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Q1 BTC Network Review

01/01/2025 - 03/31/2025

Gateway to Crypto

Summary

- Bitcoin (BTC) hit a record high on January 20, briefly surpassing 108,228 USDT and pushing its market cap to around $2.1 trillion. It then entered a consolidation phase, and by March 31, its market cap had declined to $1.6 trillion—down about 12% for the quarter. In contrast, gold gained nearly 20%, reflecting increased risk aversion in the market.
- BTC ownership remains highly concentrated, with addresses holding 100 to 10,000 BTC collectively controlling over 9M bitcoins—giving them significant price influence.
- On-chain activity remained strong, with average transaction values rising 26% from Q4, while fees dropped by 42.5%.
- Layer 2 networks on Bitcoin hold around $2.2 billion in TVL, down 13% since year-end but still stable overall. CORE remains the dominant protocol. Newcomer Hemi, launched in March, quickly grew its TVL to $209M, showing strong momentum. Major protocols show resilience, while smaller projects are more sensitive to market sentiment.
- Mining difficulty rose to 114T by March 31, up 3.8% from 109.78T at the end of 2024.
- Bitcoin's core development team has enhanced network efficiency and block space usage by improving fee estimation and script execution—paving the way for more advanced applications.
- Looking ahead to Q2, priorities include improving privacy, transaction processing, and Layer 2 support. Work is already underway, with tangible progress expected this quarter.

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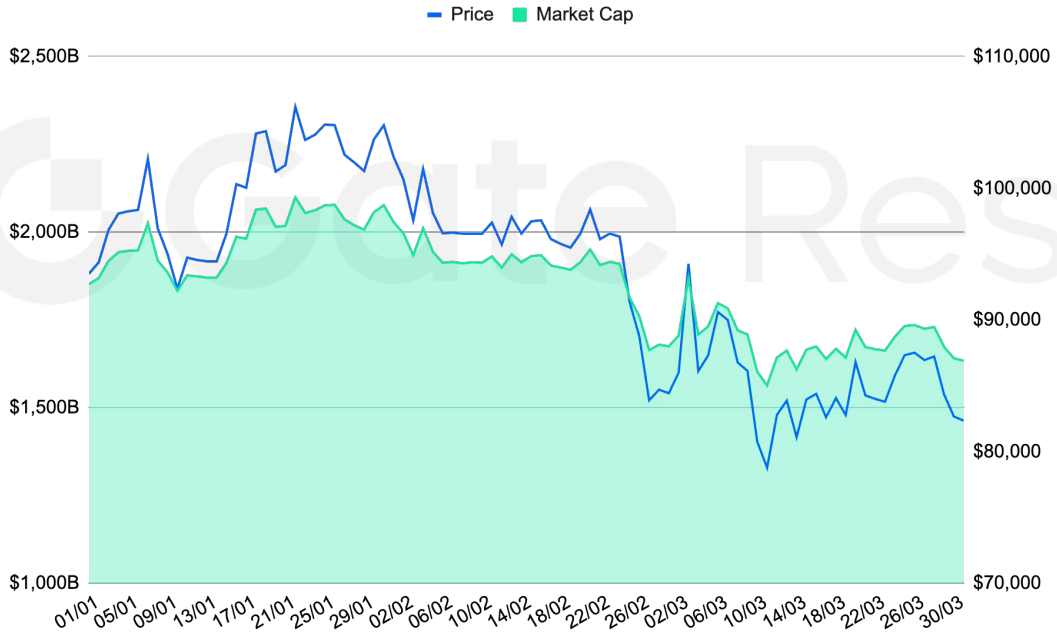
01 Price and Market Performance

BTC Price and Market Cap Trend



Gate Research, Data from: Dune

BTC Pulls Back After Hitting ATH, Market Cap Down to Around 1.6 Trillion Dollars

- On January 20, Bitcoin reached a new all-time high, briefly trading above 108,228 USDT. Its market capitalization surged to approximately 2.1 trillion dollars.
- However, starting in February, a correction began. By March 31, the price had dropped to around 82,000 USDT, with the market capitalization falling in tandem to about 1.6 trillion dollars—signaling a structural adjustment following a period of elevated volatility.

