A Primer on
Cryptocurrencies

SOCIAL CAPITAL_

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How to Read This Presentation

- This presentation was designed to be read in chronological order, in one go, like a flip book. Each section of this presentation builds on the prior and assumes no prior knowledge about the discussed topic.

- This presentation aims to provide an overview of decentralized networks over time, from Bitcoin's basic network structure to Solana's high-speed system, to the rise of decentralized finance applications and social tokens.

- By the end of this deep dive, you should understand how decentralized networks have evolved from simple transaction ledgers to complex platforms supporting automated financial services and programmable digital tokens.
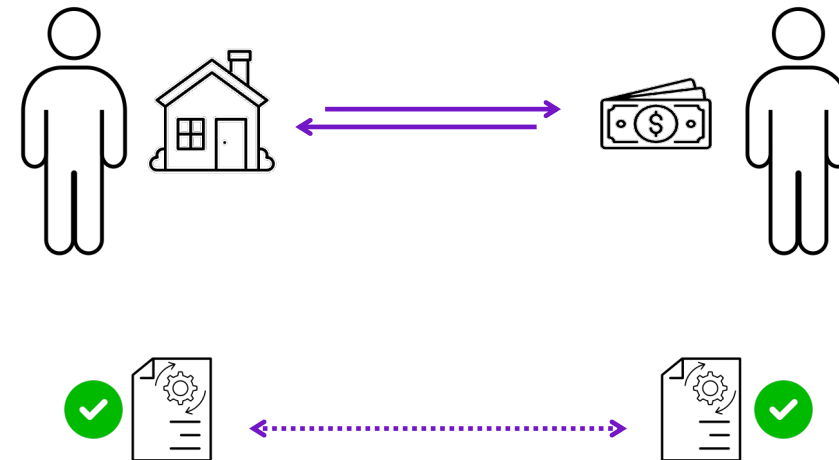
Introduction

As societies grew beyond tribal groups, we developed
record-keeping systems to document and provide proof of transactions.
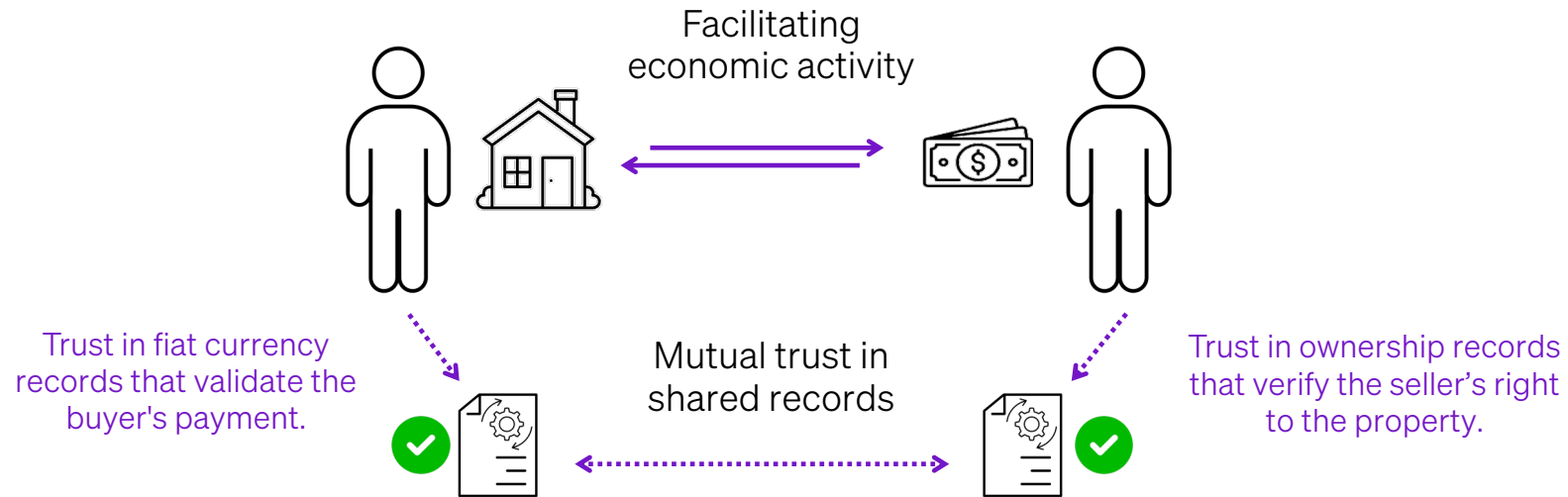
Tribal Groups
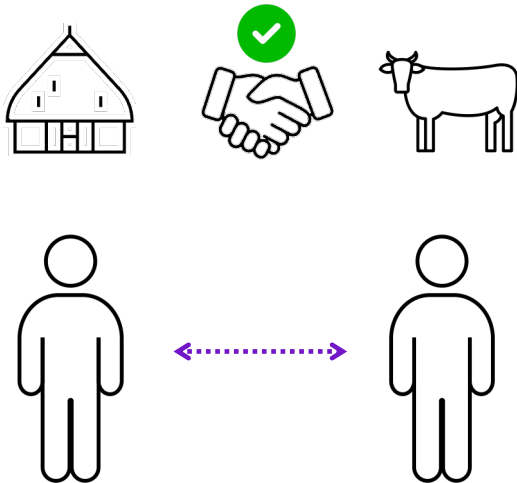
Rely on direct trust and
verbal agreements for
transactions.

Society

Rely on trust in shared records
to document and provide proof
of transactions.

These record-keeping systems underlie most transactions between people in society, facilitating economic activity through mutual trust in shared records.

Facilitating economic activity

Trust in fiat currency records that validate the buyer's payment.

Mutual trust in shared records

Trust in ownership records that verify the seller's right to the property.

Throughout history, these systems have been upheld by centralized authorities and record-keepers.

Maintains property records

Maintains car registrations

Centralized Authority

Verify ownership, settle disputes, and update records.

Verify ownership, settle disputes, and update records.
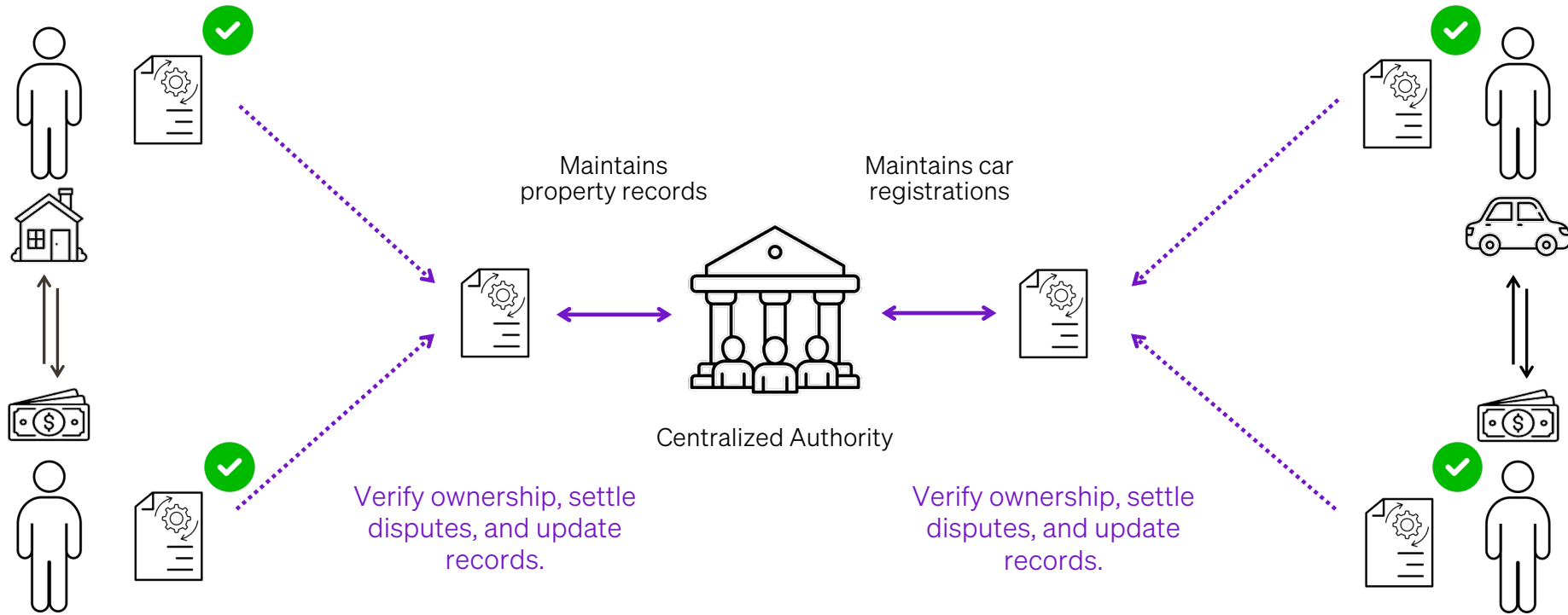
And we have had no choice but to trust centralized systems to maintain our records, despite the risks of corruption and abuse of power.

Maintains property records

Maintains car registrations

Centralized Authority

Arbitrarily refused to record property transfer despite valid deed.

Intentionally blocked transfers to force sales to preferred buyers.
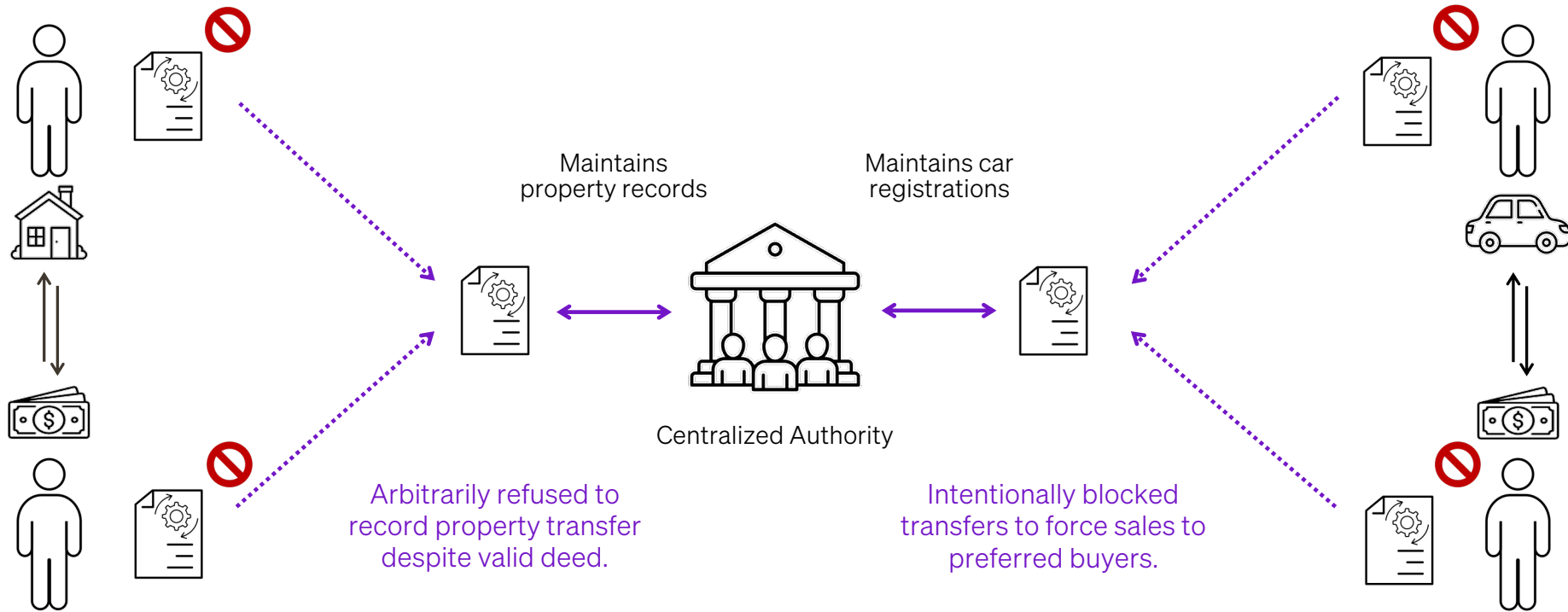
Decentralized systems make it possible to have record-keeping systems that facilitate economic activity without centralized authorities.
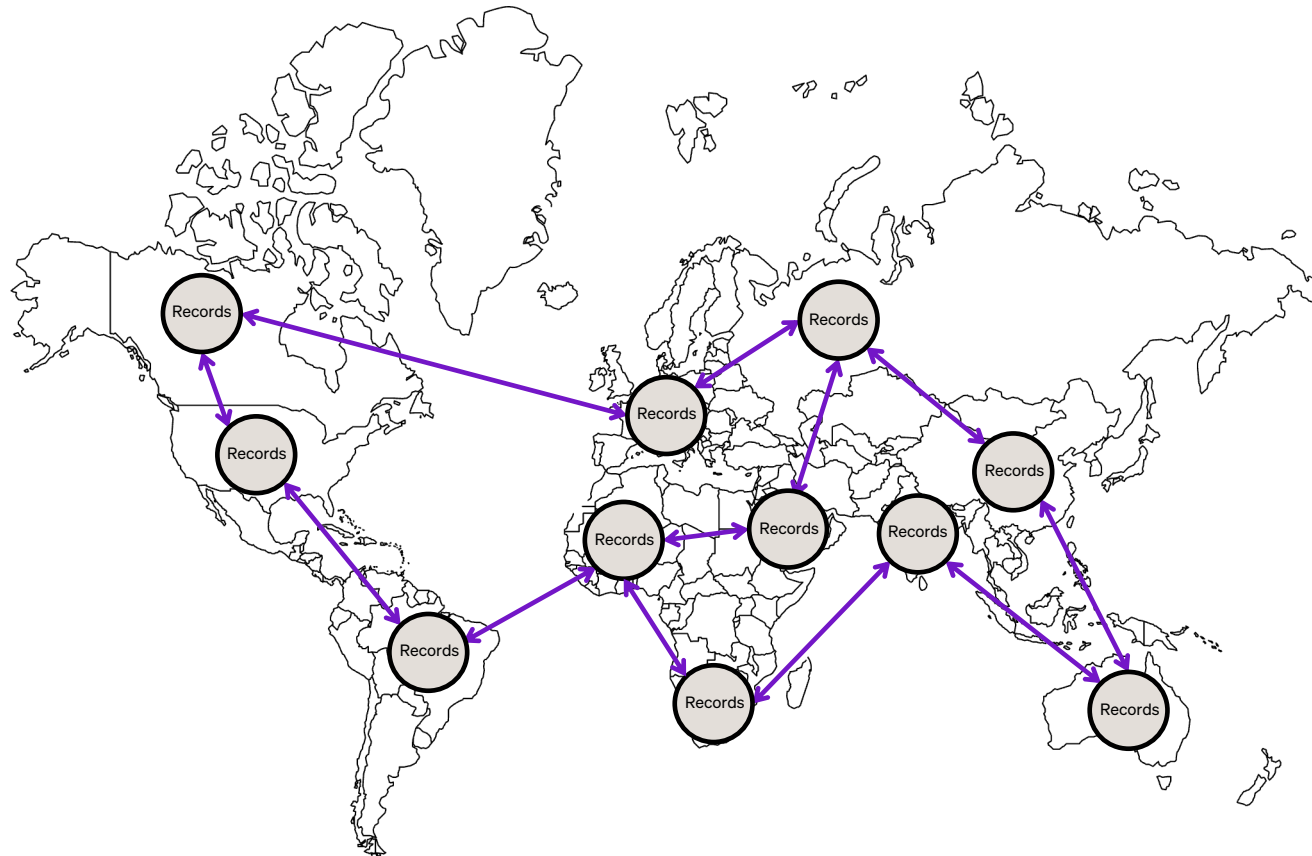

Records

Records

Records

Records

Records

Records

Records

System verifies ownership and updates records.

