to 15M by April 2025, and volume hit ~\$3B weekly, matching its 2021 peak. Swap share peaked at 70% during 2021–2022, dipped slightly during Polygon's rise, and surged again to over 60% in 2025. Volume share stayed modest around 10% for much of the period but recently spiked to over 50%, with 33 million swaps and \$8.8 billion volume in the first week of May.

Polygon rapidly captured attention during the alt-L1s expansion phase, jumping to **15% swap share in summer 2021**, and peaking at **25%+ in 2022–2023**. Swap volume hit an all-time high of **7M weekly swaps in April 2024**, but has since fallen to around **700K**. Polygon's volume share has been more stable, averaging **~3%**, with a notable peak at **15% in April 2024**. While newer L2s have diluted its share, Polygon still plays a significant role in high-throughput, low-fee trading.

Arbitrum emerged as a leading L2 for DeFi activity. It briefly captured **20% of swap share in** early 2023, with volume reaching **\$600M weekly in April 2024**. Swap count peaked at **3M+** weekly, although it now sits closer to **500K–1M**. While its share fluctuates, Arbitrum remained a top-three chain by volume during 2023 and continues to be a core destination for capital.

While Optimism alone hasn't carved out a major share in embedded swaps, its swap counts have grown steadily—from ~10K in 2022 to 70K in April 2025. Weekly volume peaked at \$50M, though it has since declined to around \$5M. Aside from a few temporary spikes in 2023, Optimism's direct share of swaps and volume has remained modest. That said, its real success lies in the OP Stack architecture and the broader Superchain thesis, which it pioneered. Rather than focusing solely on chain-level metrics, Optimism's impact is best seen in the success of networks that build on its tech stack.

Base is the clearest validation of this model. As the breakout L2 of the last year, Base has seen embedded swaps surge to **3M weekly in April 2024**, peaking at **4.5M** in April 2025. Volume mirrored this trajectory—reaching nearly **\$2B** at the peak and now stabilizing around **\$500M**. Base now captures **~20% of total swaps** and **10–25% of volume**, driven by memecoin activity, asset tokenization, and its role as bridge between DeFi and CeFi (like the Coinbase-Morpho integration). Its rise is not just a standalone success, but **a direct outcome of Optimism's vision for a unified, scalable L2 ecosystem**.

Gnosis saw a sharp spike in June 2023, with swaps jumping to **2.5M weekly**, briefly claiming the top spot with **~30% share**. This spike followed the GNO staking unlock with the Chiado Shapella hard fork and other network events like Gnosis Pay announcements.



Key Takeaways

- Wallets are becoming primary swap venues: The steady growth in weekly swap count—increasing 10x since 2021 to over 20M—confirms that wallets are no longer just onboarding gateways but core venues for token trading, driven by convenience and integrated UX.
- Adoption grows faster than capital: While swap activity has steadily increased, volume has fluctuated across cycles. This suggests a broader, more active user base—but smaller average trade sizes—pointing to retail adoption and utility-led growth.
- **Market maturity:** While market share has shifted significantly from MetaMask's early dominance, all major wallets analyzed have grown in absolute terms. The result is a more diverse ecosystem, shaped by differing strategies across regions, user types, and design philosophies.
- **Binance dominates recent growth:** Binance Wallet surged to 33M weekly swaps and \$9B in volume, leading with 85% of swaps and 74% of volume at peak. Almost identical shares are recorded for BNB Chain, showing the powerful flywheel between wallet and native chain—a model Coinbase and Base are optimizing as well.
- Ethereum remains the value layer: Ethereum's swap share fell to about 10% but still accounts for 40% of volume, leading high-value trades. Meanwhile, BNB and Base now drive the majority of embedded swap activity, reflecting their traction for high-throughput, cost-efficient transactions.





Phantom Wallet: Solana's Powerhouse

Dashboard: Phantom wallet

Data credits: Phantom team

Phantom is the only wallet we were able to track and confirm for Solana-based embedded swap activity. We analyzed both swap count and volume by identifying Solana addresses collecting Phantom's in-app swapper fees, and reverse-engineering total traded volume and estimate weekly swap counts.

Phantom Wallet has long been the leading self-custodial wallet in the Solana ecosystem, and since 2022 it also <u>expanded</u> to selected EVMs. With its embedded **Swapper** feature <u>launched</u> in June 2021 and significant upgrades in 2023 and 2024, Phantom has increasingly become a full-featured trading hub—particularly for Solana-native users.

In **November 2023**, Phantom introduced the **Cross-Chain Swapper**, a bridging interface integrated directly into the Phantom UI, which allows users to bridge tokens across **Ethereum**, **Polygon**, **Base**, and **Solana** without leaving the wallet.

In **November 2024**, Phantom integrated the **OKX DEX API** to power its in-wallet Solana swaps. This upgrade enabled Phantom to route trades across more than 400 DEXs and 18 cross-chain bridges, optimizing for best price, low slippage, and minimal latency.

Explosive Growth in Embedded Swap Activity





Source: charts

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Since November 2024, Phantom has experienced a dramatic surge in embedded swap activity:

- Swap count peaked at **10 million weekly** in late November, before stabilizing at around **3** million by April 2025.
- **Swap volume** hit an all-time high of **\$5.7 billion** in January 2025—driven by the peak of the memecoin frenzy—then settled to a steady **\$700 million per week**.

At its height, **Phantom embedded swaps alone accounted for over 10% of total Solana** <u>transfer volume</u> in the week of January 20 2025 (\$53B), and reached **20% share** during several weeks in November and December 2024.

Interestingly, the January surge also triggered a **temporary spike in Ethereum swaps**, with Phantom processing **\$500 million in a single week**, up from a typical baseline of **~\$20 million**—likely a result of users bridging assets into Solana amid heightened market activity.

This growth is overwhelmingly **Solana-driven**, with **97% of swap activity and volume** occurring on the chain—firmly establishing Phantom as the leading wallet for the Solana ecosystem.

Key Takeaways

- **Solana-Native, Cross-Chain Capable:** While Phantom now supports Ethereum, Polygon, and Base, 97% of its embedded swap activity and volume occur on Solana, confirming its position as the leading self-custodial wallet in that ecosystem.
- **Massive Onchain Footprint:** Swap count peaked at 10 million weekly, with volume hitting \$5.7 billion in January 2025. At its peak, Phantom embedded swaps accounted for over 10% of all Solana transfer volume, reaching up to 20% during several weeks in late 2024.