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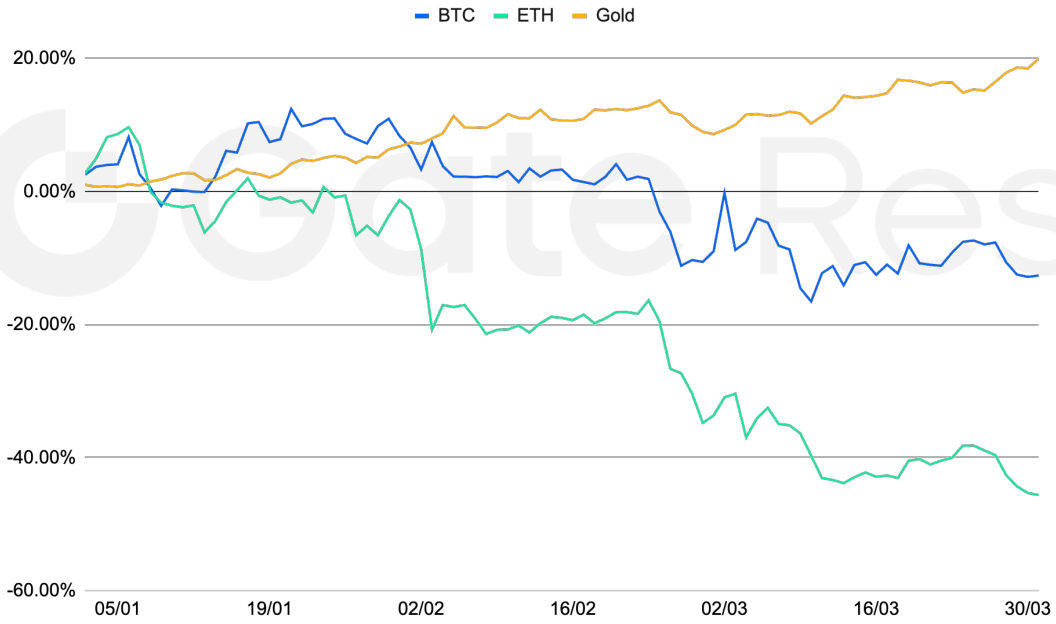
02 Return on Assets: Comparative Analysis

BTC, ETH, and Gold Quarterly Return Chart



Gate Research, Data from: Dune

Crypto Assets Decline Sharply, While Gold Rises Against the Trend

- In Q1 2025, BTC and ETH weakened notably, with returns turning negative from February. By March 31, BTC had dropped about 12%, while ETH plunged over 45%, signaling rising risk aversion and declining investor appetite.
- Meanwhile, gold gained roughly 20%, reflecting its safe-haven appeal. The contrast highlights shifting capital preferences in volatile markets and the susceptibility of crypto assets to external shocks.

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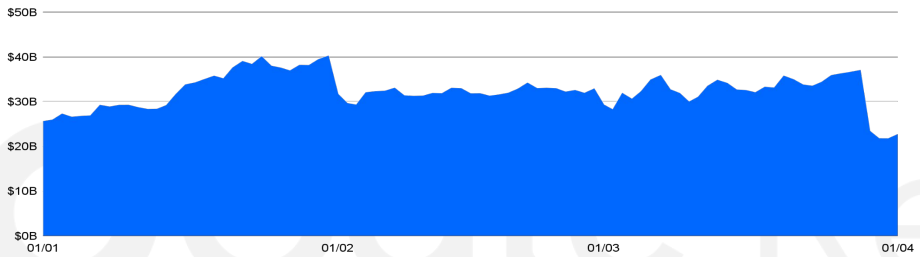
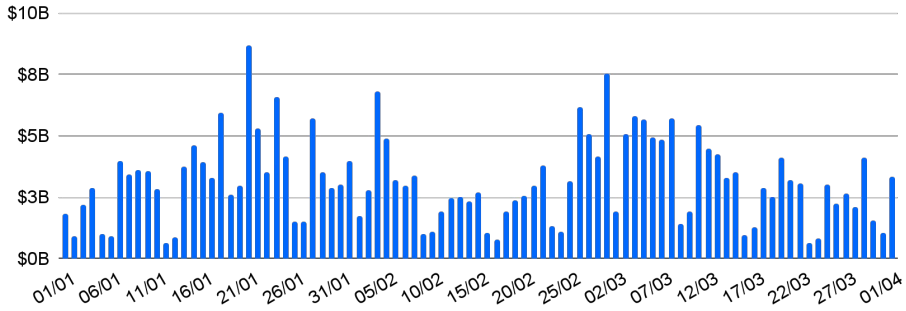
03 BTC Options Open Interest & Trading Volume

BTC Options Trading Volume



BTC Options Open Interest



Gate Research, Data from: CoinGlass

BTC Options Open Interest Holds Steady, Trading Volume Surges

- In Q1, BTC options open interest averaged 32.2 billion dollars, up 2% from last quarter, indicating stable market confidence. A late-March dip likely reflected expiry-related hedging or rebalancing.
- Trading volume averaged 3.1 billion dollars daily, up 6.9%, with a quarterly high of 8.6 billion on January 21—likely spurred by optimism around Trump's inauguration and anticipated pro-crypto policies.