System verifies ownership and updates records.

System enforces rules with code.
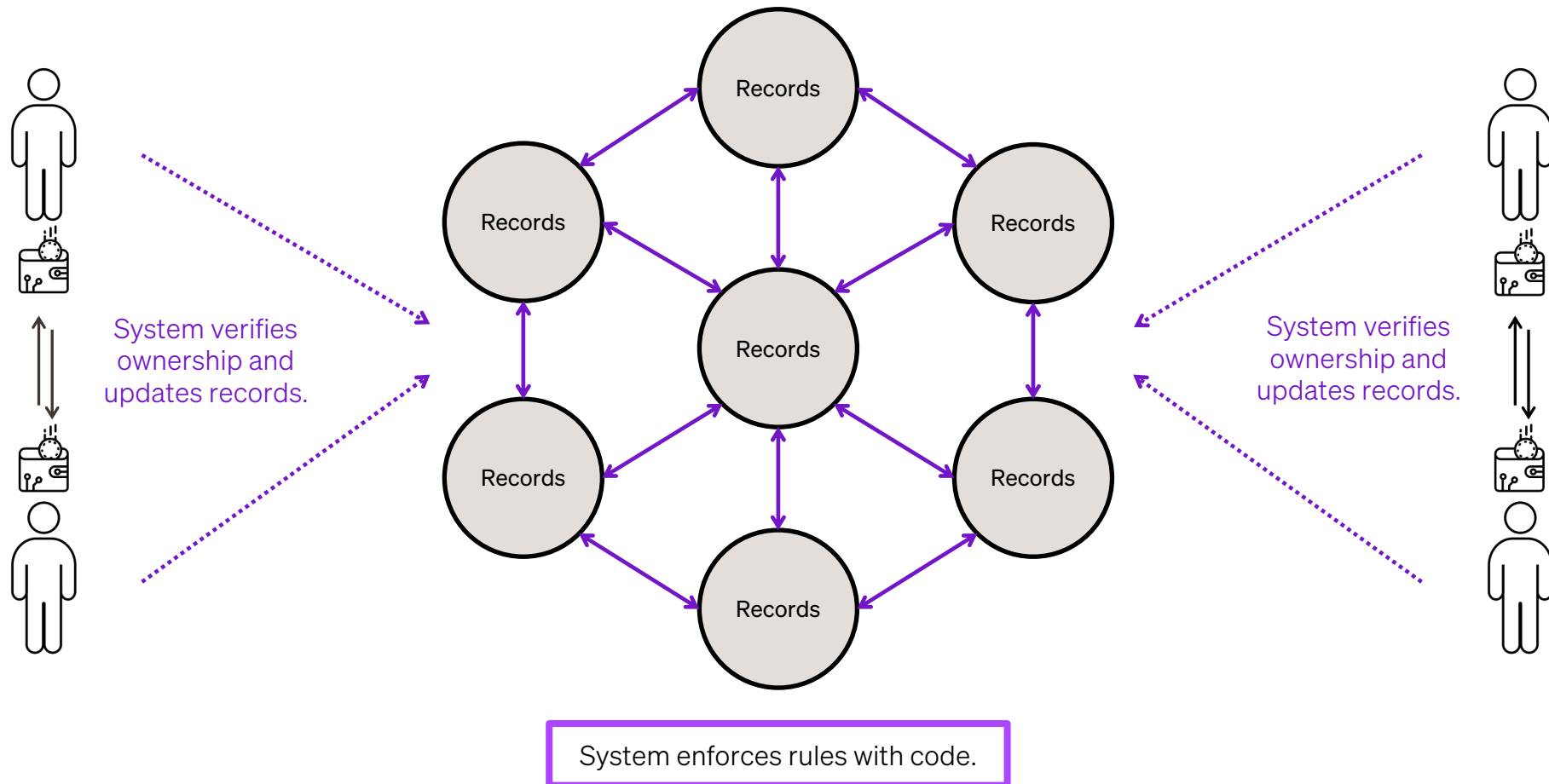
These systems maintain digital records globally using a
decentralized network of computers, enabled by the internet and cryptography.

Decentralized Network of Computers Maintains Digital Records Globally
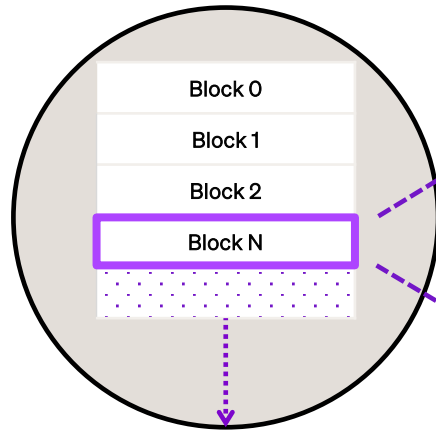
How do decentralized networks work?

Global networks of computers, called nodes, collectively maintain records by distributing information and authority across many independent participants.

Decentralized Network

Nodes

Records

Internet
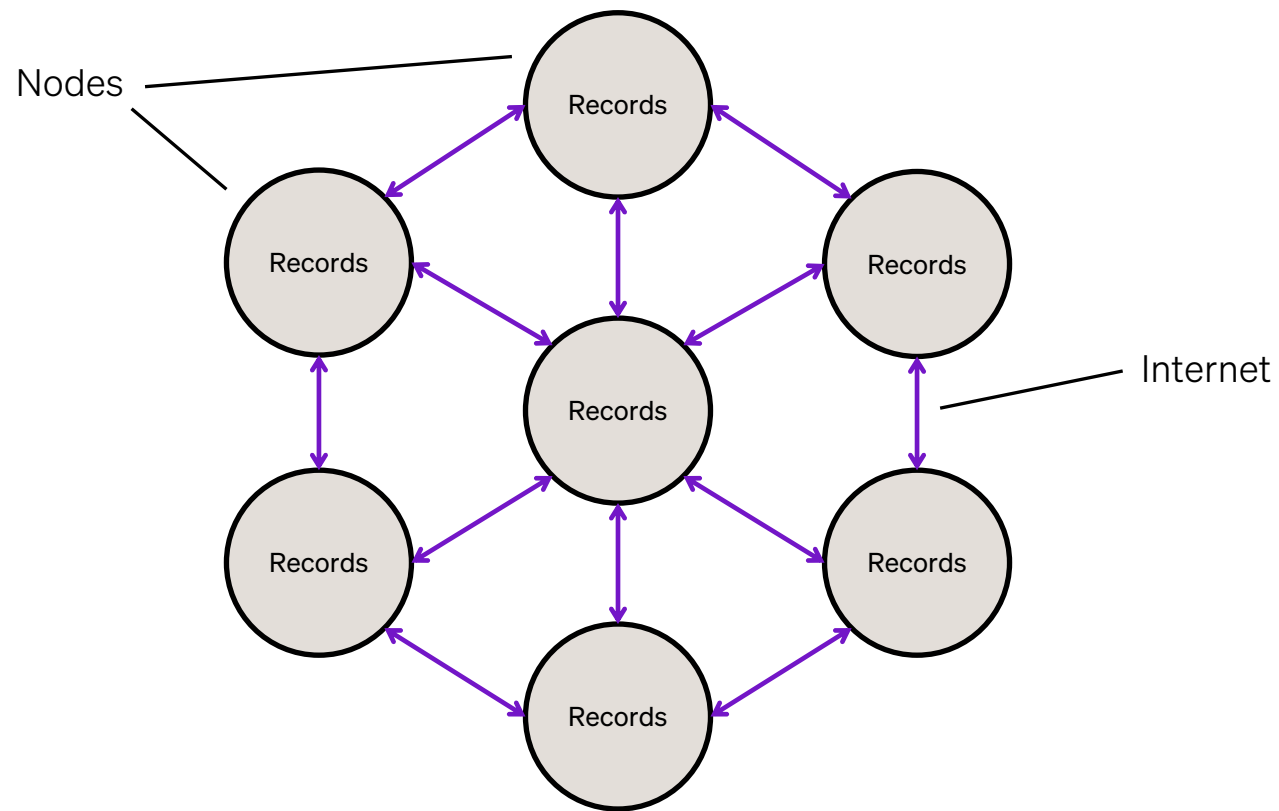
These nodes each store a complete copy of all records, organized in a chain of timestamped chronological blocks that contain transaction data.

| Block 0 |
| Block 1 |
| Block 2 |
| **Block N** |

| **Block N** |
| Transaction A |
| **Transaction B** |
| Transaction C |

| **Transaction B** |
| Update Records |
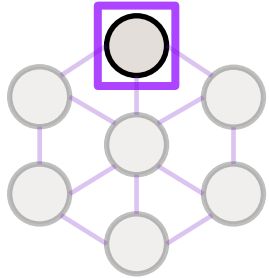
A node runs software that enforces the rules.
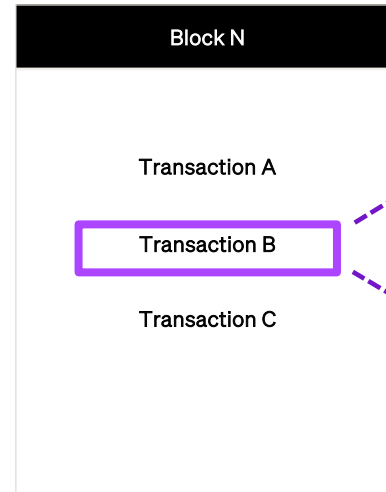
A block contains batch of transactions.
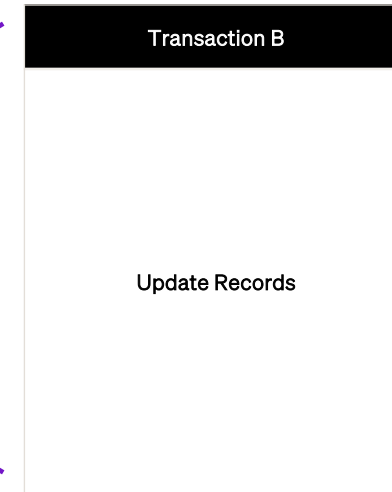
A transaction contains a record updates.

When a user executes a new transaction, the network uses encoded rules to reach agreement to ensure everyone maintains the same record of history.

User A executes a new transaction.

Node receives the new transaction.

Node verifies the transaction based on encoded rules.

Transaction is added to the latest block and propagated to all other nodes for validation.

Transaction processed and records updated.
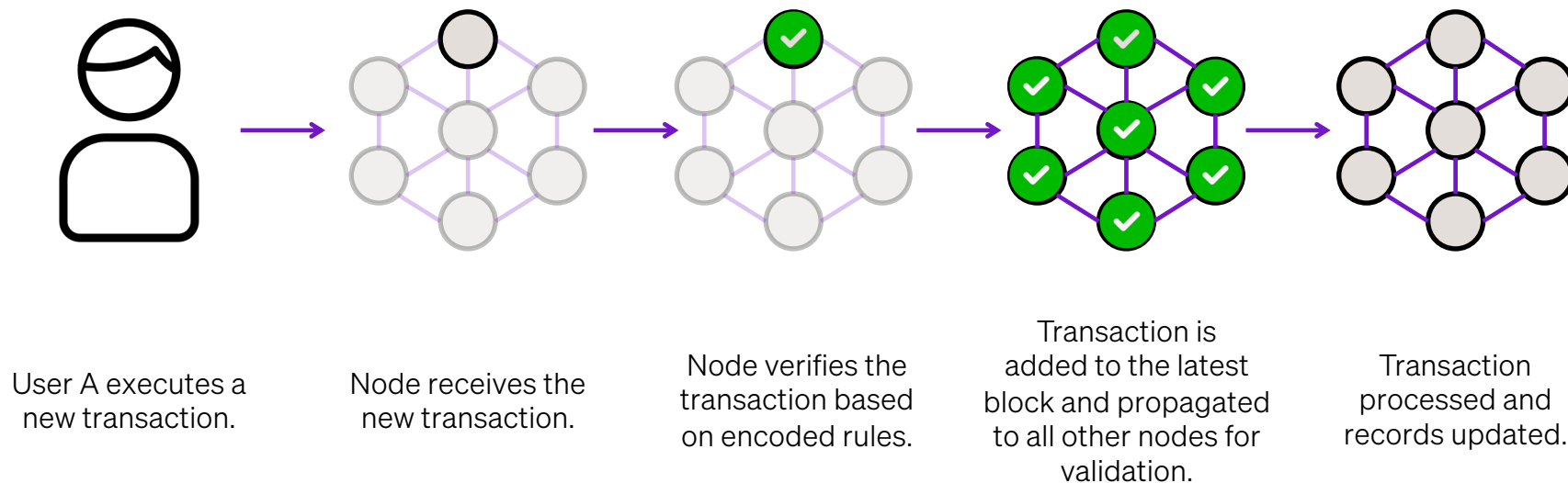
This agreed-upon history takes the form of an
ever-growing chain of blocks that are linked together.