Ronin Wallet: A Purpose-Built EOA Wallet

Dashboard: <u>Ronin EOA Wallet</u> Data credits: Ronin team

Ronin Wallet was originally developed to serve the Ronin ecosystem—a gaming-centric blockchain spun out of Axie Infinity—with features and onboarding flows tailored to the specific needs of both gamers and game developers. It prioritized accessibility and simplicity, offering:

- Social login onboarding (e.g. email, Google), avoiding traditional seed phrase friction
- In-wallet fiat onramps, supporting payments via card, Apple Pay, and Google Pay
- Batch NFT transfers for gaming assets
- In-wallet game discovery, including an ecosystem calendar
- Developer tools for seamless wallet provisioning and quest-based user engagement

These design choices paid off: **active user numbers have remained remarkably stable**, averaging around **400,000 weekly users** since 2023, with spikes above **600,000**. Importantly, all this activity has taken place **within the Ronin ecosystem**, including dApps, games, and assets native to the chain.



Ronin's **in-wallet swap feature** has seen much faster growth:

- Weekly **swap count** peaked at **270,000** in January, before stabilizing around **40,000**.
- Swap volume topped \$55 million weekly in early 2025, with a current YTD average of \$20 million.

These metrics exclude external DEX interfaces or bridging tools used by Ronin wallet users.





Source: charts

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The two recent spikes in activity highlight Ronin's responsiveness to ecosystem catalysts:

- **November–December 2024** saw a notable uptick in onchain activity, likely linked to broader market optimism around election season.
- In **January 2025**, activity surged again—this time tied to the launch of **Tama.meme**, Ronin's own take on the "pump.fun" meme coin meta. The wave of meme coin speculation led to a surge in wallet interactions, swaps, and user onboarding.

While these figures trail larger general-purpose wallets with multichain reach (e.g. MetaMask or Phantom), they are significant in the context of a **single-ecosystem wallet primarily used on Ronin**.

Toward a Broader Ecosystem

With the launch of **Open Ronin**, the wallet is broadening its scope beyond gaming into **consumer and DeFi applications**. Recent updates have expanded chain support to include **Base, Arbitrum, Polygon, BNB Chain, and Ethereum**. While most of the advanced functionality remains centered on the Ronin chain for now, upcoming releases aim to extend full feature parity across these networks.

In many ways, Ronin represents a different kind of entry point into Web3—one rooted in entertainment-first use cases but now moving toward broader composability. As its ecosystem grows beyond games, Ronin will be a key player to watch in shaping how user experience and distribution evolve for crypto apps beyond finance.

Key Takeaways

- Designed for gamers, Ronin Wallet has sustained ~400K weekly users with spikes tied to ecosystem events like Tama.meme. All activity remains native to the Ronin chain, showcasing the power of a laser-focused approach: optimize for one niche, and keep shipping.
- After consolidating its core user base and use cases, **Open Ronin is an ambitious attempt to export that success across chains**—bringing its streamlined UX and embedded tools to ecosystems like Base, Arbitrum, and BNB Chain.





Addressable: Regional Wallet Usage

Dashboard: <u>Regional Usage</u> Data credits: <u>Addressable</u>

This section explores the global footprint of crypto wallets by analyzing their user base (*Total Users*) and capital distribution (*Balance*) across geographies. The analysis highlights how wallet adoption varies across regions due to regulation, infrastructure, and product positioning.

The data is powered by <u>Addressable</u>, a Web3 growth platform that links on-chain wallet addresses to off-chain identifiers such as social profiles, mobile behavior, and browser metadata. This linkage enables a user-centric perspective on blockchain activity—moving beyond address-level analysis to more accurately represent real users.

The dataset consists of a random sample of 15 million users, filtered to include only countries and wallet providers with over 15,000 users. Each user is assigned a primary country via internal heuristics and de-noised to minimize the impact of VPNs, spoofed IPs, and low-confidence geolocation signals. While some bias remains, the sample is directionally accurate and statistically significant, representing a meaningful share of the estimated 30–60 million monthly active crypto users identified by a16z's State of Crypto 2024.

The analysis draws on EVM wallet addresses (Ethereum, BNB Chain, Polygon, Arbitrum, Avalanche, Base, and Optimism). Non-EVM wallets (e.g., Solana, Bitcoin) are included where possible by associating them with known EVM addresses, but some underrepresentation is expected. Only self-custodial wallets are covered in this analysis.



Regional Insights by Wallet Provider



All charts in this section come from this query.

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OKX shows strong regional dominance in Asia, with user concentration highest in Singapore (13%), Vietnam (9%), and Hong Kong (8%), followed by Indonesia, Japan, the Philippines, and India. Nigeria (7%) and the US (4%) also have meaningful user shares. However, capital is concentrated elsewhere—particularly the US, which accounts for nearly 50% of wallet balance, with France (12%) and Indonesia (11%) following. Vietnam, despite high user count, represents only 0.1% of funds held. In 2024, transaction count was broadly distributed: US (8%), Japan and Indonesia (7%), and several East Asian and European countries contributing \sim 3–5%.

多 Bitget



Bitget's user base is even more Asia-centric, led by Bangladesh (22%), Indonesia (15%), and India (9%). Nigeria (19%) is a unique outlier, the only non-Asian country in the top five,

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indicating Bitget's grassroots success in key emerging markets. Capital, however, is highly concentrated in wealthier Asian nations—South Korea leads with 56%, followed by China (18%) and the UAE (15%), despite collectively contributing less than 2% of users. Transactions were concentrated in the US (43%), with Indonesia (14%) and Japan, Bangladesh, and India following at lower single-digit percentages.



Coinbase retains its North American and European focus. The US leads in user share (37%), followed by Germany, the UK, France, and Canada. South America contributes modestly, with Brazil at 2%. Interestingly, most wallet balance is held by Canadian users (58%), followed by the UK (18%) and US (16%). For transactions in 2024, the US accounted for 35%, with France, Germany, and the UK each near 4–6%. While user counts suggest global reach, balance data underscores Coinbase's positioning as a capital-heavy custodian for Western users.



MetaMask continues to be the default non-custodial gateway, especially in emerging markets. Nigeria leads user share (12%), followed by Indonesia, India, the US, and Germany. However, balance distribution skews heavily toward developed markets: the US (12%), South Korea (7%), France (5%), and Portugal (4%) dominate. Nigeria's balance contribution is minimal at 0.1%, reinforcing its role as an onboarding tool rather than capital store. Transactions were global: US and Taiwan (8%), Hong Kong (6%), and Japan (5%), showing widespread activity.



Phantom displays a similar pattern to MetaMask in adoption-versus-capital. Nigeria (17%), India (11%), and Indonesia (10%) lead for users, but 96% of wallet balance is concentrated in India—suggesting a few large users perhaps originally from the Solana ecosystem. The US and Mexico follow, but with much smaller capital shares. For transactions, the US dominates with over 90%, likely reflecting both power users and strong Solana engagement.