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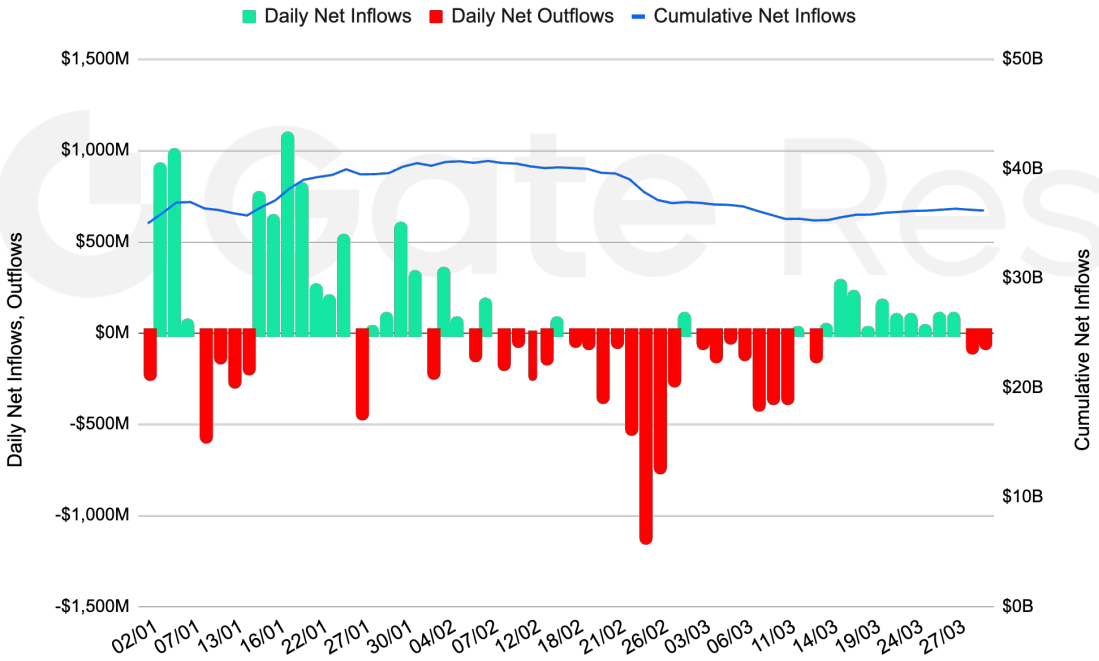
04 BTC ETF Daily and Cumulative Net Inflows



Gate Research, Data from: SoSoValue

BTC ETF Flows Weaken as Momentum Slows in Q1

- By the end of Q1, BTC ETF assets totaled 93.1 billion dollars, down 11.66% from Q4.
- Net inflows reached 930M dollars—nearly 94% lower than the previous quarter—signaling a sharp decline in capital momentum.
- After the surge earlier in the year, the market has shifted to a more cautious stance, with ETF flows entering a phase of structural adjustment rather than aggressive accumulation.

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02 On-Chain Holder Distribution

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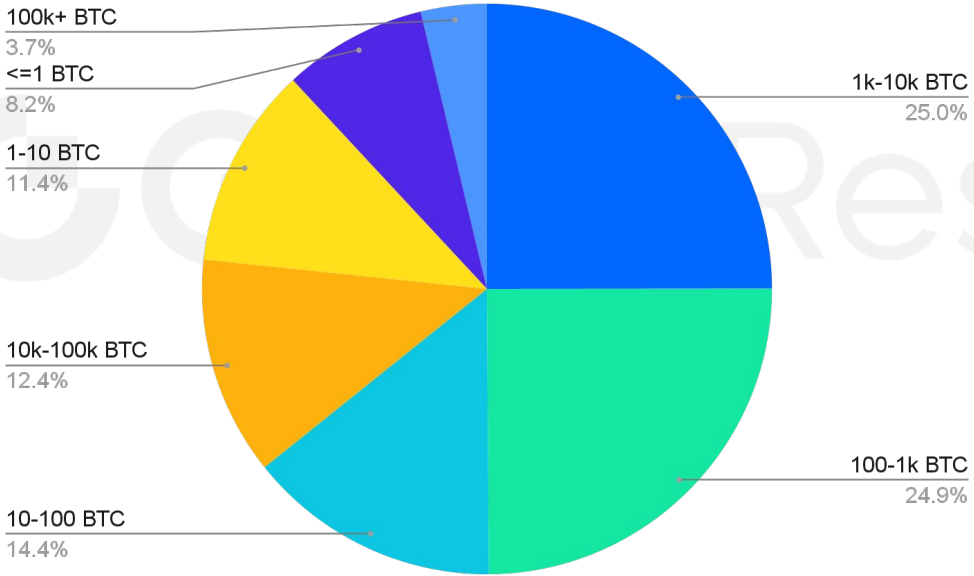
01 BTC On-Chain Holding Distribution

BTC On-Chain Holding Distribution



BTC Holdings Concentrated in Mid-to-Large Wallets

- On-chain data shows that wallets holding 1,000–10,000 BTC account for 25% of total supply, while those with 100–1,000 BTC hold 24.9%. Combined, these addresses control approximately 9.04M BTC.
- This high level of concentration highlights the dominance of mid-to-large holders, who have significant potential influence over market prices.