Previous Block
Processed Transactions

Current Block
Processing Transactions

Next Block

Block 0
Block N - 1
Block N
Block N + 1

Block 0
Block N - 1
Block N
Block N + 1

Block 0
Block N - 1
Block N
Block N + 1
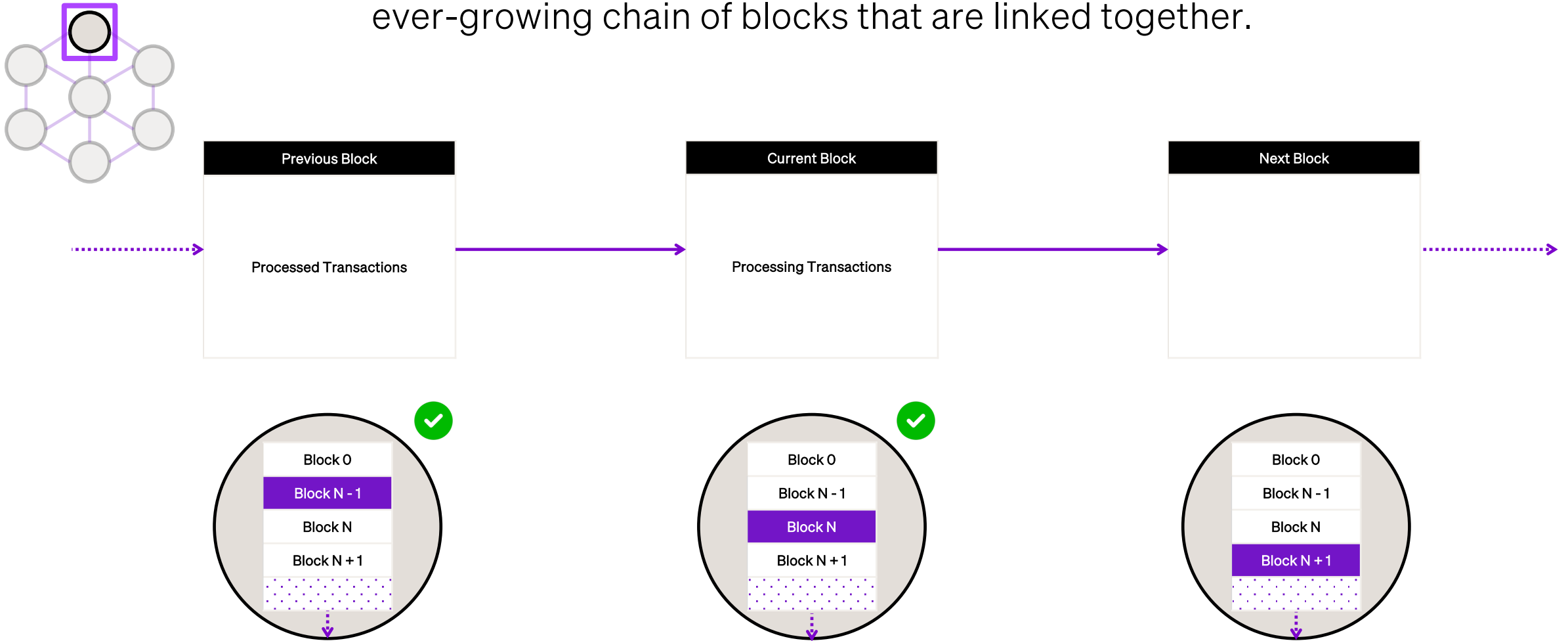
Once a new block of transactions is added to this chain, it creates an unalterable and public record history that anyone can verify.

Previous Block
Historical transactions (Unalterable)

Current Block
Processing Transactions

Next Block

Block 0
Block N - 1
Block N
Block N + 1

Block 0
Block N - 1
Block N
Block N + 1

Block 0
Block N - 1
Block N
Block N + 1

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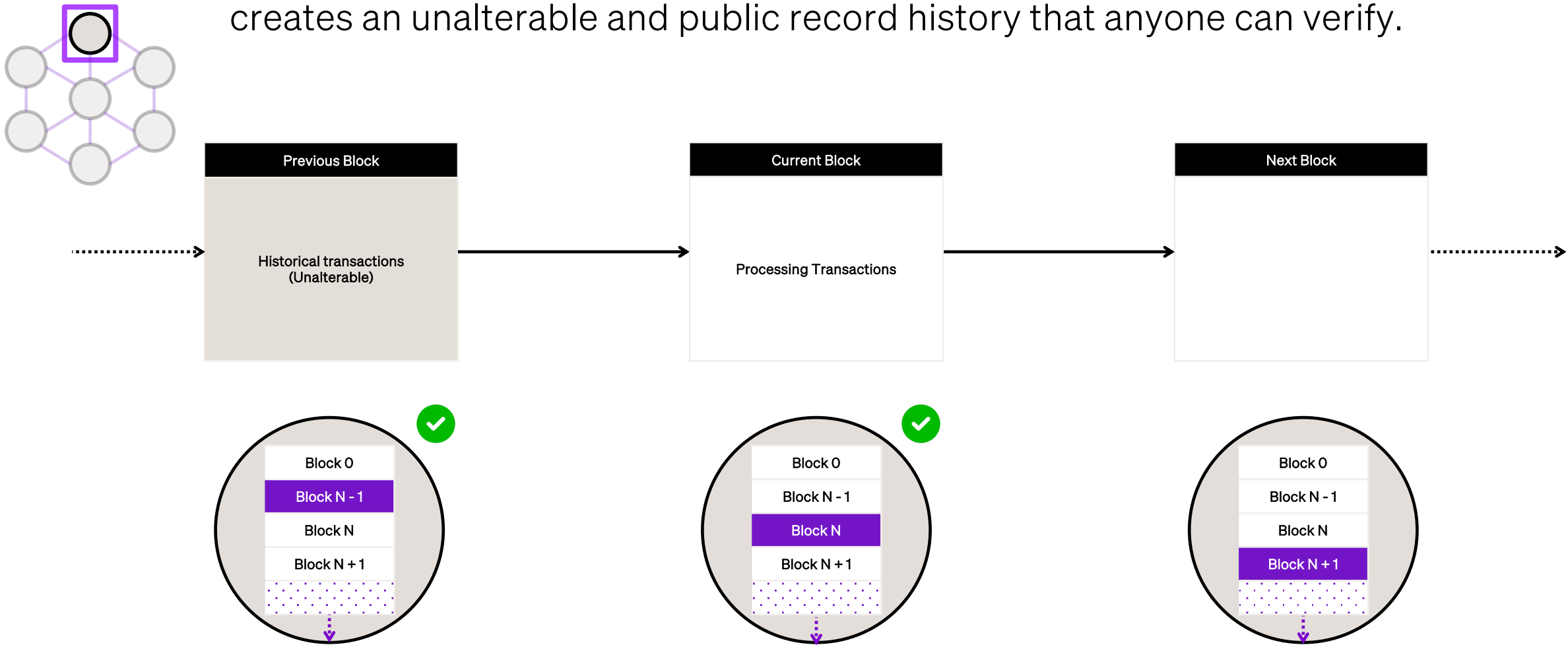
And any person with a crypto wallet can execute transactions to securely control their decentralized digital records using unique cryptographic keys.

User with a
Crypto Wallet

Update their
records

Decentralized
Network
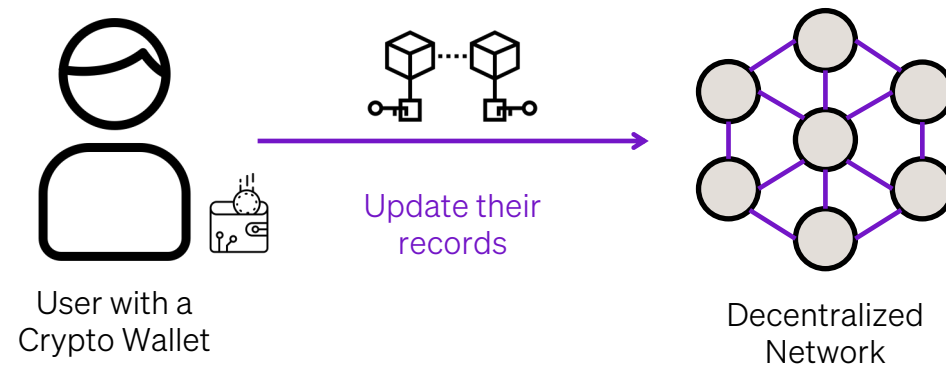
- Each crypto wallet controls a unique record, and no other wallet can access or modify this record.

- A crypto wallet does not store anything, instead it acts as a key to update your records on the network.

What's happened in the 16 years since
this new record-keeping system was created?

New kinds of digital assets and applications have been built on top of decentralized networks.
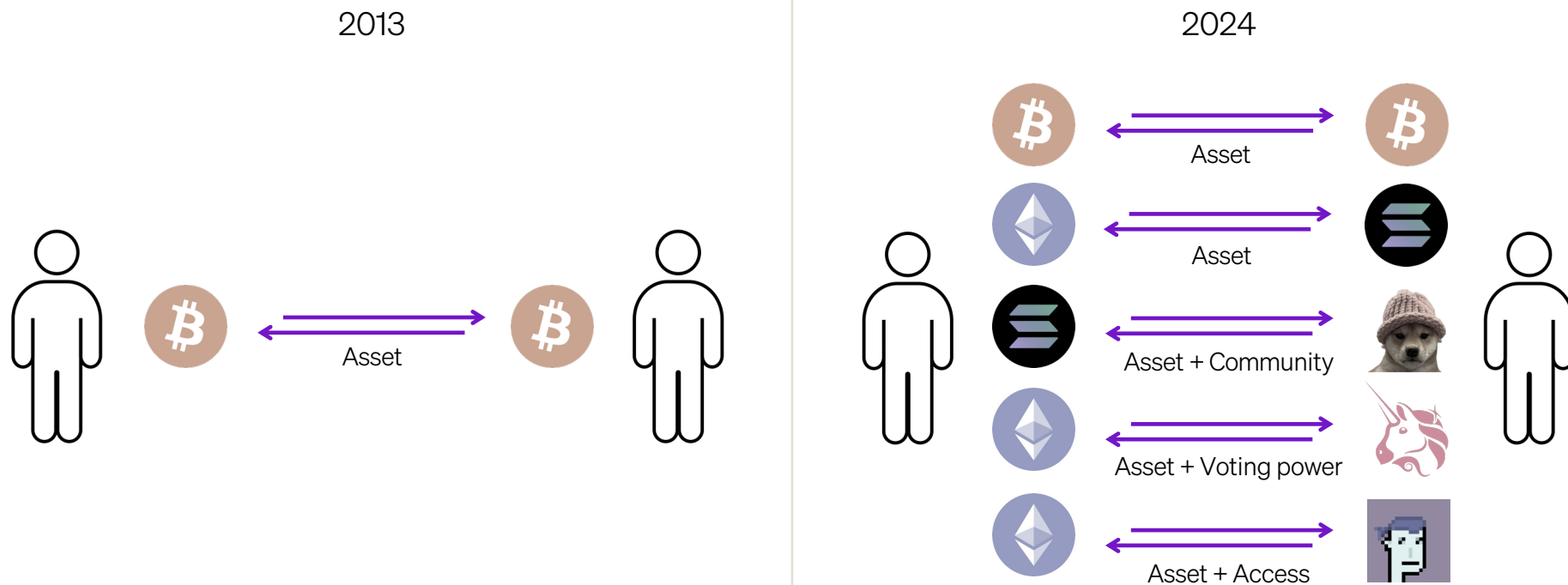
Networks	Stablecoins	DeFi	Memecoins	Services
Bitcoin	USDC	Aave	Doge	Magic Eden
Ethereum	USDT	Jupiter	dogwifhat	OpenSea
Solana	DAI	Uniswap	Pepe	ENS
Binance Chain	EURC	Ondo	Cryptopunk	Helium
Arbitrum		Maker	higher	Hivemapper
Base		Curve	degen	
		Lido		

These digital assets and applications have already achieved
widespread adoption, and their adoption may only be accelerating.

Daily Active Users Across All Decentralized Networks, Unique Users, 2021 to 2024
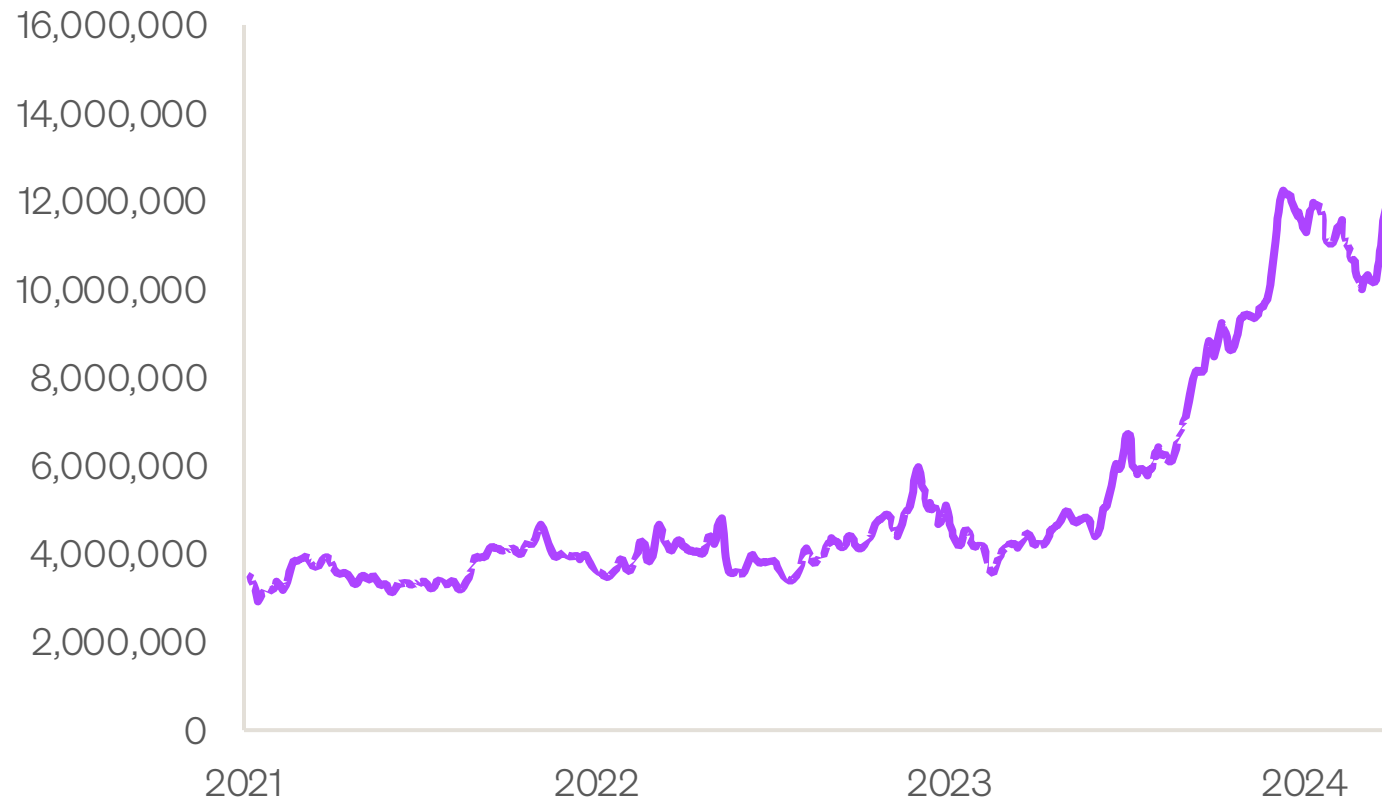
Although these digital assets and applications began as financial tools, they are currently evolving into platforms that exchange not just monetary but socio-cultural value.