Rabby presents a more balanced picture across geographies and metrics. Nigeria (13%) and India (9%) lead for users (on the left), followed by France, Germany, and the US. On the capital side (Balance, on the right), France (12%), Germany (9%), and North America (US and Canada, 8% each) are dominant. Nigeria's capital share remains low (0.16%), indicating the same

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usage/capital divergence seen in other wallets. Transaction data highlights France (14%), US and Indonesia (8%), Spain (7%), and India (6%) as leading activity hubs.

Most Popular Wallets by Country

All charts in this section come from this query.

Across regions, **MetaMask remains the most widely used wallet**, often leading both in user count and total balance. However, local variations reveal how **regional ecosystems and preferences shape wallet adoption**.

United States: MetaMask leads with **60% of users**, followed by OKX (15%) and Trust (12%). In terms of capital, it's a two-player race: **OKX (47%)** and **MetaMask (42%)** hold nearly all user balances—suggesting MetaMask's broad appeal and OKX's concentration among high-value users.



China and South Korea:

• In China, MetaMask controls 87% of users and 61% of funds, but OKX (20%) and Bitget (15%) play a larger role in balance share than user count suggests.



- Wallet Providers Distribution Per Country Wallet Providers Distribution Per Country 10.0% All 🔳 All 🔳 Metamask 🛑 Metamask 📕 OKX 🔳 Trust 21.1% Other 🛑 Bitget 🔳 Trust 📒 Other 📒 @o_addressable @o_addressable
- South Korea sees MetaMask (68%) and OKX (25%) lead on users, but Trust and Bitget also register notable balance shares.

Southeast Asia:

• In **Singapore**, users split between **OKX (60%)** and MetaMask (35%), while MetaMask slightly edges OKX in balance share (53% vs. 45%).



• Indonesia shows a similar pattern: MetaMask leads with **59% of users** and **57% of balances**, with OKX close behind (23% users, 41% balance).



India and Nigeria:

12.49

23.3%

@o_addressable

In India, MetaMask dominates across the board: 63% of users and 79% of funds, with • Phantom surprisingly holding **17% of balances** despite low user share.

@o_addressable



Nigeria also favors MetaMask heavily-71% of users and 75% of funds-followed • distantly by OKX and Bitget.



Europe:

- Dune
- **Germany:** MetaMask leads with 70% of users, but Trust Wallet surprisingly holds 57% of the country's wallet balances—signaling a strong trust in its storage capabilities.



• **France:** MetaMask commands 76% of users, but OKX captures a notable 38% of capital—suggesting it appeals to fewer but higher-balance users.



Latin America:

• In **Brazil**, MetaMask holds **71% of users**, but **Trust Wallet surprisingly holds 74% of total balances**, hinting at regional capital trust preferences.



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Argentina shows an unusual split: users are evenly divided between MetaMask (50%) and OKX (43%), but 96% of balances sit with MetaMask, pointing to deeper financial usage.



Key Takeaways

- Some wallets like OKX and Bitget show **strong regional clustering**, particularly in Asia. Coinbase dominates in North America and parts of Europe. Others (MetaMask, Phantom, Rabby) have a **more globally distributed user base**, with usage common across emerging markets and capital concentration in developed ones.
- Switching from user count to **wallet balance** dramatically shifts the map. **Capital is more concentrated in developed markets**, regardless of the number of users.
- **Emerging markets drive adoption**, developed markets bring liquidity. For teams and protocols, this split may influence both growth strategy and monetization focus.
- **MetaMask and OKX** are the most common wallets across most major countries for both usage and funds held.



Section 02

Smart Wallet Accounts



The Rise of Smart Accounts

What Are Smart Accounts and Why They Matter

Smart account wallets—also known as smart contract wallets—are programmable accounts controlled by smart contracts instead of by a private key, like EOA wallets. This architectural shift unlocks a range of features like:

- Account recovery without a seed phrase, using trusted entities or "guardians" (known as social recovery) to help restore access if keys are lost
- Multi-signature access control baked into the wallet logic
- Gasless transactions via relayers and paymasters
- Bundling and batching of multiple actions into one transaction
- Modular upgrades with customizable permissions and extensions

A core enabler of this shift is ERC-4337, the Ethereum standard for account abstraction. Rather than requiring changes to Ethereum's consensus layer, ERC-4337 introduces a higher-layer system centered around a contract called the EntryPoint.

Under this design, users submit **UserOperation** objects—a type of pseudo-transaction that encapsulates the user's intent, signature, nonce, gas constraints, and more. These are collected in a separate UserOperation mempool, distinct from Ethereum's transaction mempool. **Bundlers**, which can also be validators, listen to this mempool. They validate and package UserOperations into a single transaction, which they send to the **EntryPoint** contract. The EntryPoint then verifies and executes these operations on behalf of the users' **smart accounts**. Optionally, Paymaster contract can sponsor user gas fees or enable payments in ERC-20s.

This architecture standardizes how smart wallets interact with the chain while giving wallet developers flexibility to innovate on user experience and security. Notably, the paymaster mechanism allows gas to be paid in tokens like USDC or sponsored by third parties—unlocking much more user-friendly onboarding.

Importantly, not all smart accounts are necessarily compatible or use ERC-4337. While ERC-4337 is the most common standard for account abstraction, some wallets, like Safe and Argent, don't currently use ERC-4337. Safe has adopted a modular and flexible approach to integrating the ERC-4337, allowing users to turn their Safe account into an ERC-4337 smart account via a dedicated <u>module</u>.



ERC-4337 Smart Wallet Accounts

This section explores the evolution of smart wallet adoption through two key indicators: **account deployments** and **UserOperations (UserOps)**—the core transaction mechanism enabled by ERC-4337. The dataset only covers ERC-4337 compatible smart accounts, so the count may be lower than the actual number (Safe and Argent also use non-ERC4337 standards so they may be underrepresented).

Account Deployments

Smart account creation saw explosive growth in mid-2024, reaching a peak of **over 1 million deployments in a single week in July**. Since then, activity has cooled, with **current levels hovering around 120,000 weekly deployments**—about one-tenth of the July peak.



Source: charts

Since the introduction of account abstraction in early 2023, **Polygon** has consistently led in account deployments. However, its dominance has shifted:

- **Base** began rapidly gaining ground in July 2024 and now accounts for **over 65% of weekly deployments**.
- Arbitrum also experienced a notable spike in March 2025, briefly reaching **60% of** deployments.



Source: charts

Focusing on smart account factories identified in labels.contracts (i.e., known named deployments), we observe strong competition among major providers:

- **Biconomy** was the dominant factory throughout most of 2023.
- (Gnosis) Safe began steadily increasing its share in early 2024 and currently leads in deployment volume.
- **Zerodev** surged to the top position briefly in October 2024.
- **Stackup** recorded two distinct peaks: July 2024 and March 2025.
- **Coinbase** emerged as a significant factory in 2025, consistently ranking among the top 5 and showing continued growth.