Gate Research, Data from: Dune

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02 BTC On-Chain Address Distribution

BTC On-Chain Address Distribution

Date	2025/1/31	2025/2/28	2025/3/31
0-1	50,988,941	50,971,080	51,135,134
1-10	751,537	753,964	754,951
10-100	93,488	93,618	93,454
100-1k	15,194	15,281	15,194
1k-10k	1,860	1,933	1,981
10k-100k	92	91	90
100k+	4	4	4
Total	51,851,116	51,835,971	52,000,808

As of March 31, 2025, the number of BTC on-chain holding addresses reached 52M, up 0.29% since late January.

- Over 98% of addresses hold 0–1 BTC, reflecting strong retail presence and rising on-chain participation.
- Addresses with over 100 BTC make up less than 0.001%, yet remain stable—showing sustained concentration among large holders.
- 1,000–10,000 BTC addresses grew 6.45% in Q1, indicating continued accumulation by high-balance investors.

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03 Mining and Hashrate

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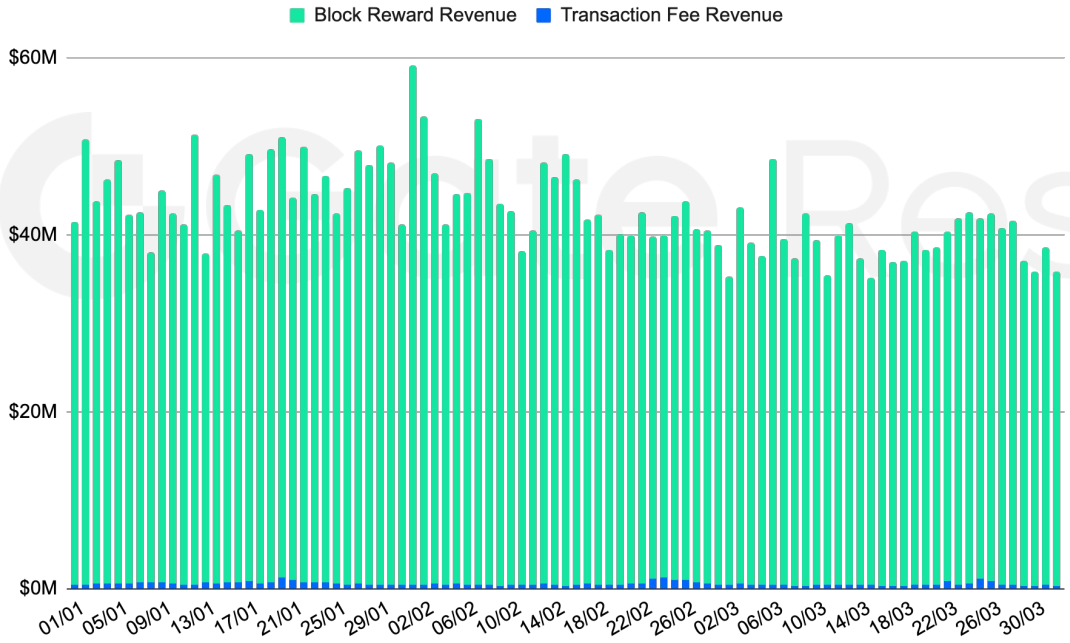
01 BTC Miner Revenue

BTC Miner Revenue



Gate Research, Data from: Dune

BTC Q1 Revenue Still Dominated by Block Rewards, Fees Remain Minimal

- Over 95% of miner income in Q1 came from block rewards, with fees contributing only marginally—even during peak transaction periods. This highlights the network's ongoing reliance on fixed block issuance, with fee incentives playing a limited role.
- Although fees saw a brief rise in March, their overall share of miner revenue remained low. The network has yet to enter a fee-driven phase, and the miner economic model is still largely reward-based.

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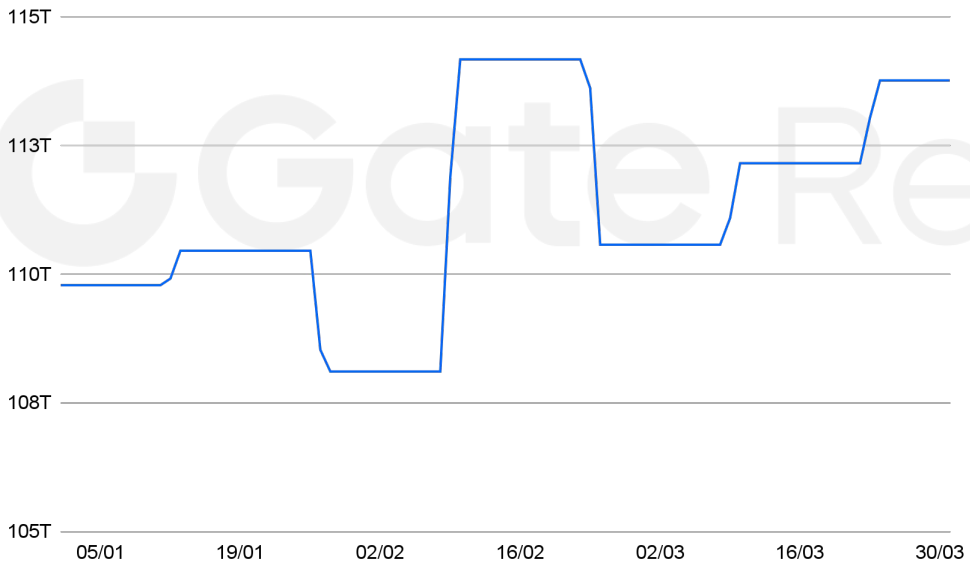
02 BTC Mining Difficulty and Hashrate