2013

2024

Asset

Asset

Asset

Asset + Community

Asset + Voting power

Asset + Access

To understand how cryptocurrency has evolved from pure financial tools to what it is today, we will examine how it has developed through four distinct phases.
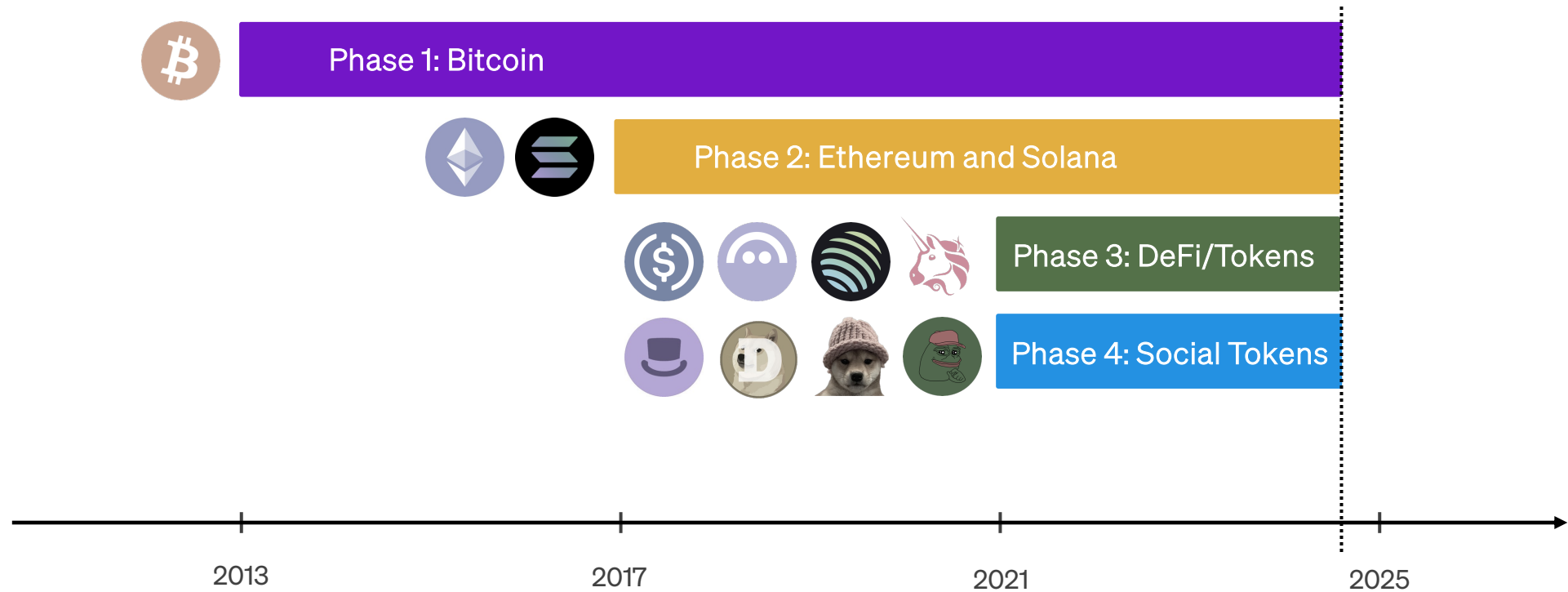
First, we'll start with Bitcoin, the first cryptocurrency to attain product-market fit.

Price of Bitcoin, U.S. Dollar, 2017 to 2024
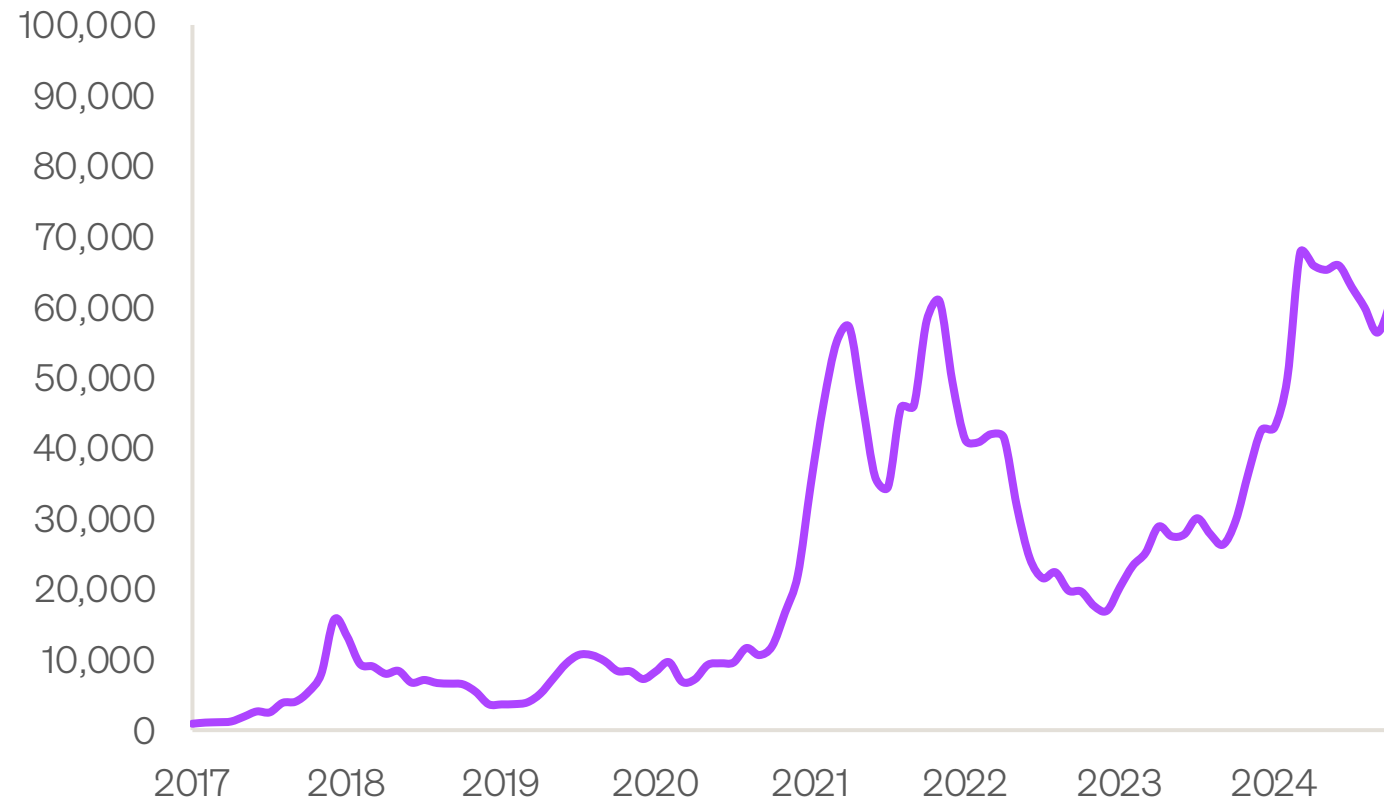
Phase 1

Bitcoin

2013 – Present

Bitcoin began as a grassroots response to the 2008 financial crisis and has evolved into an asset class traded by institutions and retail investors alike.

Percentage of Bitcoin Supply Owned, 2024

Category	Percentage
Individuals	78%
Exchanges	12%
ETFs	6%
Governments	3%
Companies	2%
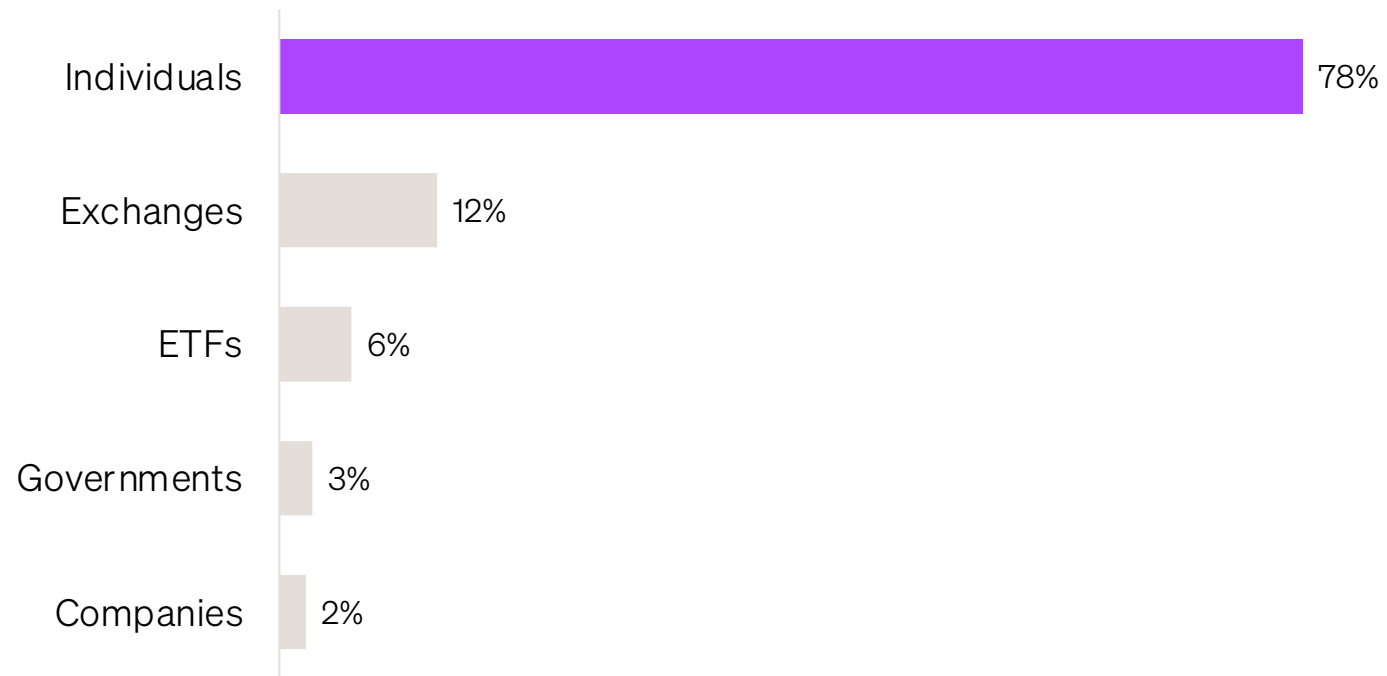
How does Bitcoin work?

Because Bitcoin is on a decentralized network, it operates as a digital record-keeping system maintained by a global network of computers rather than central authorities.

Bitcoin Network of Nodes/Miners
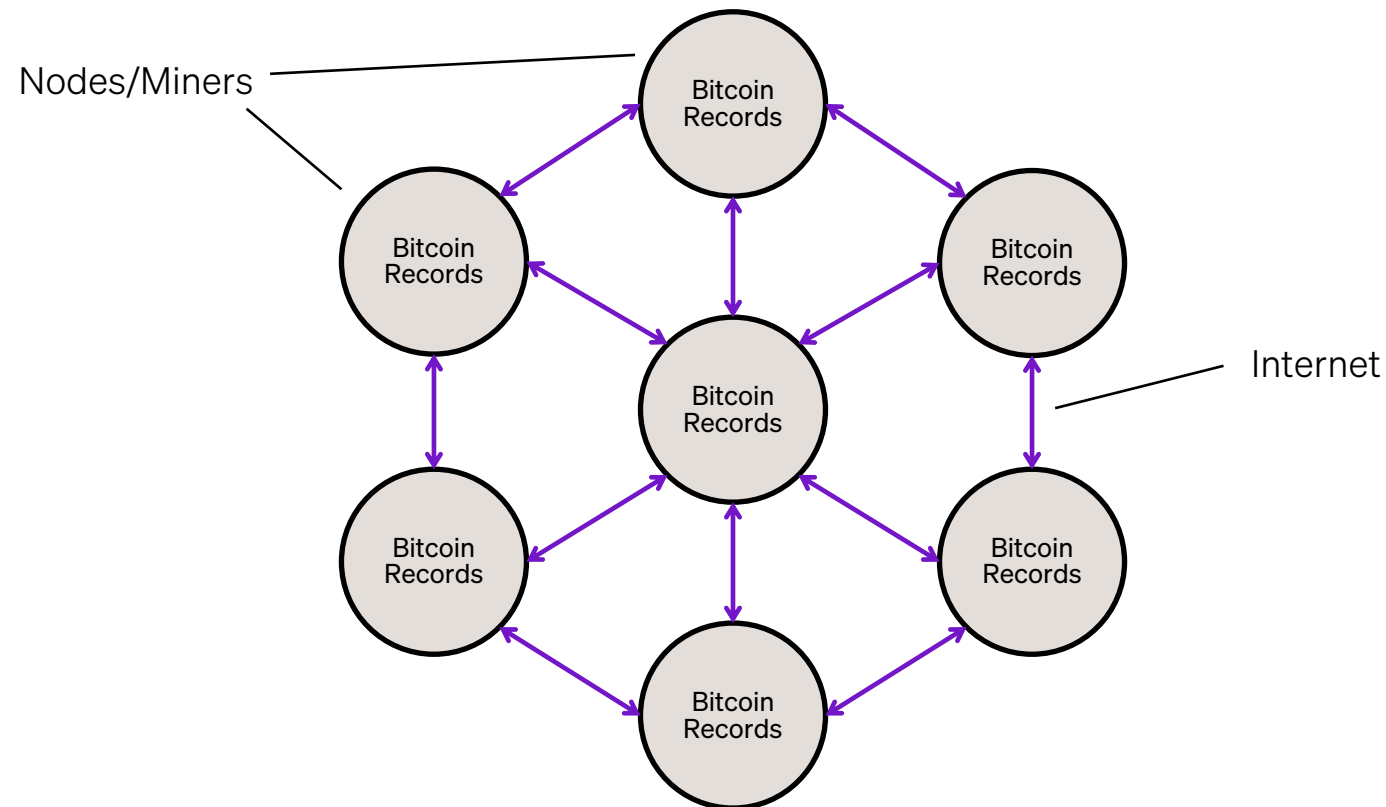
This network of miners competes to process transactions and create new blocks, receiving in return rewards in bitcoin that halve every four years.

Receive Mining Reward

User A sends one Bitcoin.

Miners receive the transaction and place it in queue.

Miners compete for the right to create a new block by solving very complex mathematical puzzles, earning a reward of newly created Bitcoin.

Transaction added to the latest block and propagated to all other miners for validation.

Transaction processed: Sender and receiver record balance updated.

This creates digital scarcity: like gold requires mining with real resources, bitcoin requires computing power and energy to create.