This diversification reflects the growing maturity and fragmentation of the smart account ecosystem, as more providers and wallet frontends enter the space. It's worth noting that **this methodology captures only labeled factory contracts**, meaning the **absolute number of account deployments in this breakdown is lower than the total by chain**, and **some market share estimates may be incomplete**.





Source: charts

UserOperations

While account deployment has declined from its summer 2024 highs, overall **UserOperations** have continued to grow, rising from ~800,000 weekly ops in April 2023 to over 4 million by April 2025. The all-time high came in July 2024, with more than 5 million UserOps in a single week.



Source: charts

Although **Polygon** led in the early stages of account abstraction, **Base has since taken over**, particularly from mid-2024 onward:

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- In the second half of April 2025, **Base processed over 3 million UserOps per week**, representing **87% of total weekly operations**.
- **Polygon** held over 90% market share until April 2024, decreasing to 60% by July as Base gained traction.
- **Arbitrum** remains strong in third place, with intermittent surges in Q4 2024 and March 2025.



Bundling Trends

Interestingly, while the number of UserOps declined after the July 2024 peak, **the number of bundles submitted to the EntryPoint contract has steadily increased**. This suggests a broader growth in **bundler diversity and competition**, leading to smaller, more frequent bundles—likely a sign of healthier infrastructure and increased decentralization.



Source: charts



Key Takeaways

- Polygon led the initial wave of smart wallet deployments in 2023, but Base now dominates, accounting for over 65% of new deployments and up to 87% of weekly UserOperations in April 2025.
- Account deployments peaked in July 2024 with over 1 million in a single week, but have since declined to ~120K weekly—suggesting early saturation or a shift toward more targeted onboarding.
- UserOperations continue to grow overall, despite fewer new account creations. This indicates increased usage of existing smart wallets and deeper integration into DeFi and apps.
- **Bundler activity is rising,** as bundles per UserOp decrease, pointing to a maturing infrastructure and a more competitive bundler landscape.
- Factory-level dynamics are highly competitive: Biconomy led for much of 2023, while Safe gained traction in 2024. Zerodev briefly took the lead in October, and Coinbase has steadily climbed in 2025.
- Factory breakdowns are limited to labeled contracts, meaning some activity is undercounted.
- **Growth patterns correlate with ecosystem strategy**—Base's rise, for example, mirrors active ecosystem investment and strong support for AA infrastructure by players like Coinbase.




Safe: A Leading Implementation of Smart Accounts

Data credits: <u>Safe</u>

"Smart accounts are the biggest unlock to get users interacting onchain in a more secure and friendly manner. Safe smart accounts have been leading this migration out of EOA and legacy infrastructure and continue to have rapid growth especially exploding adoption on several L2s."

- Lukas Schor, President of Safe Ecosystem Foundation

Among smart account systems, Safe has emerged as the most widely adopted and trusted implementation. With over **43 million deployments** at the time of writing, Safe accounts now represent more than 63% of the entire smart account market, with Alchemy following with 25%, ZeroDev with 6%.







Source: Smart Accounts Landscape

Before diving in, it's important to distinguish between Safe accounts and the Safe{Wallet} interface:

- A **Safe account** is a smart contract wallet.
- **Safe{Wallet}** is one of several frontends to interact with these accounts.

Not all Safe accounts are accessed via Safe{Wallet}. Some are managed through other UIs like Brahma or Onchainden, or integrated invisibly into apps like Worldcoin and Polymarket, which provision Safe accounts automatically.

Among many other things, users can use Safe{Wallet} to:

- Swap tokens via its native swap module
- Use SafeApps (embedded third-party DEXs)

Safe accounts can also connect directly to platforms like Uniswap or 1inch—just like a regular wallet—making them highly composable across DeFi.

This range of use cases—from DAO treasury management to seamless consumer onboarding—highlights Safe's dual role as both retail-accessible wallet and core infrastructure layer.

Activity: Safe Smart Account Transactions

Dashboard: Smart Accounts Landscape





Source: <u>charts</u>

In terms of usage, Safe dominates smart account activity:

- Over **340M transactions** executed by Safe accounts (73% of all smart account txs)
- High throughput indicates robust integration across DeFi and other use cases

These transactions span both multisig activity and UserOperation (ERC-4337) flows, showing the flexibility and broad applicability of Safe accounts.

Safe Deployment and Activity Across Chains

Dashboard: Safe Across Chains

Safe's smart accounts are deployed across a wide range of EVM-compatible blockchains, supporting both institutional-grade treasury management and retail user onboarding. This dashboard tracks three main metrics: number of Safe deployments, transaction activity, and most importantly, **Total Value Locked (TVL)**—an essential measure of trust and capital secured in Safe accounts across networks.

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Source: charts

As of May 2025, the **total TVL across Safes exceeds \$50 billion**, with **Ethereum** leading by far in terms of asset concentration, **\$42 billion**, underscoring its continued role as the primary capital layer. It is followed by:

- BNB Chain with \$2.7 billion,
- Optimism with \$1.4 billion,
- Base with \$800 million, and
- Arbitrum with \$530 million.

Other chains like **Polygon (\$420M)**, **Scroll (\$240M)**, and **Avalanche (\$190M)** also register meaningful asset volumes, reflecting Safe's growing role across L2s.



Source: <u>charts</u>



On the deployment front, Safe account creation surged in Q4 2024, largely fueled by integrations with consumer apps like World App. Every World App user receives a self-custodial smart contract wallet deployed on-chain, built using Safe{Core}. While the pace of new deployments slowed slightly in early 2025, April saw a renewed uptick, surpassing February and March figures and hinting at a potential second wave of adoption. In total, **Worldchain alone accounts for over 25 million deployed Safes**. **Optimism (11.8M) and Polygon (2.9M)** follow, underscoring the continued expansion of smart account infrastructure across both high-throughput and low-fee chains.

Safe Total Volume Processed (TVP)

Dashboard: <u>TVP</u>

TVP (Total Volume Processed) is a core metric to understand the financial throughput of Safe smart accounts across the ecosystem. It tracks the total transfer volume to and from Safe accounts, capturing both inflows and outflows—including DeFi activities like bridging, lending, and swaps, as long as tokens involved have a price on Dune. Notably, transfers between two Safe accounts are counted twice (once as an inflow, once as an outflow).

From Jan 2024 to May 2025, Safe accounts have collectively processed over **\$500 billion in TVP**, a figure that reflects both institutional usage and broader DeFi participation. The monthly TVP peaked in January 2025 at over **\$75 billion**, before gradually decreasing to **\$32 billion** in April 2025.