BTC Mining Difficulty Trend



BTC Mining Difficulty Rose in Q1

- As of March 31, mining difficulty reached 114T, up 3.8% from 109.78T at the end of 2024.
- Throughout Q1, difficulty showed a steady upward trend, fluctuating within a range supported by hashrate levels between 550 and 750 EH/s—reflecting consistent growth in network computing power.

Gate Research, Data from: Dune

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04 Network Activity

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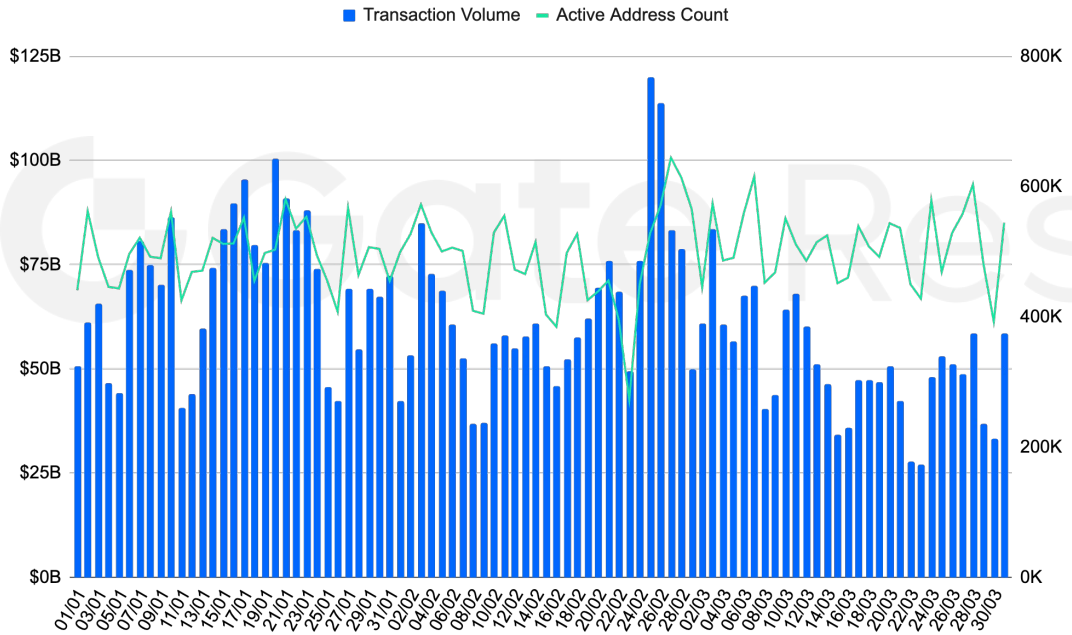
01 Active Addresses and Transaction Volume

BTC Active Addresses and Volume



Gate Research, Data from: Dune

Network Activity Remained Steady; Late February Saw a Sharp Spike

- In Q1, BTC active addresses generally ranged between 400,000 and 600,000, reflecting stable user engagement despite market fluctuations.
- On February 25, on-chain transaction volume hit a quarterly high of over 120 billion dollars. Around the same time, active addresses surged nearly 93% from a local low on February 23—indicating strong underlying demand.

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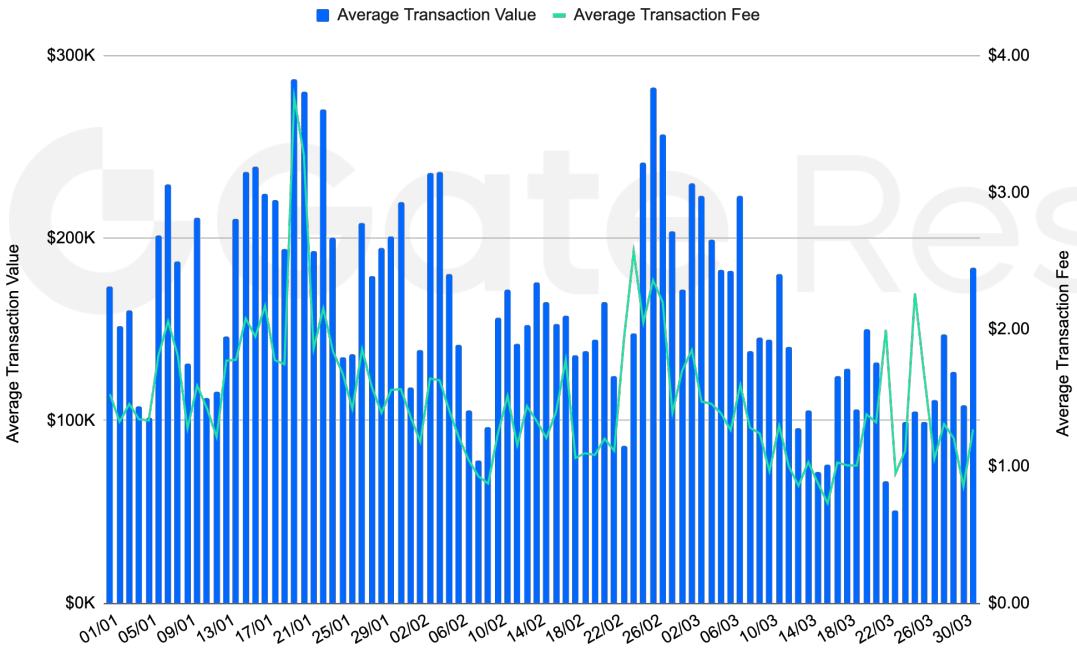
02 Average Transaction Value and Fees