Bitcoin Supply, Millions of Bitcoin, 2010 to 2024
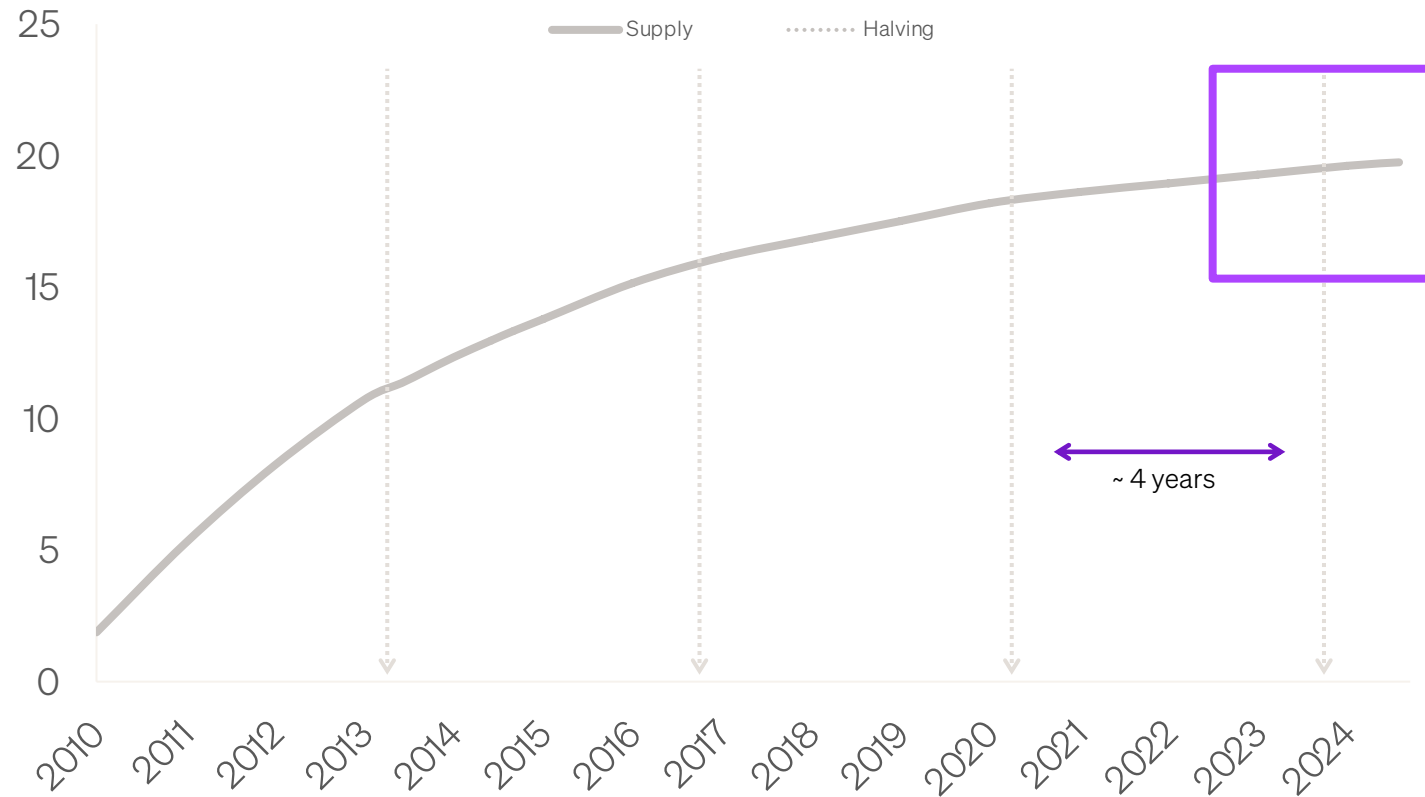
On April 20, 2024, the most recent halving reduced mining rewards from 6.25 BTC to 3.125 BTC per new block created, effectively increasing the net cost of energy to mine a BTC while reducing the rate of new supply.

~ 4 years

Like gold's natural resistance to counterfeiting, the system's durability comes from its massive network of miners which makes attacks economically infeasible.

Malicious Actor

An attack on the Bitcoin network could occur if a malicious actor controls over 51% of the network, allowing them to manipulate transactions.

- **$15bn**
  One Time Hardware Cost

- **$8m**
  Daily operational cost of energy for the mining facility
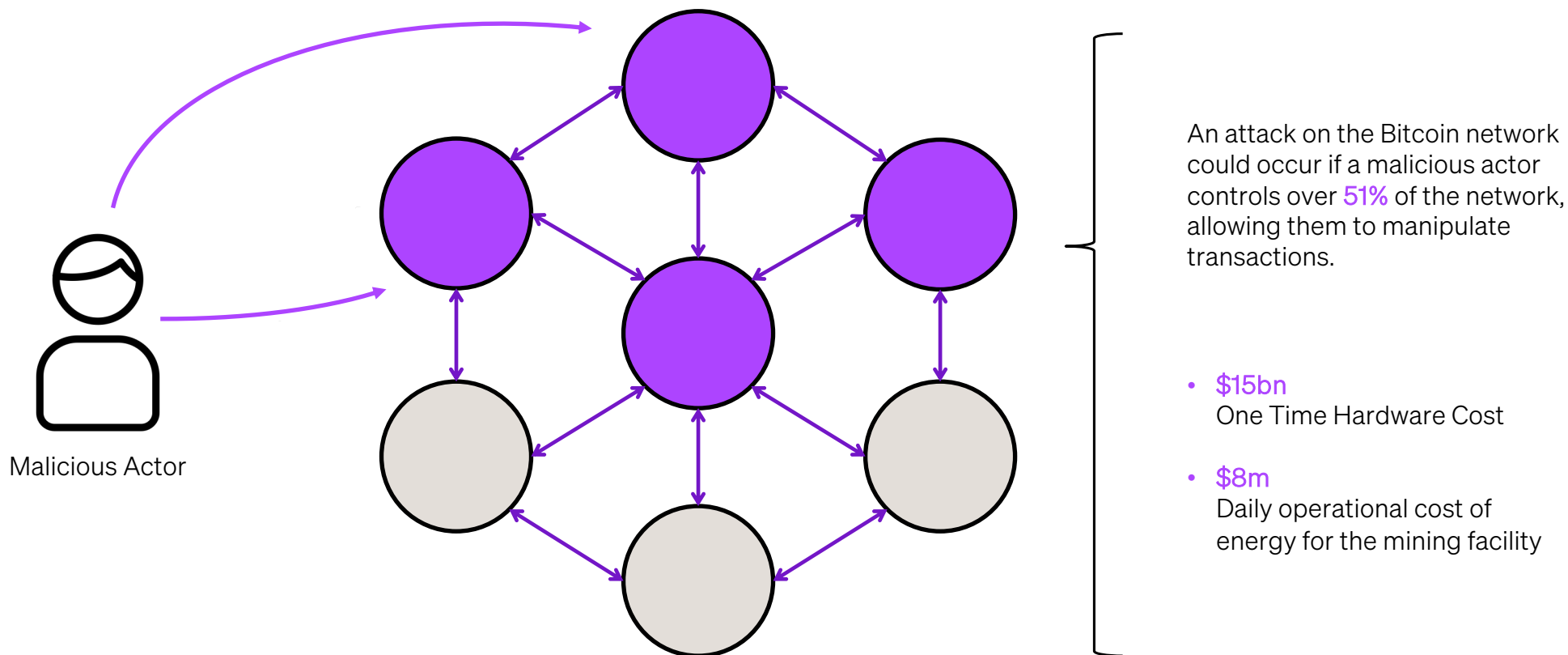
The result is a digital asset that is a proxy to gold.

	Bitcoin		Gold
Scarcity	Fixed supply at 21 million	vs.	Natural
Durability	High		High
Divisibility	Very High		Limited
Portability	Very High		Limited
Trust	Peer to peer		Inherent value

While this durability drives increasing energy consumption, the industry is actively transitioning to greener, more energy-efficient practices.

Energy Consumption Per Year for Various systems, Terawatt-Hours, 2024

Bitcoin	Data Centers	Gold Mining	Banking System	Global Aviation	Air Conditioning	Steel Production
121	200	240	263	860	2000	2500
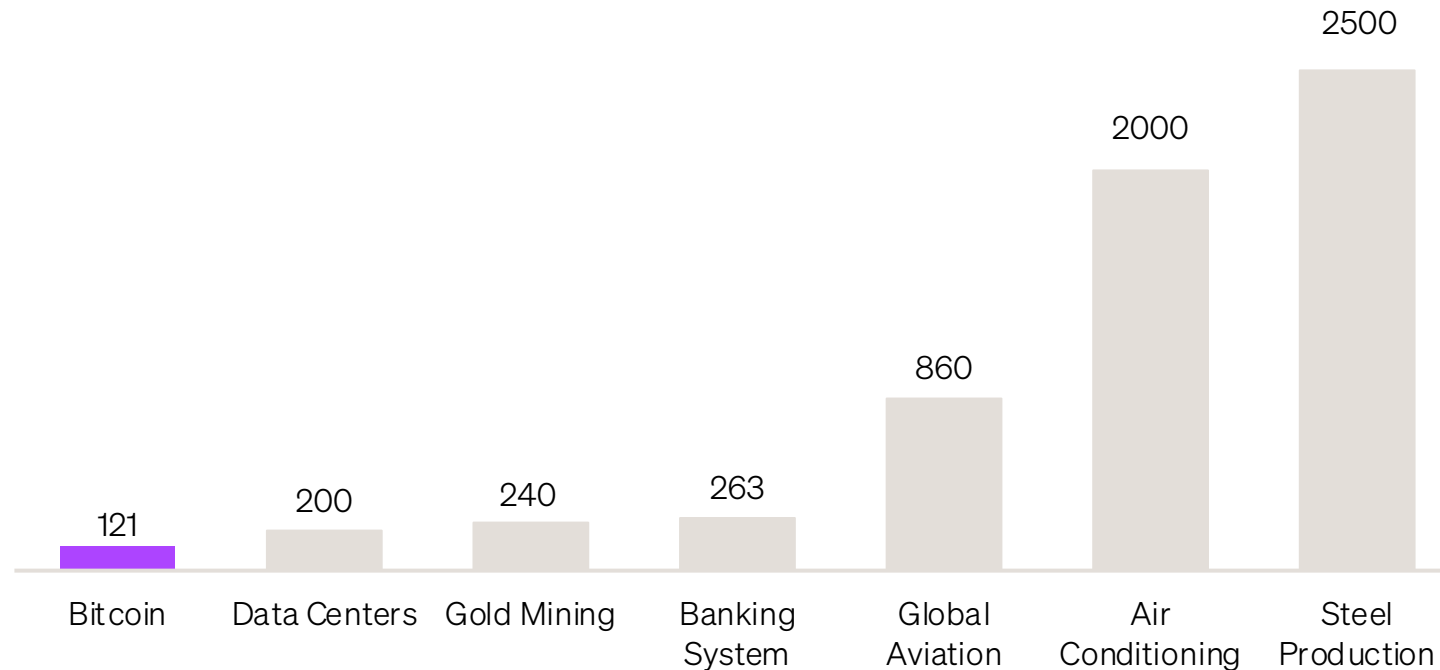
What are the implications of this digital asset?

Like gold, Bitcoin is seen as a hedge against monetary inflation and financial system risk, while maintaining its own distinct characteristics as an asset class.

Median Price of a Home (USA) USD, Gold, and BTC, 2017 to 2024

344

269

$313,100

$412,300

In USD

183

In Gold

6

In BTC

2017 2018 2019 2020 2021 2022 2023 2024
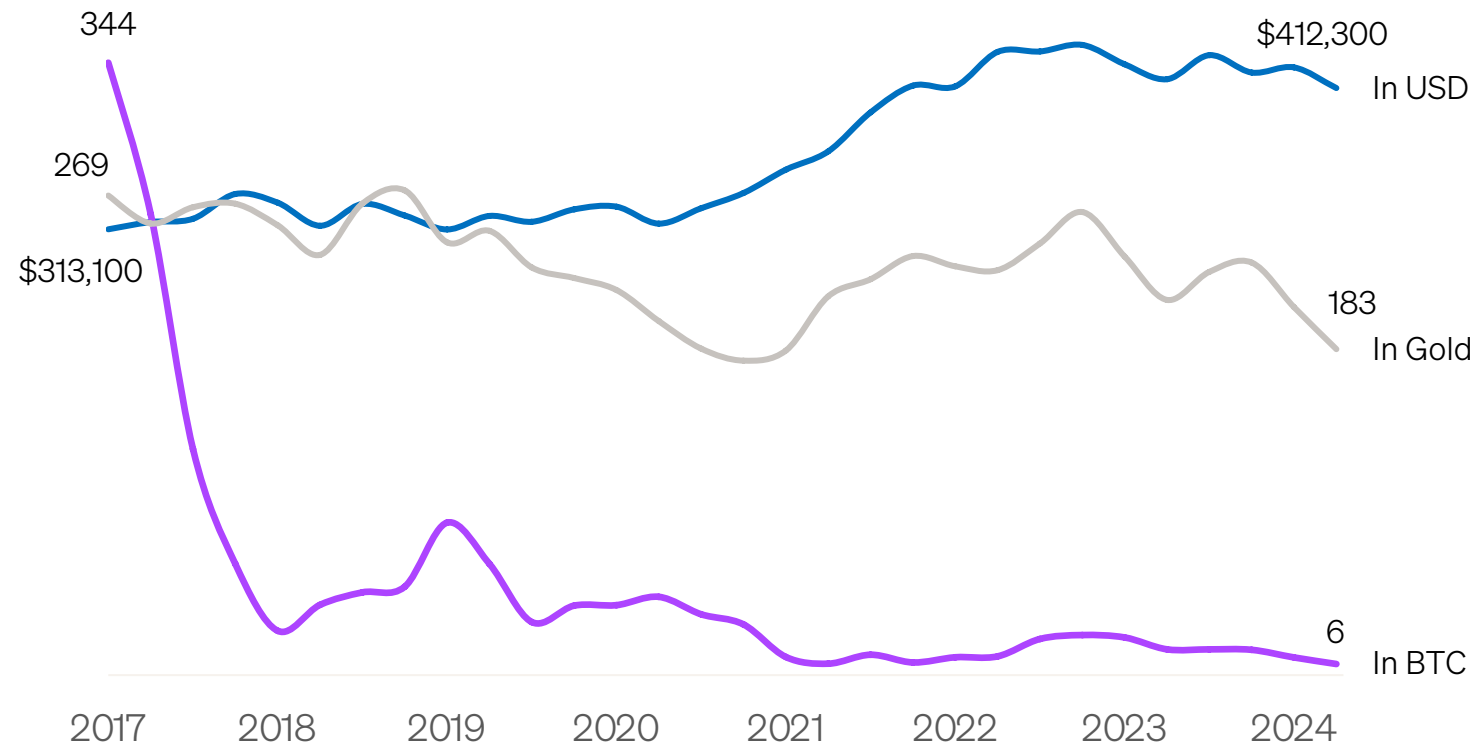
Bitcoin's 24/7 global trading and small market size historically created volatile cycles driven by retail sentiment.