Source: charts



Ethereum continues to anchor Safe-based activity, but its **dominance** has gradually **declined—from over 70% of monthly TVP in January 2025 to around 50% by April**—as usage increasingly shifts to L2s like **Base** and **Arbitrum**. Base notably led the January peak with more than \$36 billion in volume. At the same time, **internal Safe TVP** (i.e., volume transferred between Safe accounts) has **decreased from an average of 17% in 2024 to just 6% by April 2025**, signaling a growing share of external engagement and integration with broader ecosystems.

To provide a more stable lens for comparison over time, TVP is also analyzed using nTVP (normalized TVP), which adjusts for fluctuations in the ETH price. While the general trend mirrors that of raw USD volume, there are a few key differences: the nTVP peak occurs in February 2025—reflecting the high point of ETH-denominated transfers—rather than January. Additionally, the subsequent decline appears less steep, as falling ETH prices accentuated the drop in dollar-denominated TVP. Overall, however, both metrics confirm the same growing trend in Safe activity.



Source: charts

Analyzing outgoing Safe transfer volume by vertical across Ethereum, Base, and Arbitrum reveals meaningful usage patterns. On **Ethereum**, over **65% of April's volume consisted of direct transfers**—whether to EOAs, unclassified contracts, or other Safes—highlighting its role as a capital settlement and reserve layer, especially for high-value or institutional activity. In contrast, L2s show a more DeFi-centric profile: **89% of Arbitrum's and 62% of Base's April volume was driven by DEX activity**, underscoring their use for more dynamic, high-frequency trading. Lending makes up a notable share of Ethereum's activity (9%), modestly present on Base (3%), and minimal on Arbitrum (1%), reinforcing Ethereum's use for complex financial operations and Base's growing versatility.





Source: charts





Source: charts

Source: charts

Safe DEX Volume

Dashboard: Safe DEX Trades

Speaking of DeFi and DEX activity, the DEX trading behavior of Safe smart accounts is one of the clearest indicators of how much users interact with DeFi. This section is based on a dashboard that aggregates all DEX trading volume associated with Safe accounts—regardless of whether the trade was executed through Safe{Wallet}'s native swap interface, SafeApps, or directly on external platforms like Uniswap, 1inch, or CoW Swap. *For this reason, the numbers in this section will be much larger than in the first part of the report, which on the other hand only considered swaps executed directly from the wallets' embedded routers.*

As of May 2025, Safe accounts have processed more than **\$65 billion** in cumulative DEX trading volume, with a striking **\$14 billion** of that occurring in just the last three months (which includes the partial data from May). The surge occurred in 2025 reflects both increasing institutional adoption and the broadening use of Safe accounts in high-activity DeFi chains like Base and Arbitrum. The first week of February saw the peak of weekly volume (\$3.5B), while trades peaked in the last week of February, when they reached nearly 1M.



Source: charts

The distribution of Safe DEX activity across chains has undergone a notable shift in 2025, both in terms of volume and trade count. In 2024, Ethereum dominated with nearly 80% of all Safe-based DEX volume, consistently exceeding \$2 billion per month. But by April 2025, that dominance had sharply declined:

- **Base** surged to account for **54%** of weekly volume, up from just 9% in December 2024.
- **Arbitrum** followed with **34%**, steadily growing throughout the year.
- **Ethereum** dropped to just **11%**, highlighting a significant migration of trading activity to L2s.

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Trade count data shows a similar trajectory: weekly trades increased from around 70,000 in 2024 to over 900,000 at the February 2025 peak, stabilizing at around 400,000 in April. Arbitrum led much of 2024 in trade count (~40%), while Base rapidly gained ground—growing from ~5% of trades in early 2024 to over 40% by April 2025.



Source: <u>charts</u>

However, this dramatic rise in volume and transaction activity hasn't been mirrored in the number of unique Safes actively swapping on DEXs. That figure has declined significantly—from over 30,000 in October 2024 to 2,500 in April 2025.



Source: charts

While Safe DEX volume and trade count have surged in 2025, the underlying dynamics suggest a shift in who is driving this activity. Rather than reflecting an institutional influx—which would typically concentrate volume on Ethereum—we've seen a sharp migration to Arbitrum and Base, pointing to a DeFi-native user base favoring lower-cost, high-frequency trading environments. Interestingly, the surge in volume and number of trades on these chains hasn't been accompanied by a rise in unique Safe accounts. In fact, the number of unique Safes swapping on DEXs has fallen—from over 30,000 in late 2024 to around 2,500 in April 2025—suggesting that a smaller group of power users now accounts for most of the activity.

From a platform perspective, CoW Swap and 1inch have consistently led Safe account DEX routing, accounting for approximately 40% and 20% of total volume, respectively. CoW Swap's dominance reflects its multi-interface footprint—spanning Safe Apps, Safe{Wallet} native swaps, and its own frontend. Notably, usage through CoW Swap's standalone interface has been growing steadily, reaching around 15% of volume in April.



Source: charts

Because this dashboard aggregates activity across all interfaces—not just swaps initiated from Safe{Wallet}—it offers a more complete picture of how Safe accounts interact with DEXs in the wild. This underlines a core strength of the Safe ecosystem: its role as a flexible infrastructure layer that supports usage across multiple platforms, not just its own wallet UI.



Key Takeaways

- **Safe leads the smart account landscape**, with over 43 million deployments and 63% market share—powered by its role as both infrastructure and wallet.
- Not all Safes are used via Safe{Wallet}—many are accessed through apps like World App or connected directly to DeFi protocols, underscoring its composability and backend-first architecture.
- Safe accounts have processed over \$500B in transfer volume since 2024, with a peak of \$75B in January 2025. While Ethereum remains the capital hub, L2s like Base and Arbitrum are gaining share rapidly.
- **DeFi activity is increasingly L2-driven:** In April 2025, 88% of Safe DEX volume occurred on Arbitrum and Base, while Ethereum accounted for just 11%.
- Safe's flexibility across interfaces—Safe Apps, native swaps, and external **DEXs—makes it more than a wallet.** It's a programmable coordination layer underpinning onchain finance.



Coinbase Smart Wallet

Dashboard: <u>Coinbase Smart Wallet KPIs</u> Data credits: Coinbase team

"We're working to bring a billion people onchain, but onboarding is often still too complicated. Smart wallets help people get started easier, which enables them to focus on onchain experiences, rather than wallet creation and setup. Passkeys replace seed phrases to eliminate complexity while maintaining security. And features like gas sponsorship allow builders to reduce friction so users can start using an app immediately."

– Tom Vieira, Head of Product for Base

Launched in June 2024, Coinbase's Smart Wallet is emerging as a central actor in the smart account ecosystem, with notable traction driven by its alignment with Base and increasing composability across onchain protocols. Coinbase Smart Wallet leverages account abstraction to offer a native, self-custodial wallet solution directly integrated into Coinbase's existing user base and frontend infrastructure.