BTC Average Transaction Value and Transaction Fees



Gate Research, Data from: Dune

BTC Q1: Higher Transaction Value, Lower Fees

- Average transaction value increased by 26% vs. Q4 2024, showing stronger capital flow on-chain.
- Average fees dropped from $2.61 to $1.50, down 42.5%, indicating significantly lower transaction costs.
- This combination of increased value and reduced fees reflects improved network efficiency and a better user experience.

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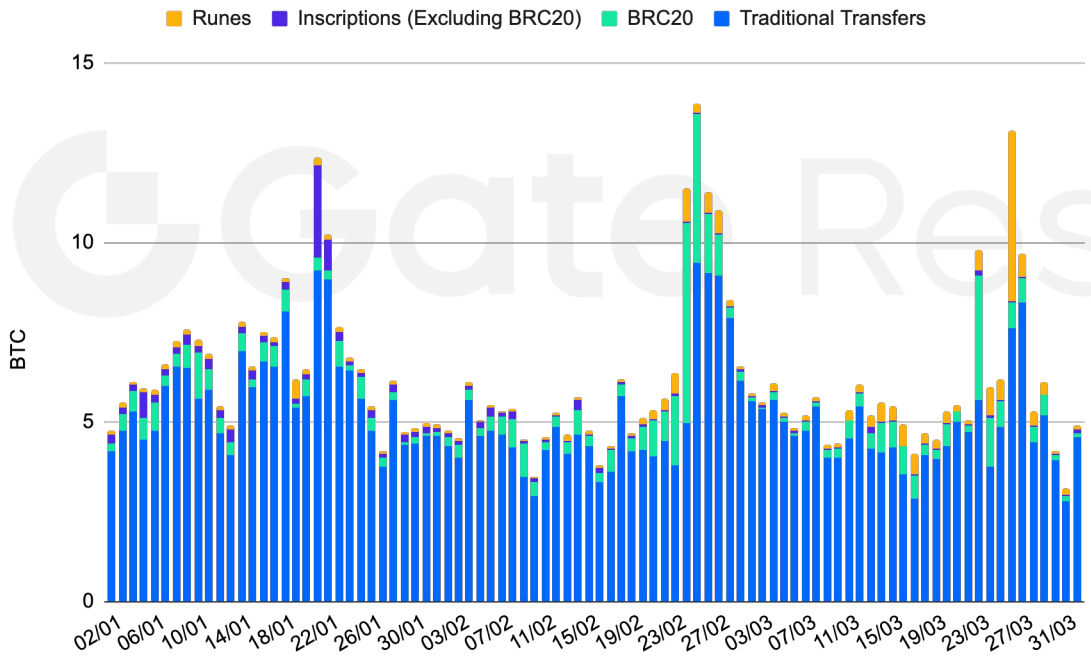
03 On-Chain Fee Composition

BTC On-Chain Fee Structure



BTC Q1 Traditional Transfers Dominate, but BRC-20 and Inscriptions Drive Spikes

- Most BTC fees still come from standard transfers. However, mid-January and late February saw notable fee spikes—peaking around 13.87 BTC—driven by BRC-20 and inscription activity, highlighting increased competition for block space.
- Overall, the fee structure is shifting from single-purpose payments to multi-protocol contributions, with popular protocols amplifying fee volatility as they compete for on-chain resources.