Price of Bitcoin, US Dollars, 2017 to 2024

First major bull run

Reduced public attention

Second bull run

FTX crash, followed by bear market

Post-ETF launch era

$98,380

$60,836

$15,676

$3,674

$16,946

2017 2018 2019 2020 2021 2022 2023 2024
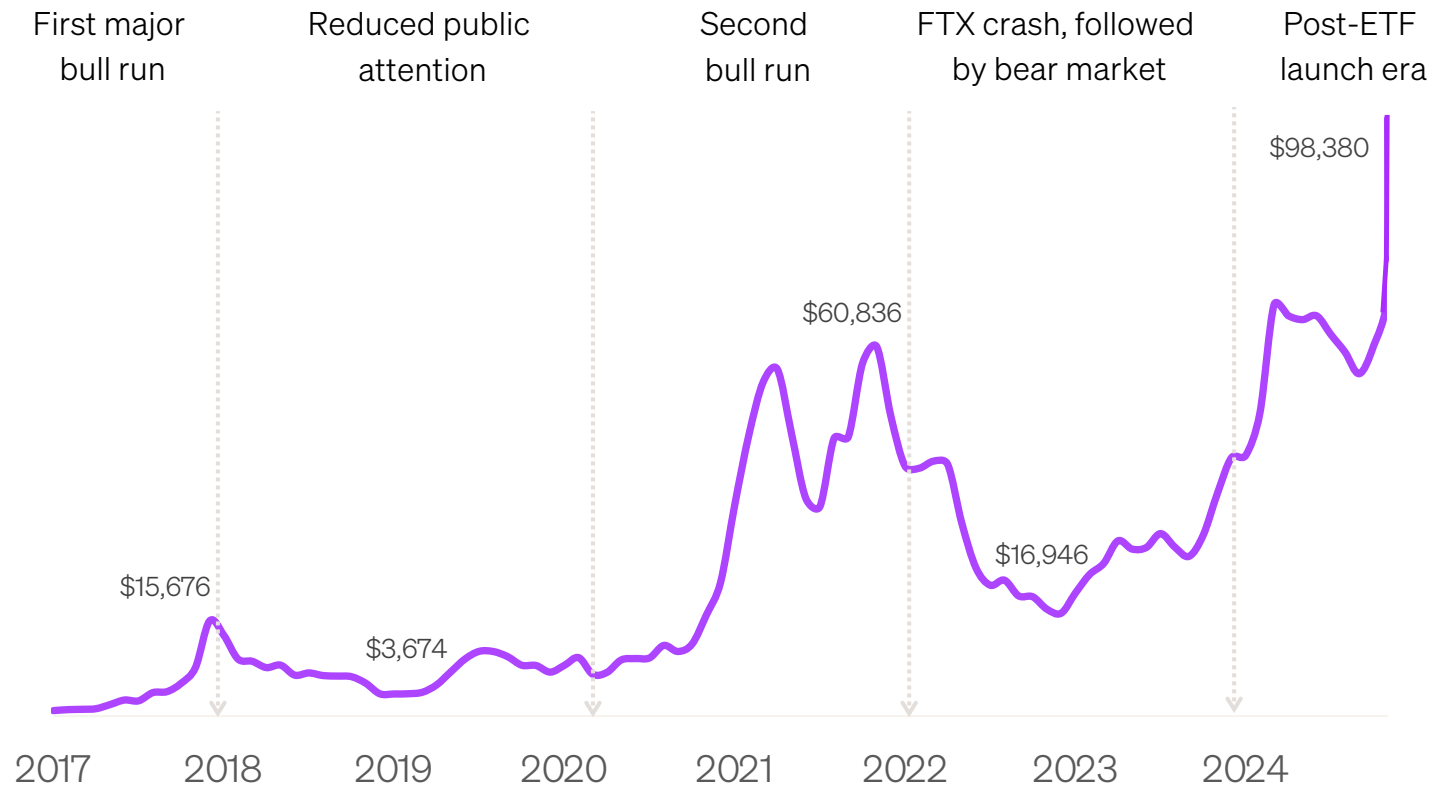
Today, Bitcoin has achieved institutional and retail traction as the first cryptocurrency with true product-market fit.

El Salvador begins buying Bitcoin for their national treasury

$98,380

Tesla buys Bitcoin

Square and Microstrategy buy Bitcoin

KPMG and Tether buy Bitcoin

ETFs launch and Institutions begin buying Bitcoin

2017   2018   2019   2020   2021   2022   2023   2024

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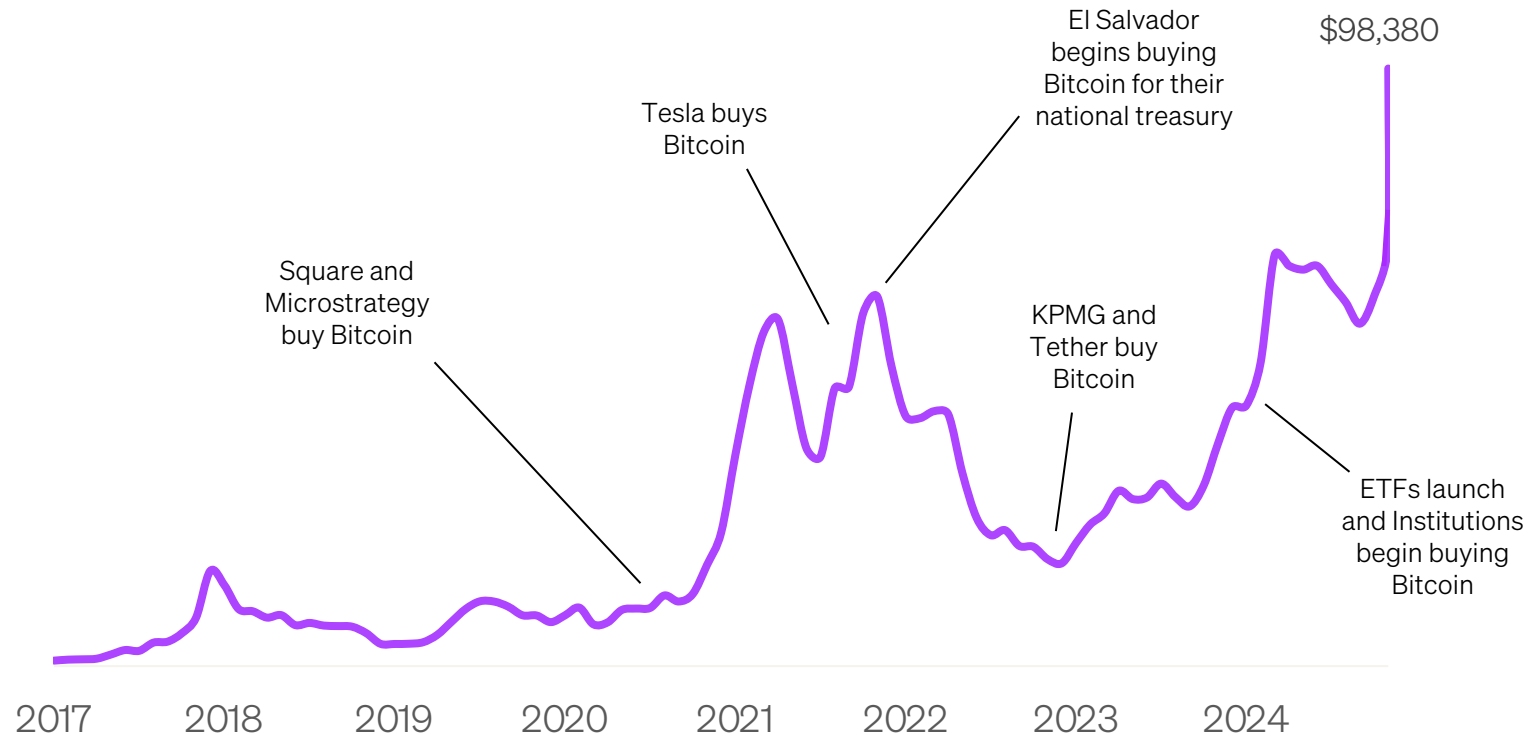
While Bitcoin's price has historically been correlated with traditional markets, its long-term appreciation suggests it could become a distinct asset class.

Price of Bitcoin and NASDAQ Index Value, US Dollars, 2017 to 2024

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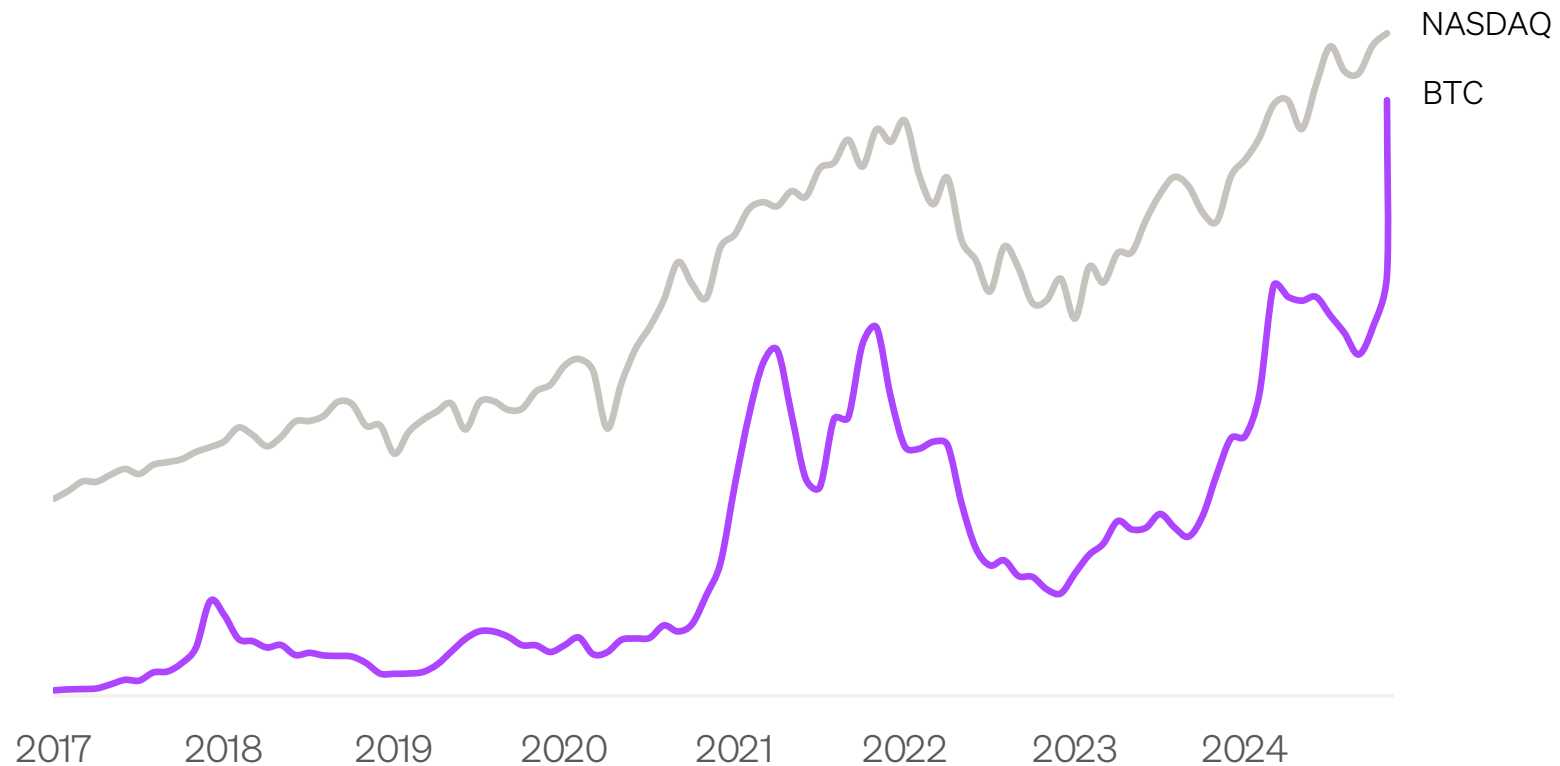
Bitcoin also demonstrates the pathway for how new digital assets can gain legitimacy in society.

Adoption
increases

1

Value
increases

2

More attention on
traditional and social media

3

Institutional
interest increases

4

Regulatory clarity
increases legitimacy

5
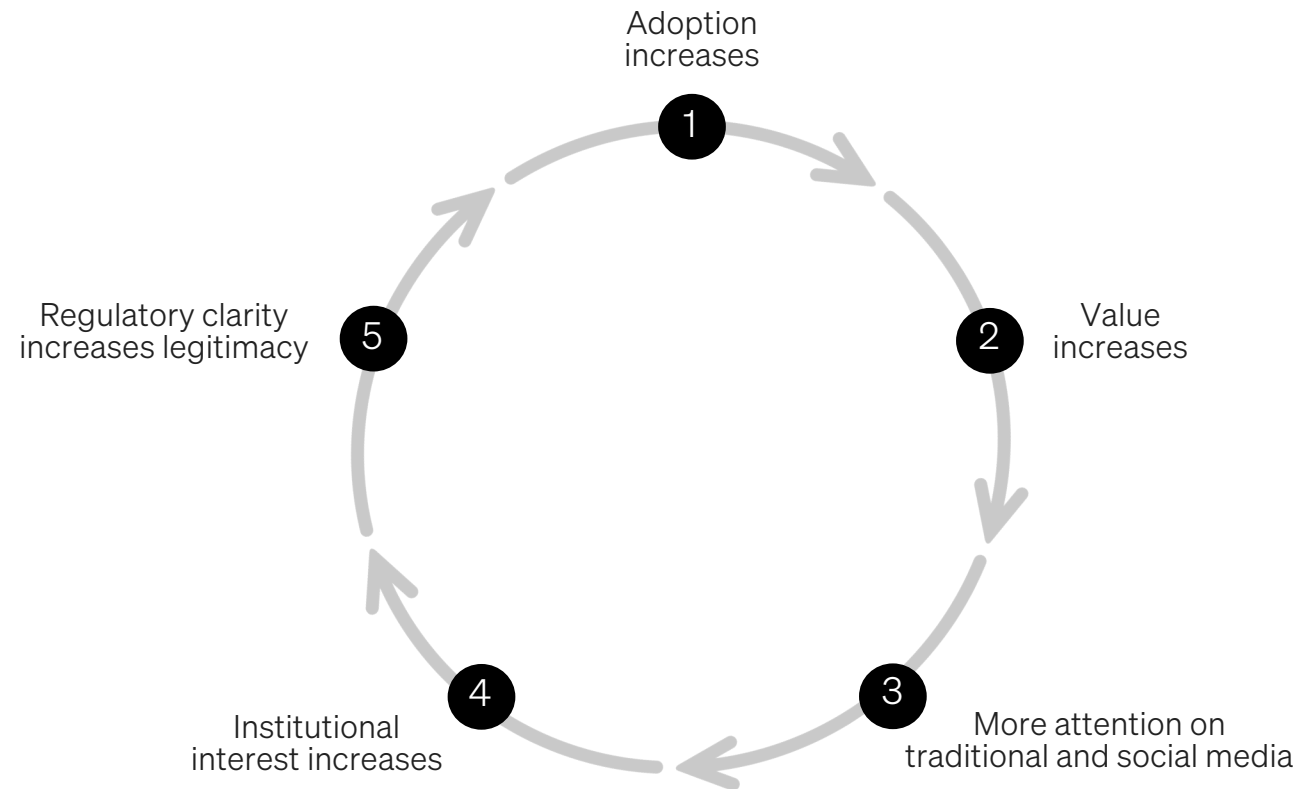
And beyond its investment implications, Bitcoin's broader impact has been cultural.

jack ✓
@jack

#Bitcoin will unite a deeply divided country.