Growth Trajectory and Network Composition

• Weekly Active Users (WAU)—defined as wallets performing at least one UserOperation—have grown from ~15,000 in early January 2025 to ~40,000 by late April, with a temporary spike to over 83,000 users the previous week. It's important to note that these figures do not solely reflect usage of the Coinbase Wallet app. A significant portion of this activity comes from external applications like Zora, which leverage Coinbase's smart wallet contracts directly. In these cases, wallets are created under the hood without Coinbase managing keys. This broader contract-level adoption illustrates the modular, infrastructure-first approach Coinbase has taken with its smart wallet architecture.





- **Base accounts for the overwhelming majority of activity**, consolidating Coinbase's strategy of vertically integrating its consumer interface with its Layer 2 infrastructure.
- Zora contributed a significant share of user activity in Q4 2024 (peaking at over 35%), likely due to creator campaigns and reward distributions. Ethereum also saw increased participation during Jan–Feb 2025, accounting for up to 25% of active usage.

This alignment between user acquisition (via the Coinbase app) and low-cost execution (via Base) has created a reinforcing flywheel. Users onboard through Coinbase's centralized interface, can then execute transactions through its smart wallet, and interact natively with onchain protocols—all within the same ecosystem.

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Retention Trends



Source: charts

The percentage of returning users has steadily improved, rising from less than 30% in late 2024 to nearly 60% in April 2025. This signals growing user familiarity and comfort with smart wallet UX, as well as the increasing stickiness of onchain apps integrated with the wallet.



Surge in UserOperations

Source: charts

Dune

- **UserOps** volume remained relatively steady until March 2025 (~240k per week), before **surging to over 1.7 million weekly by late April**—a more than *7x increase*.
- This recent growth reflects deeper engagement and expanding use cases, with Base again serving as the primary execution environment.



Protocol Interactions: From NFTs to DeFi and Beyond

Source: charts

Wallet activity spans a diverse set of use cases and protocols. On Base, the most frequently interacted contracts include:

- **NFT/Creator**: Zora contracts (ProtocolRewards, ZoraCoinFactory, etc) dominate in both interactions and wallet creations. CUBE by Layer3 also accounts for an important share.
- **DeFi**: Morpho, Aerodrome, Uniswap, 1inch and Socket highlight increasing composability with permissionless DeFi.
- **Cross-chain & Utility**: SocketGateway, LiFiDiamond, and Multicall3 signal growing use of cross-chain actions and transaction batching.
- **Stablecoins & Assets**: Interactions with USDC, cbBTC and other tokens confirm growing financial flows within the ecosystem.



Key Takeaways

- **Deep Base alignment:** The vast majority of Coinbase Smart Wallet activity occurs on Base, supporting Coinbase's broader strategy of consolidating user experience and execution under its own infrastructure and a testament of the successful flywheel between the two.
- **Steady growth and improving retention:** WAU has more than doubled since January, while the share of returning users has risen to ~60%, signaling increasing user comfort with smart account functionality and increasing app stickiness.
- **April 2025 usage surge:** UserOperations increased over 7x in April, underscoring the positive impact of new feature launches, deeper integrations, and successful campaign-driven growth.
- **Diverse ecosystem touchpoints:** From Zora (NFTs) to Morpho (DeFi), Coinbase Smart Wallet is driving interactions across verticals, positioning itself as a powerful general-purpose smart wallet.



Section 03

Emerging Wallets Spotlight





Layer3 Wallet: Embedding Smart Accounts in a Consumer Crypto Platform

Dashboard: <u>L3 Wallet</u> Data credits: Layer3 team

Layer3 is a consumer-facing crypto platform focused on discovery, onboarding, and user engagement through quests, token incentives, and app integrations. With millions of onchain actions processed through its interface, it has become a widely used entry point for both new and existing users to interact with dApps across networks. In **April 2025, Layer3 introduced its own embedded smart wallet**. Rather than serving as a general-purpose interface, the wallet is deeply integrated into the Layer3 app, enabling streamlined onboarding and interaction across Layer3's core products while aligning infrastructure more tightly with its user journey.

The wallet uses a smart account architecture built on abstraction layers like ZeroDev Kernel, Pimlico, Turnkey and <u>Dune Echo</u> to power wallet balances and activity. Key features—such as passkey login, gas sponsorship, and chain abstraction—mirror broader smart wallet trends aimed at reducing friction for both crypto-native and new users. Importantly, the Layer3 wallet exists alongside support for external EOAs, allowing for flexible access and gradual migration.

Onchain Activity and Adoption Trends

Since launch, the wallet has generated **1.39 million UserOperations**—a key activity metric for smart accounts—across **42,644 smart wallet deployments**. The top five chains by number of deployed wallets are: **Base (14K)**, **Optimism (9K)**, **Arbitrum (5K)**, **Polygon (4.5K)**, and **Mantle (2.2K)**. Notably, Base saw the fastest growth, doubling from 6K to 12K deployments in less than ten days in April.







While wallet creation peaked in March–April with daily highs of **1.6K**, **3.3K**, and **4.1K** new accounts, the current pace has slowed.



Source: charts

However, **UserOps have continued rising**, growing from **~11K daily in March** to **over 30K in May**—indicating deeper engagement among existing users.





Source: charts

Chain-level breakdowns show a clear early leadership of Base:

- **Base** accounts for ~66% of UserOps
- **Optimism**: ~20% of UserOps
- Arbitrum and Polygon: smaller but steady usage
- Newer chains like Ink and Berachain have also seen rising adoption

This divergence between new wallets deployment and ongoing usage suggests the wallet is becoming a stable interface for repeat interaction—rather than just an onboarding mechanism.

As smart wallets continue to blur the line between product and infrastructure, Layer3's approach reflects one path forward: by embedding wallet logic directly within platform workflows, Layer3 can own more of the infrastructure stack and thus improve retention, reduce friction, and support more complex use cases natively.





Dashboard: Gem Wallet

"Gem Wallet is built in public where crypto is permissionless, multichain and open source so you can do more with your crypto."

– Gem Wallet Team

Launched in 2023, **Gem Wallet** is a self-custodial, open-source and mobile-first wallet. With native support for **Bitcoin, Ethereum, Solana, Base, Tron, Sui, XRP**, and more, Gem has positioned itself as a flexible gateway to crypto for a global user base.

While the product shipped in 2023, Gem Wallet's **embedded swap functionality**—the core focus of this analysis—went live in **November 2024**, following a brief dependency on third-party aggregators like 1inch. The launch of its **own permissionless aggregator** marked a key milestone, allowing Gem to progressively integrate protocols like PancakeSwap, Jupiter, and Thorchain without having to rely on third-party APIs. As each integration rolled out between late 2024 and early 2025, they contributed to visible bumps in both usage and revenue.