Gate Research, Data from: Dune

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05 On-Chain Applications

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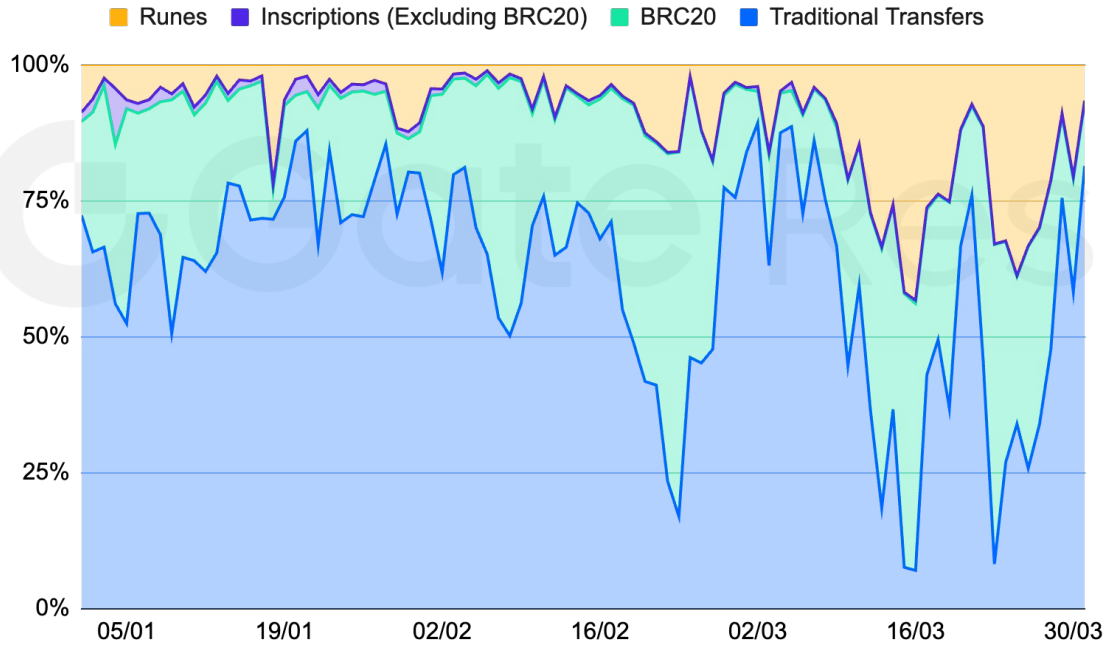
01 On-Chain Transaction Structure

BTC On-Chain Transaction Composition



BTC Q1 Sees Diversified Transaction Mix, Inscriptions Remain Active

- BTC on-chain activity now includes both traditional transfers and inscription-based interactions. Traditional transfers typically account for 50%–75% of transactions.
- BRC-20 and other inscription-related transactions remain highly active, with their share fluctuating alongside market interest. The BTC ecosystem now reflects a multi-protocol structure with diverse use cases—on-chain activity has moved beyond simple value transfers.

Gate Research, Data from: Dune

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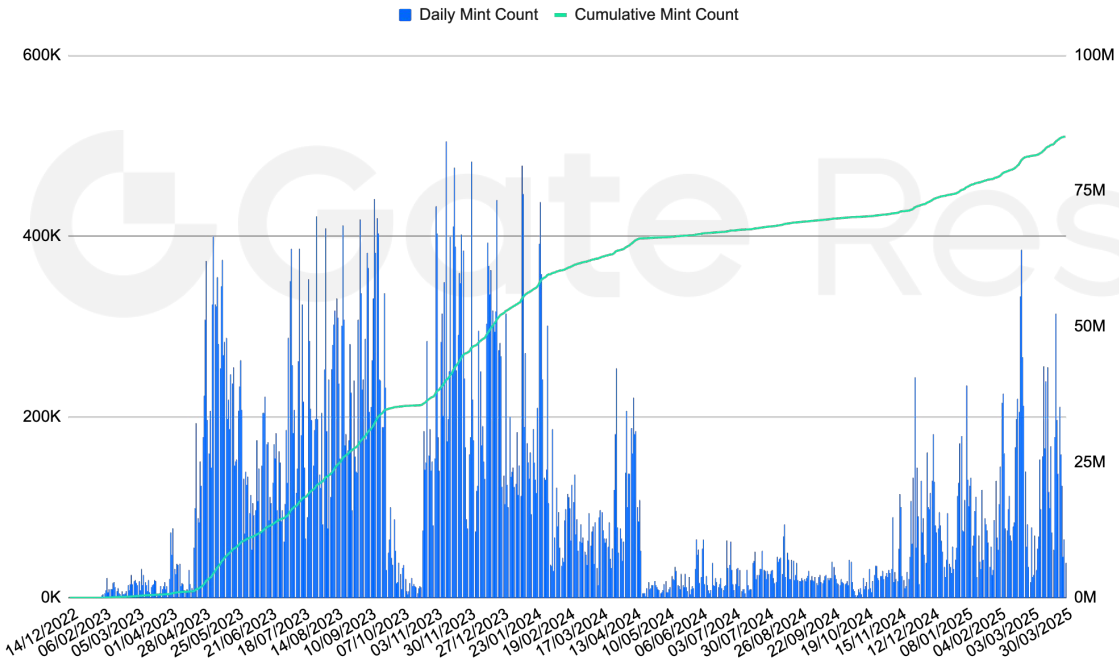
02 Inscription Volume

Total BTC Inscriptions



Gate Research, Data from: Dune

BTC Inscriptions Surpass 80 Million, Ecosystem Continues to Expand

- The total number of BTC inscriptions has exceeded 80 million, reflecting ongoing activity on the Bitcoin network. While daily mints declined after 2024, several peaks occurred in mid-February 2025, with single-day counts nearing 400,000.
- Despite cooling from the 2023 hype, overall inscription growth remains steady—signaling continued expansion of Bitcoin's application layer.