(and eventually: world)

5:07 PM · Aug 9, 2021

Donald J. Trump ✓
@realDonaldTrump

I would like to wish our great Bitcoiners a Happy 16th Anniversary of Satoshi's White Paper. We will end Kamala's war on crypto, & Bitcoin will be MADE IN THE USA! VOTE TRUMP! #Bitcoin #FreeRossDayOne

12:01 PM · Oct 31, 2024 · **27.3M** Views

Michael Saylor ⚡ ✓
@saylor

We have a #Bitcoin President.

LaDoger

5:37 AM · Nov 6, 2024 · **2.8M** Views

However, Bitcoin's limited capacity due to infrequent blocks hinders its adoption as a daily currency.

Previous Block		Current Block		Next Block
Processed Transactions	~ 10 minutes	Processing Transactions	~ 10 minutes	

Block 0
Block N - 1
Block N
Block N + 1

Block 0
Block N - 1
Block N
Block N + 1

Transactions that require 10 minutes to process are not useful for everyday payments.
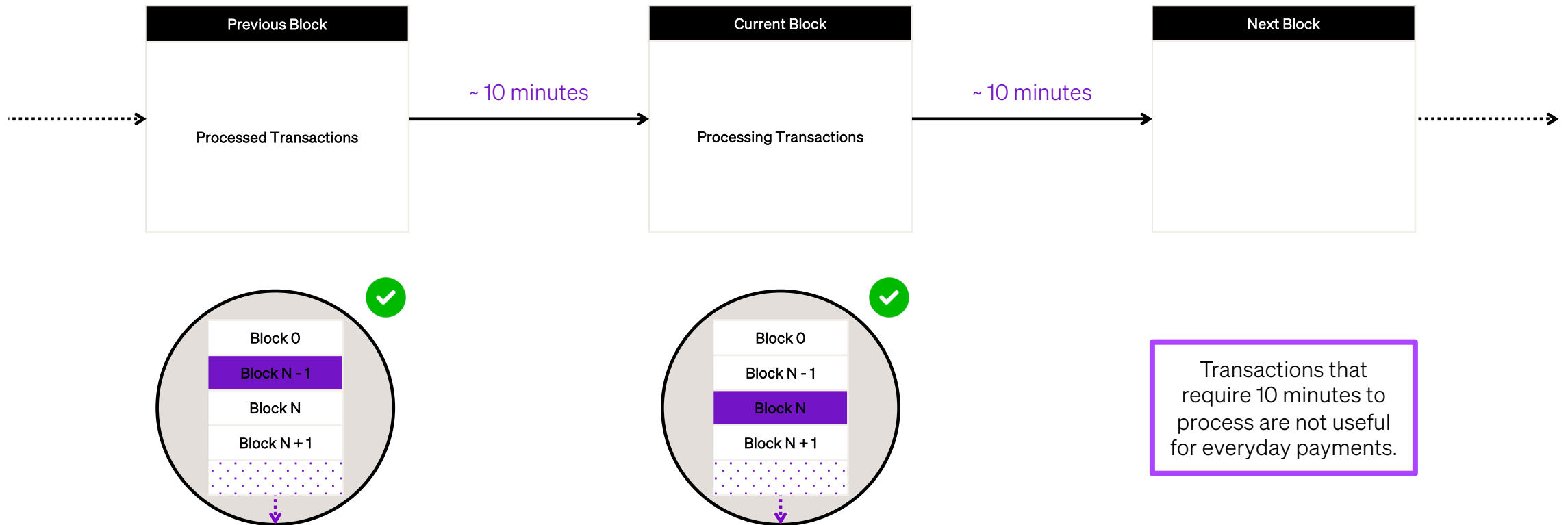
And over time, Bitcoin has settled into its role as a new way to securely store and transfer value.

Trust	Portability	Scarcity	Divisibility	Durability
No central authority, code enforces the rules.	Self custody your Bitcoin using your crypto wallet.	Maximum of 21 million coins, fixed supply that can never change.	Bitcoin's minimum transaction amount is 0.00000546 BTC	Strong security makes it very difficult to attack.
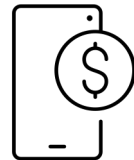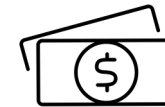
Bitcoin ownership is a balance on a decentralized system of record, controlled by your crypto wallet and free from traditional borders and restrictions.

The success of Bitcoin as a simple ownership system of record led developers to explore more programmable decentralized networks with more use cases.

Ethereum and Bitcoin Average Monthly Unique Transactions, 2014 to 2024

242M — Ethereum
16M — Bitcoin
45M
33.5M
6.7M
1.3M

2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024
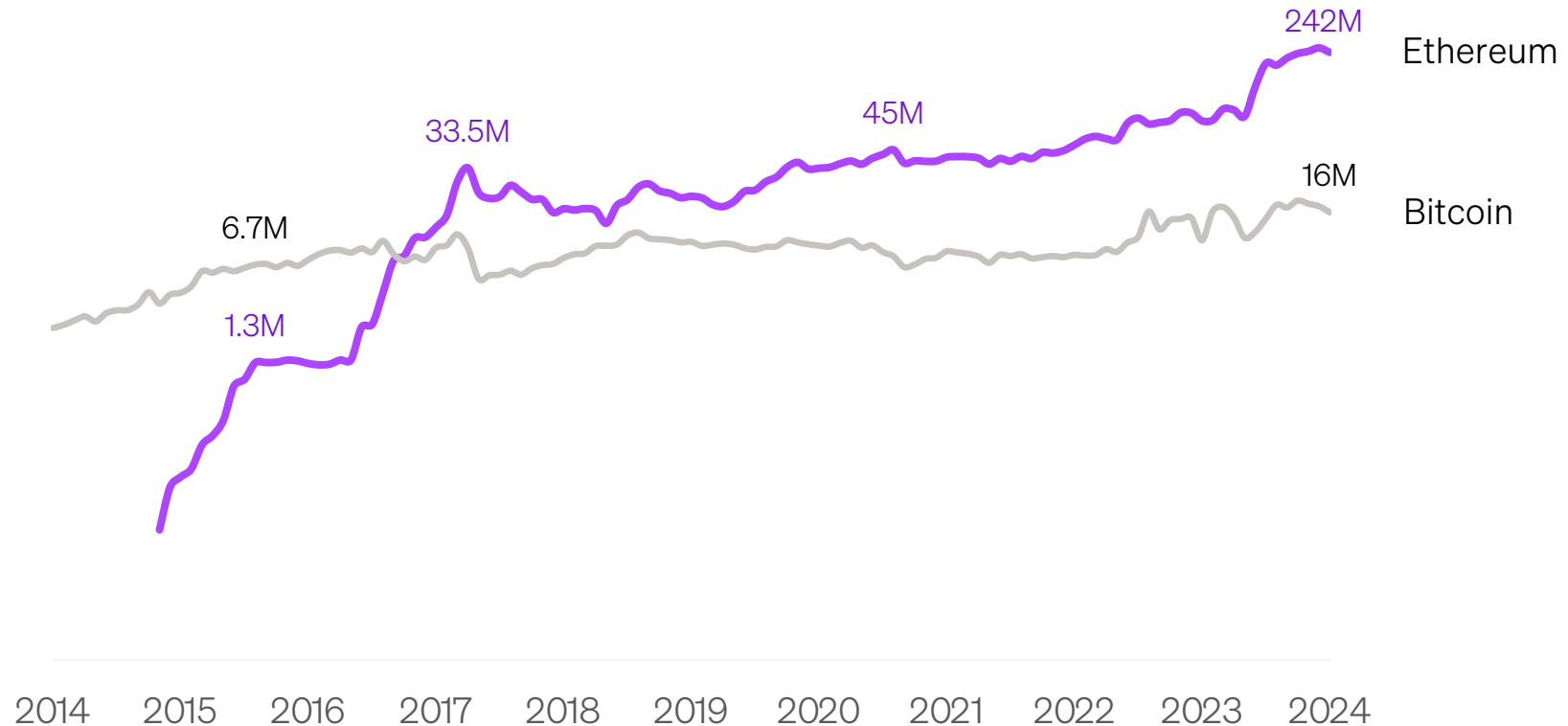
Phase 2

Ethereum

2017 – Present

While Bitcoin focused on being a single digital currency, Ethereum built a computing platform where developers could program any digital asset or agreement.

Contracts written in code are embedded in transactions.

Deploys

Developer/User

Programmable Assets

The Ethereum network not only stores balances in records but can also store and run snippets of code.
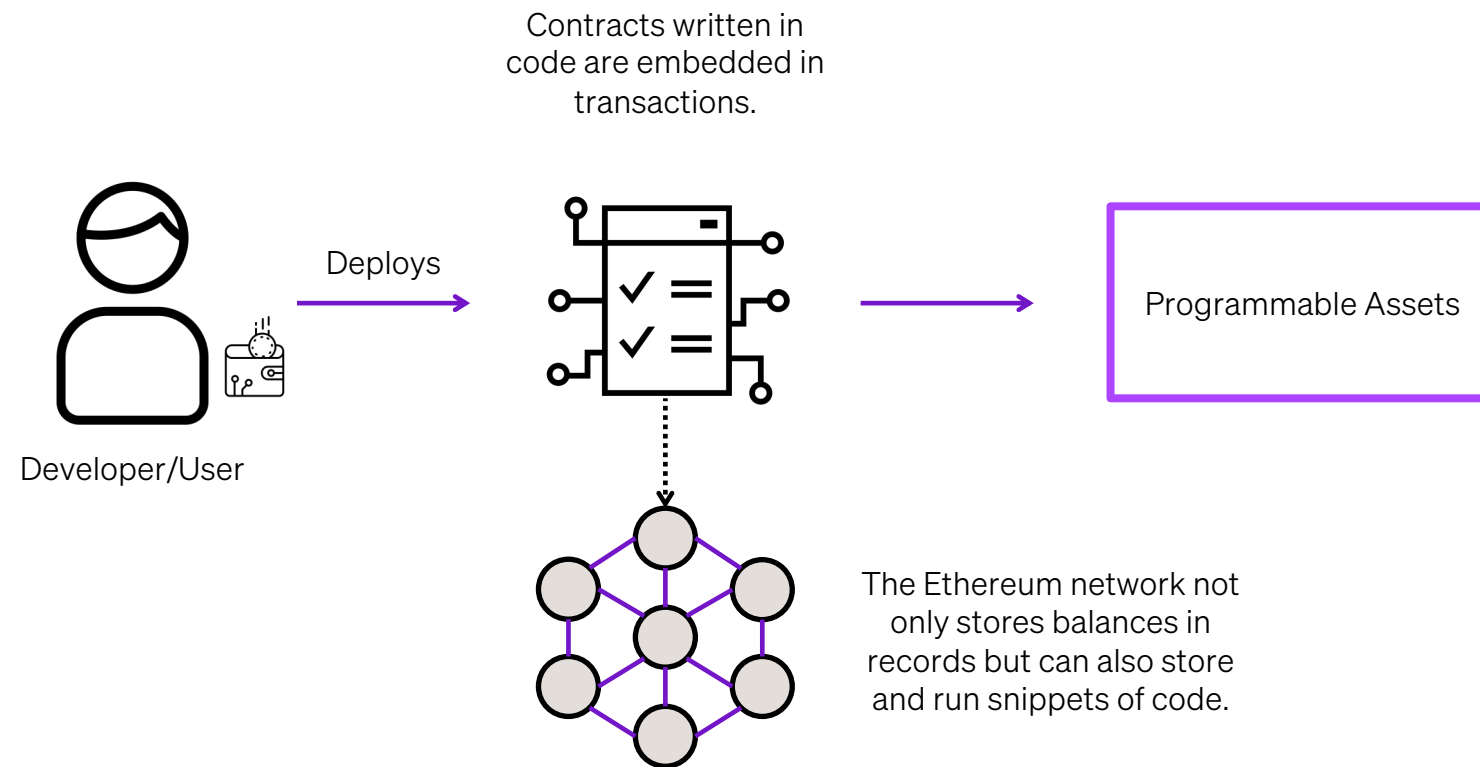
How does Ethereum work?

Like Bitcoin, it operates as a digital record-keeping system maintained
by a decentralized network of computers, rather than by centralized authorities.

Ethereum Network of Nodes/Validators
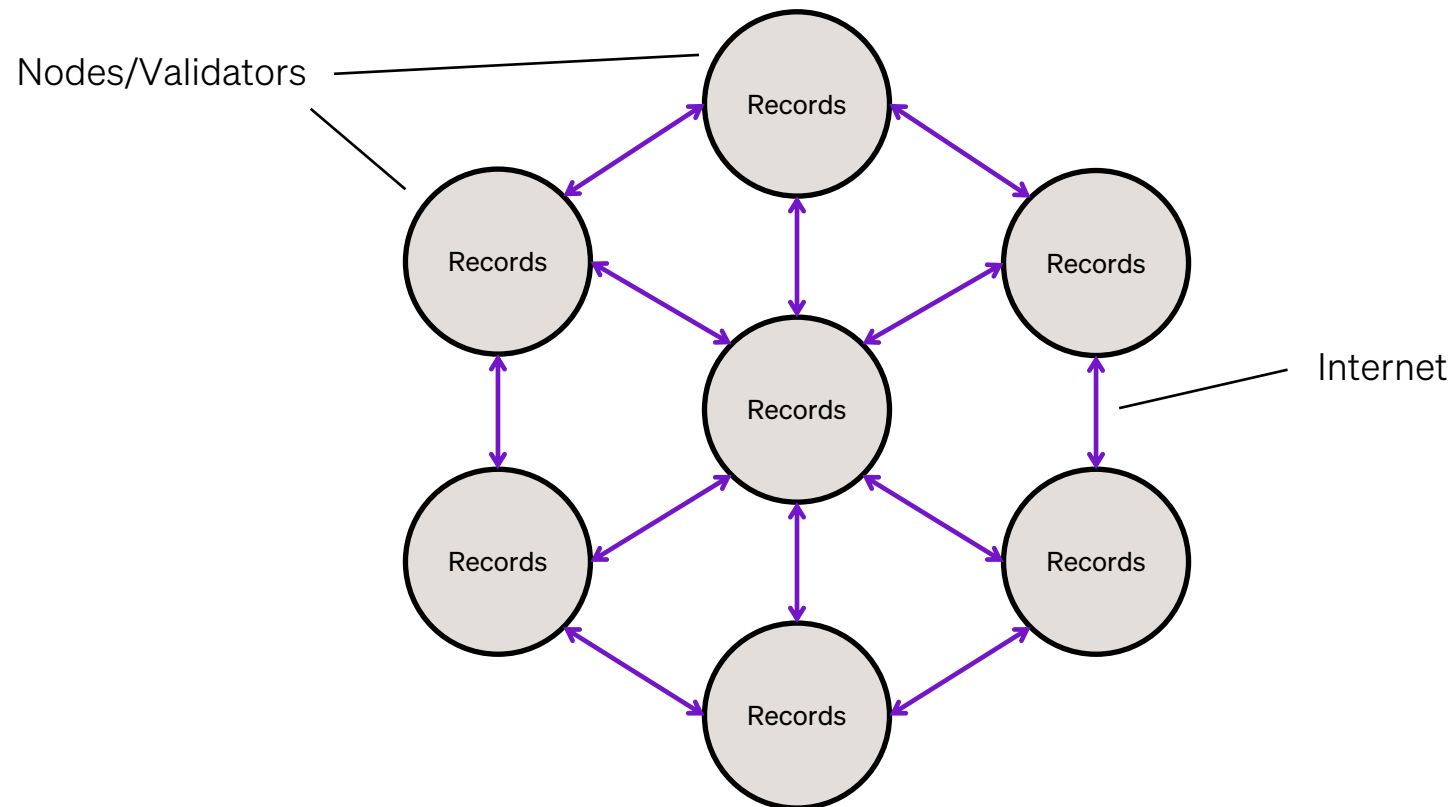
But unlike Bitcoin which only tracks bitcoin transfers, Ethereum enables programmability through snippets of code called smart contracts.