Swap Revenue and Activity Insights

- Since launching its own swap feature, **Gem Wallet has generated over \$81,000 in swap fees**, with **2025 revenue already surpassing \$73,000** as of late April.
- The bulk of fee revenue comes from **Ethereum (\$70K)**, followed by **BNB Chain** and a growing contribution from **Arbitrum**, particularly in Q2 2025.





Source: charts

• Most historical swap activity has been driven by **BNB**, although Ethereum has also been an important contributor, and more recently Base and Solana.



Source: charts

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• On a protocol level, **Thorchain stands out as the top revenue generator**, with consistent activity also emerging across PancakeSwap and other newly integrated routes.

Adoption Curve and Forward Outlook

Given the late 2024 timing of its aggregator launch, weekly swap activity data is currently limited, but early signs point to healthy and growing engagement. The wallet has also seen incremental revenue bumps corresponding to each protocol integration—suggesting a product-led growth loop where expanded liquidity options directly drive increased usage.

As a relative newcomer, **Gem Wallet's swap data does not span the full reporting period** covered in this analysis. Still, its recent metrics offer a glimpse into how quickly a lean, mobile-first wallet can capture value with the right infrastructure and timing.





Ambire wallet

Dashboard: Ambire Wallet

Ambire Wallet is a smart contract wallet built to streamline the self-custody experience while exposing users to the advanced capabilities of account abstraction. Designed with a user-friendly interface, Ambire introduces quality-of-life features such as:

- Human-readable transactions, reducing user error.
- **Gas fee optimization**, through transaction batching and stablecoin-denominated payments.
- A "gas tank" system for prepaying fees.
- Integrated **swaps**, **fiat on/off-ramps**, and broad **network support** (including Ethereum, Polygon, Base, Optimism, Arbitrum, Scroll, Avalanche, and Gnosis).

Adoption of Ambire Wallet accelerated significantly in early 2025. After a relatively modest baseline of ~50 transactions per day through much of 2024, activity surged in February, exceeding 600 daily transactions by April.



Source: <u>charts</u>

This growth appears tightly linked to the launch of **Ambire Legends** in December 2024—a gamified campaign designed to introduce users to the full spectrum of smart account features



through a quest-based experience. Now transitioning into **Ambire Rewards**, the <u>campaign</u> combines educational missions with XP-based incentives and leaderboard mechanics. It encourages usage of features like gas sponsorship, account recovery options, transaction batching, and onchain governance—elements core to the future of wallet UX under account abstraction.

In terms of network distribution, historically, **Ethereum** accounted for the majority of Ambire Wallet activity (38%), followed by **Polygon** (24%) and **BNB Chain** (14%).





However, the recent Q1 2025 surge shifted this balance: **Base** became the leading execution layer for Ambire activity during this period, followed by Ethereum and Optimism—highlighting the wallet's growing integration across the broader L2 ecosystem.



Source: charts



Ambire and EIP-7702

Ambire is among the first wallets to support EIP-7702, allowing EOAs to temporarily adopt smart account functionality without migrating wallets. By signing an onchain authorization, users can enable features like sponsorship and batching—revocable at any time.

As of May 2025, Ambire ranks among the top three identified delegates, with 32 active delegations, positioning it at the forefront of early 7702 adoption.

Key Takeaways

- **Different architectures, different strengths:** Ambire and Layer3 use smart accounts to enable features like gas sponsorship, session approvals, and passkey login. Gem—while not a smart account wallet—shows how lean, protocol-level integrations (e.g. Thorchain, PancakeSwap) can drive usage and fee capture.
- **Incentives matter:** Ambire's XP-based rewards boosted feature exploration, while Layer3 benefits from launching its wallet inside an already active, incentivized ecosystem. Embedding a wallet within a platform that already drives user actions can create a powerful flywheel—accelerating smart wallet adoption from day one.
- **Base:** All three wallets show growing traction on Base, suggesting it's becoming the default proving ground for new wallet products. Layer3 sees 66% of UserOps on Base, Ambire shifted activity there in Q1 2025, and Gem recorded a growing share of swaps on the chain.
- Execution styles vary, but user growth is visible: While Ambire leads in early adoption of new standards like EIP-7702, Layer3 optimizes flow within its app, and Gem targets modular liquidity access. These approaches illustrate how wallets are diversifying not just features—but also the ways they position themselves in the broader crypto UX stack.



Section 04 Wallet Infra







Reown: Powering the Universal Wallets

Dashboard: <u>Smart Accounts Dashboard</u> Data credit: <u>Reown</u> team

"The shift to smart accounts from EOA wallets reflects something bigger than a tech upgrade. It's a signal that the infrastructure and user experience of wallets are finally converging. At Reown, we've created Universal Wallets leveraging Safe's technology to meet that moment. Universal Wallets are secure and optimized for how users actually interact and build onchain. As we continue to move towards mainstream adoption, account abstraction and simplifying the process of being onchain is crucial for onboarding."

– Jess Houlgrave, CEO of Reown

In 2024, Reown (the builders of the WalletConnect Network) integrated **Smart Accounts** as the default architecture behind its new **Universal Wallets**, part of the AppKit and WalletKit suite. This marked a shift from EOAs toward programmable wallets built on account abstraction. Rather than developing a proprietary stack, WalletConnect opted to embed Safe—one of the most mature smart account systems—to improve security, onboarding, and interoperability across dApps.

This integration allows users to:

- Create and manage accounts through the Universal Wallet interface
- Benefit from modular security features like multi-sig and recovery modules
- Interact across wallets, dApps connected, or external protocols directly (e.g. Uniswap)

It's also a strong signal of convergence between backend infrastructure (Safe) and frontend distribution (Reown AppKit), especially for onboarding retail and developer audiences into account abstraction.



Chain Distribution: A Shifting Landscape



Source: <u>charts</u>

Deployment patterns across blockchains reveal just how dynamic the smart account ecosystem has become:

- **Optimism** dominated early in 2024, peaking at nearly half of all deployments.
- **Base** quickly gained momentum during the summer and overtook Optimism by August, now accounting for **60%+** of new accounts—a clear sign of developer and app migration.
- **Polygon** experienced spikes in October, coinciding with a sharp rise in prediction market activity (notably Polymarket), and briefly led all chains with **45%** of deployments.
- **Ethereum** has shown a steady rise in share since late 2024, reaching **~20%** by April 2025—perhaps signaling growing demand for mainnet-grade security and permanence.