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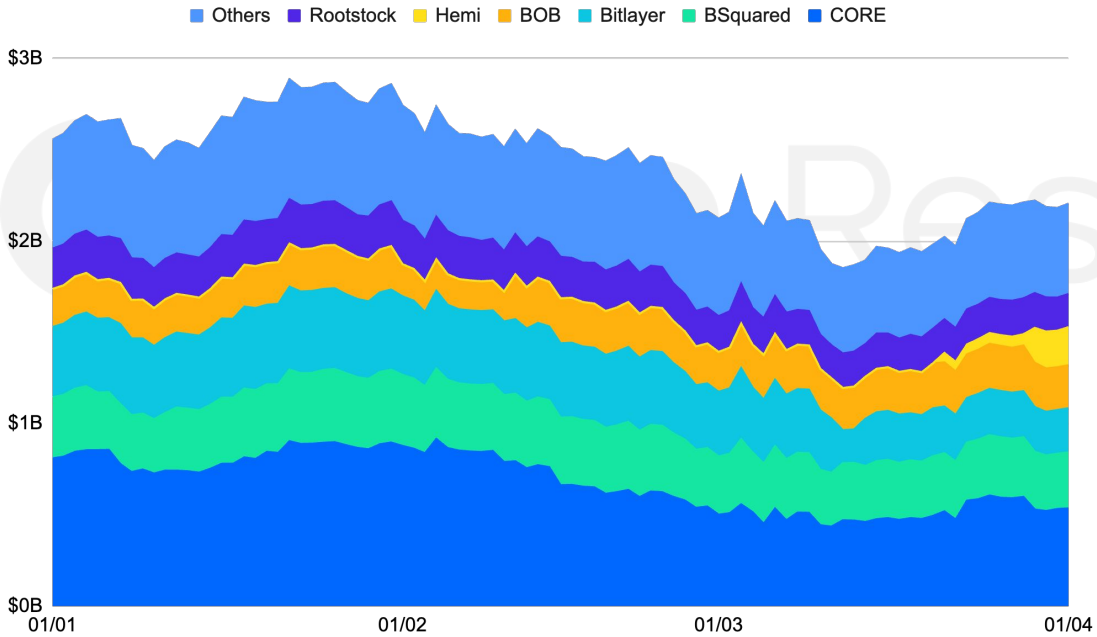
03 BTC Sidechain

BTC Layer 2 Total Value Locked



Gate Research, Data from: DefiLlama

BTC Layer 2 TVL Down 13% in Q1, Ecosystem Remains Resilient

- As of March 31, 2025, BTC Layer 2 total value locked (TVL) stood at 2.2 billion dollars, down 13% from the end of 2024—reflecting a more cautious market, yet a still sizable ecosystem.
- CORE remains the leading protocol, holding the largest share and maintaining its dominant position within BTC Layer 2.
- Notably, the Hemi mainnet launched on March 12, with TVL quickly reaching 209 million dollars in under a month—indicating strong market interest. Overall, major protocols remain stable, while smaller projects are more sensitive to market sentiment.

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06 Q1 Tech Review and Outlook

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01 Q1 Technical Upgrade Summary

In Q1 2025, Bitcoin's core development team made key advancements in stability, security, and performance, improving both user experience and network readiness for future upgrades and complex applications:

Bitcoin Core 28.1 Released

Fixed Tor port conflicts and key wipe issues, enhancing node security and deployment flexibility across data centers and home setups.

Mempool & Fee Estimation Improvements

Improved fee estimation boosts transaction efficiency and reduces block space waste, ensuring reasonable fees even under congestion.

Optimized Taproot and SegWit Script Performance

Lower script execution cost increases block utilization and supports lightweight deployment of Taproot-based contracts and privacy features.

Descriptor Wallet & PSBT Multisig Support

Wallet module upgraded for multi-party signing, enterprise custody, and offline workflows, with stronger hardware wallet integration.

Gate Research, Data from: Bitcoin Improvement Proposal

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02 Q2 Outlook

In Q2 2025, Bitcoin development will shift from stability-focused upgrades to enhancing scalability, privacy, and Layer 2 support—laying the foundation for more advanced use cases like smart contracts and Lightning Network.

BIP324 (Encrypted P2P)

Adds encryption to node communication to improve privacy and reduce metadata leaks. Already partially implemented and undergoing evaluation for default activation.

BIP118 (SIGHASH_ANYPREVOUT)

Introduces a flexible signature type to support Layer 2 protocols like Eltoo and Ark. Code prep is underway, with further development and community discussion expected in Q2.

Package Relay

Boosts efficiency for complex transactions (e.g., RBF, CPFP) by allowing batch submission to the mempool—key for Lightning operations. Testing and activation strategy are expected this quarter.

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Disclaimer

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