Active Accounts

Source: charts

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The share of **active smart accounts** largely mirrors deployment trends, with **Base** dominating for most of the year—often holding between **30% and 55%**. Notable deviations include:

- A sharp October uptick on Polygon, again possibly tied to US election-related usage.
- A gradual rise on Ethereum, with consistent growth pushing it to **15–20%** share of active accounts by April 2025.
- Arbitrum has remained steady throughout, hovering just under 20%.



Transactions: Usage Lags for Some Chains

Source: <u>charts</u>

Transaction share adds a different layer of insight, showing where wallets are not just created—but actually used:

- **Base** has shown steady and sustained momentum, rising from 18% of smart wallet transactions in June 2024 to 43% by April 2025, establishing itself as a key execution layer for smart wallet activity.
- **Optimism** maintained a strong presence throughout 2024, reaching a peak of 55% in December.
- **Polygon's** share varied across the period, with notable spikes—such as a jump from 3% in January to 38% in April—suggesting responsive adoption during key moments and campaigns.
- **Arbitrum** continues to play a solid role in wallet deployments and active usage, and its share of transactions remains around 10%, pointing to potential for future growth in execution volume.
- **Ethereum** is increasingly central for smart account deployment and active accounts, reflecting its foundational role. Its share of transaction execution also massively increased



in May. Lower gas fees and more efficient execution thanks to various recent EIPs and the Pectra upgrade may further accelerate this trend.

Platform Usage: How Users Access the Wallet

Reown's data also offers visibility into how users connect to smart wallets through AppKit. This connection method is more than a technical detail—it shapes design decisions, integration strategies, and user experience.

• **Browser-based connections** have dominated throughout the year, consistently making up around **80%** of sessions.



Source: charts

Dune	

• Mobile wallets (including QR-based interactions) account for about 20%, with a 75/25 Android-to-iOS split.





This breakdown reflects the broader Web3 UX landscape: while mobile-first growth is accelerating globally, browser access remains the default for many dApp-heavy workflows. These insights are especially valuable for app developers as they prioritize which platforms and environments to support first.





Privy: Embedded Identity and Wallet Infrastructure

Dashboard: <u>Privy</u> Data credits: Privy team

Privy has emerged as a foundational layer for onboarding and identity management in Web3, offering embedded wallets and authentication infrastructure for consumer-facing crypto apps. Rather than asking users to install wallets or manage keys, Privy enables products to create seamless onboarding flows where wallets are provisioned automatically at login—whether via email, social login, or passkey. Its infrastructure is built for performance at scale, with key user experience metrics that rival traditional fintech:

- Wallet creation speed: <200ms average time to provision a wallet after login
- **Signature speed**: <20ms average latency for executing wallet signatures
- Wallet activity: Over 183M embedded wallet signatures and 180M transactions processed year-to-date (YTD)

Privy wallets are typically provisioned when users login with one of Privy's supported authentication methods. This table breaks down wallet creation by login method (YTD):





- Email is still dominating with 40%
- Twitter (35%)
- Followed by Telegram (9%), Farcaster (6%), the only web3 method used.

Privy wallets are created when our customers' users sign up for their products. This table breaks down wallets provisioned based on customer product category (YTD).



Source: charts

- Social apps (53%)
- Followed by enterprise (17%), gaming (11%), fintech/trading (11%), and AI products (8%)

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Dune

As onchain applications evolve toward smoother UX and composable onboarding, Privy plays a critical role in bridging Web2 familiarity with Web3 functionality—provisioning wallets that are ready for smart account features from day one.

Key Takeaways

- Shift to Smart Accounts and Universal Wallets: Reown's Universal Wallets integrate Safe's smart account architecture with WalletConnect's AppKit, signaling a maturing convergence of wallet infrastructure and user experience for mainstream Web3 adoption.
- **Base cements itself as a smart wallet execution layer:** Across deployments, active accounts, and transaction share, Base consistently leads—suggesting developers and users are coalescing around it for high-frequency smart wallet use.
- **Privy's Role in Seamless Onboarding**: Privy's embedded wallet infrastructure enables fast, user-friendly onboarding (<200ms wallet creation) via familiar login methods (e.g., email at 41%), driving high transaction volumes (183M signatures YTD) and supporting diverse app categories like social (53%) and fintech.



What's Next: Pectra and the Future of Wallets

As this report has shown, wallets are no longer just key managers—they are becoming full-fledged platforms that onboard users, abstract complexity, and orchestrate nearly every onchain action: swapping, staking, bridging, governance, and even social coordination. Whether embedded in apps, deployed by protocols, or provisioned invisibly via SDKs, the wallet is where the crypto user experience increasingly lives.

The launch of **EIP-7702** with Ethereum's Pectra upgrade marks a major catalyst for this trend. For the first time, users can temporarily upgrade their EOA wallets into programmable smart accounts. Crucially, 7702 accounts remain EOAs even after upgrade, enabling users to access smart wallet features (e.g., gas sponsorship, transaction batching, passkey authentication) via temporary delegations. This hybrid model preserves compatibility with dApps and user habits while adding smart contract programmability. In just one week since activation, over <u>8,000</u> <u>authorizations</u> have been signed, powering 4,000+ transactions and <u>80+ delegated contracts</u>.

This shift—toward modular infrastructure, seamless UX, and programmable accounts—signals a new era. Wallets are no longer just tools; they're the frontlines of crypto's expansion. And with standards like EIP-7702 making abstraction accessible at scale, the next chapter of wallet evolution has already begun.


∔+Bonus**↓**+

Thank you for sticking till the end! Now, a little bonus and sneak peek into what we're building behind the scenes:

Dune's Vision for Wallet Data Empowerment

At Dune, we believe data is the backbone of innovation in web3. Our mission has always been to make crypto data accessible. With this report, we've showcased how wallet data isn't just a tool for analytics—it's the foundation for building smarter, more intuitive applications that empower users to own and navigate their digital lives.

Now, we're taking that vision further.





Introducing sim: Powering the Future of Onchain Apps

On **May 20th**, Dune will launch **sim**, a brand-new multichain developer platform designed to become the **backend infrastructure** for every wallet, portfolio tracker, and user-facing application in web3. sim provides **instant**, **structured access** to the most critical wallet data, with six initial endpoints tailored for seamless integration:



Be First in Line

By downloading this report, you've secured early access to sim API at launch. Questions? Ideas? Join the conversation in our <u>Telegram channel</u> — we're here to help you build and scale.

The wallet data must flow. 🚀

We hope you enjoyed this report!

To continue improving this picture, we invite wallet providers, analysts, and researchers to reach out and share additional data, insights, and context. By working together, we can build the most accurate and nuanced map of wallet usage across crypto.

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Want to be featured in upcoming reports like these?

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Learn more about sim:

https://t.me/+AKj_zCUN-aJhOTdk

The data must flow.

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