Block N
Block 0
Block 1
Block 2
Block N

Block N
Transaction A
Transaction B
Transaction C

Transaction B
Update Records
Code Execution Instructions

A node runs software that enforces the rules AND executes smart contract code.

A block contains batch of transactions.

A transaction contains a record updates AND code execution instructions.
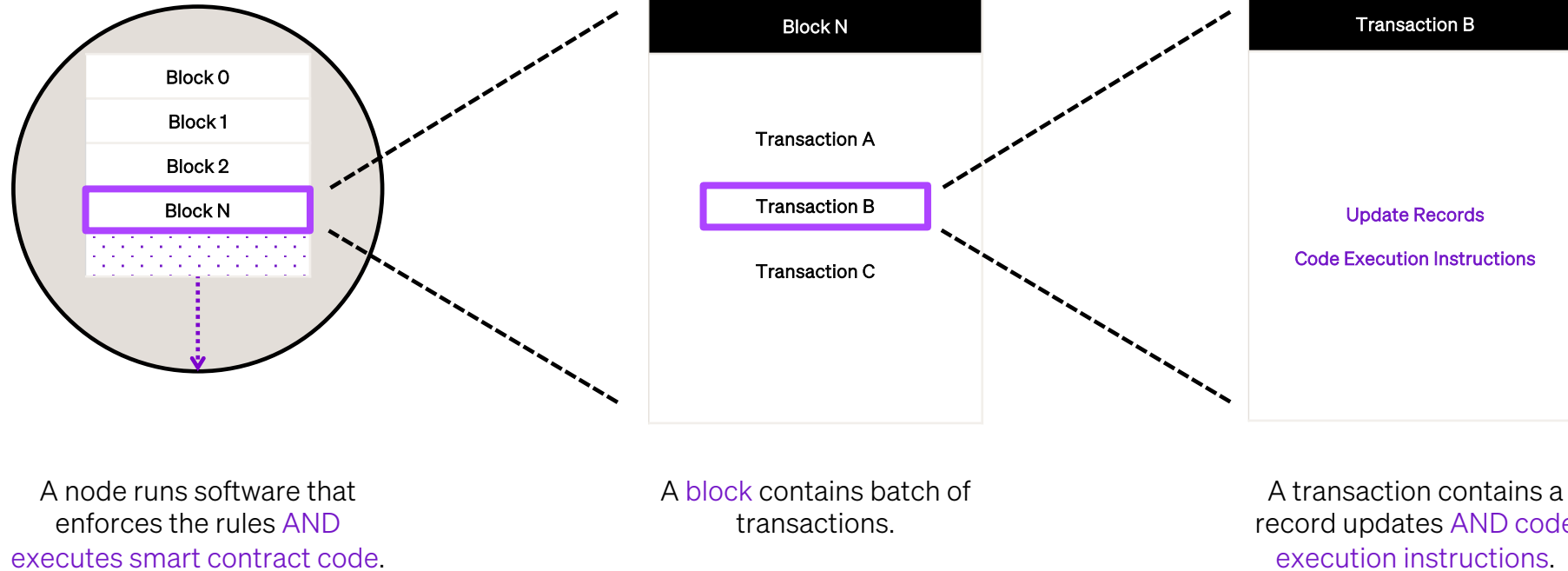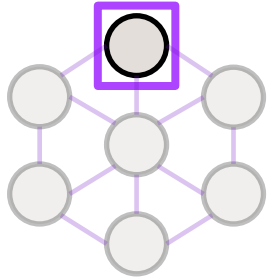
Smart contracts both define the digital assets and provide
the logic to execute complex operations based on predefined rules.

**Programmable
Money**
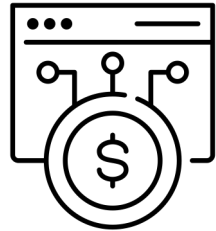
Configured to execute
financial rules on movement
based on coded conditions.

**Programmable
Contracts**
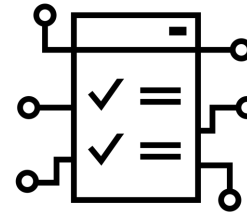
Automatically enforce agreement
terms, managing escrow and
access based on coded conditions.

The result is a programmable platform where developers can build digital applications powered by smart contracts that do not need human intermediaries.

1

Deposits digital collectible
to sell with a set price

User A

Smart Contract
Powered Application

1. Receives assets
2. Matches conditions
3. Distribute assets

User A and B never
directly interact

2

Wants to buy the collectible and
deposits amount matching set price

User B
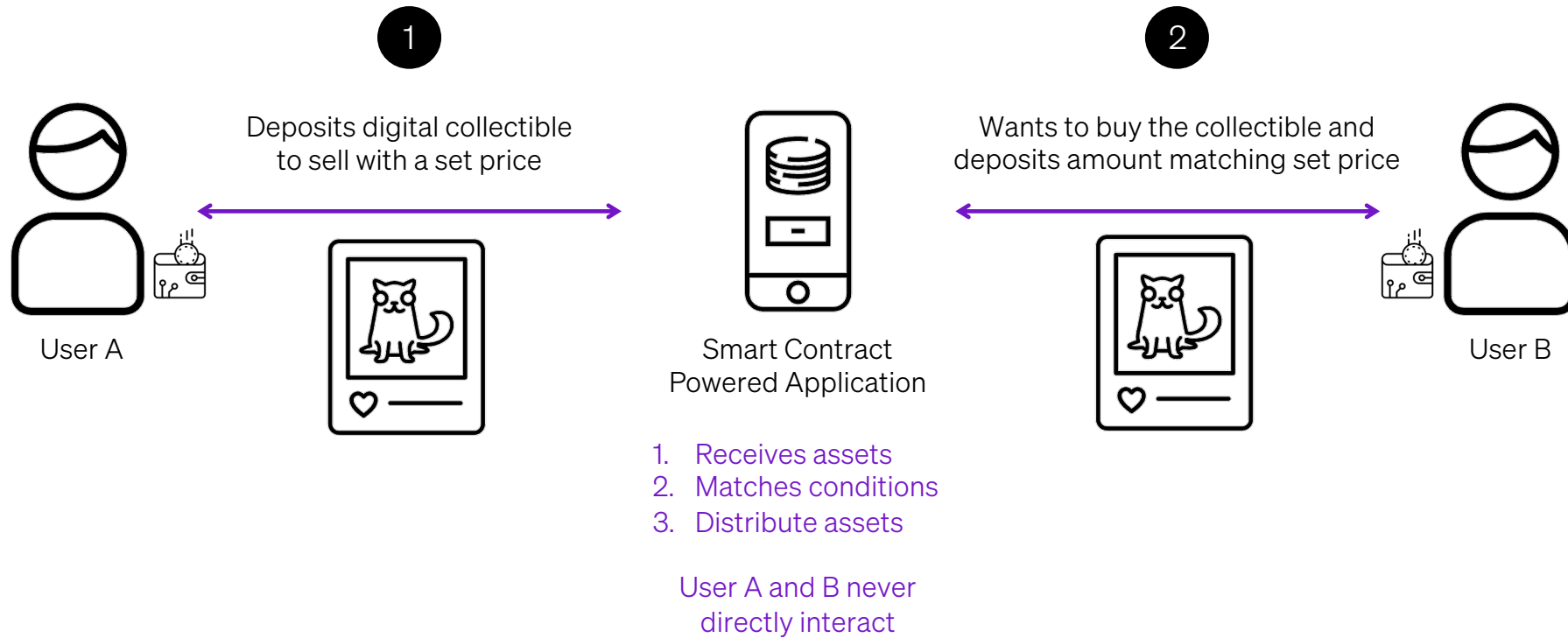
And users pay the network a "gas fee", denominated in ETH, for computational resources required to deploy or use these digital applications.

Developers deploying a smart contract to power the application

Pay transaction fee

Users interacting with the application

Pay transaction fee
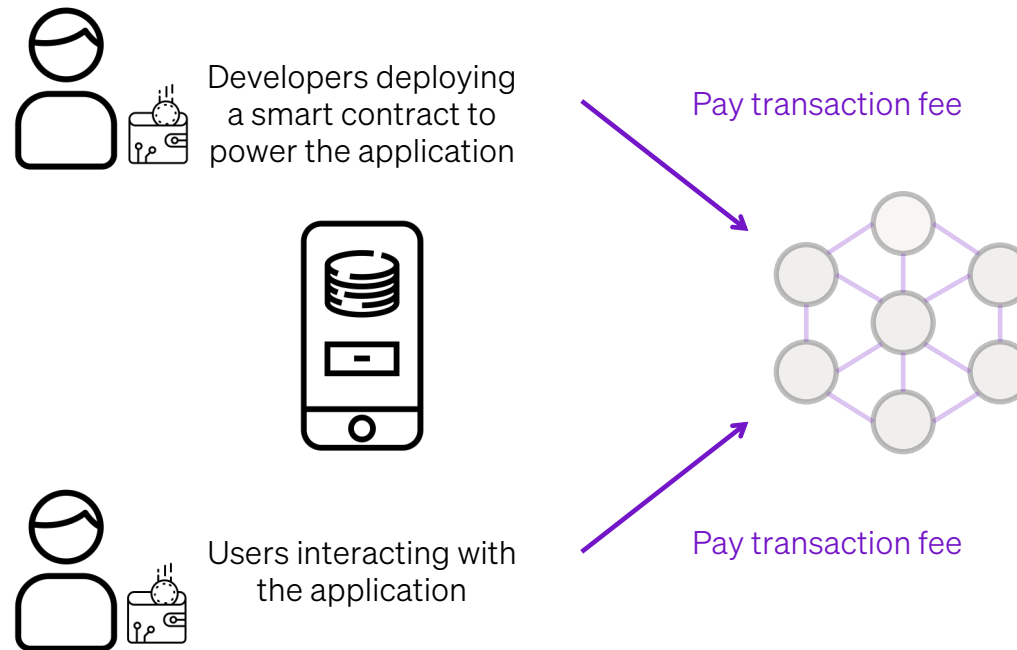
This network of validators processes transactions and creates new blocks, selected based on staked ETH that users have deposited, receiving rewards in return.

Rewards are distributed to stakers pro rata, allowing them to earn an average of 3% yield on their staked ETH.

Receive Validator Reward

User A executes a new transaction.

Validators receive the transaction and place it in queue.

Validators compete for the right to create a new block based on how much ETH they have staked - the more staked capital, the higher their chance.

Transaction added to the latest block and propagated to all other validators for validation.

Transaction processed and records updated.

What happened when people started building on this programmable network?

Enabling developers to create any kind of digital application on a decentralized network led to a wave of experimentation.

DeFi

Memecoins

DePIN

Collectibles

Chat Apps

DAOs

Gambling

Stablecoins

Games

Social
Networks

Insurance
Contracts

Payments

Prediction
Markets

NFTs

Supply
Chain

RWAs

← High product
market fit

Low product →
market fit
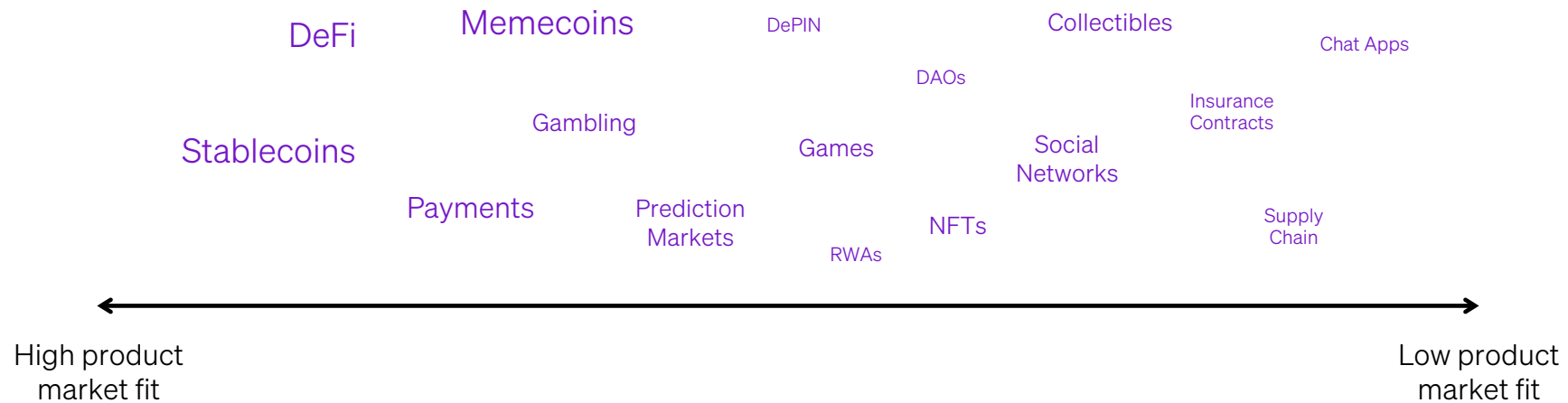
As the first breakthrough application of these programmable assets, automatic cryptocurrency sales created a new way to raise money online without intermediaries.

Timeline of Initial Coin Offerings (ICOs), 2014 to 2018

The Ethereum ICO only accepted BTC as an investment currency.

Most ICOs accepted investments in the form of ETH or BTC, in return they distributed their own cryptocurrency to investors.

The ICO hype during this period created a bubble that eventually burst as thousands of projects launched and many failed to deliver value back to their investors.

Tezos

EOS

Ethereum

Waves

Polkadot   Filecoin   Cardano

$18.3M raised

$16M raised

$4.7B+ raised

2015   2016   2017   2018

The market validated this innovation during 2020-2021, when these applications attracted hundreds of billions in user deposits.

Total Value Locked in Ethereum Smart Contracts, 2019 to 2021

$106B

$1B

2019   2020   2021   2022   2023   2024
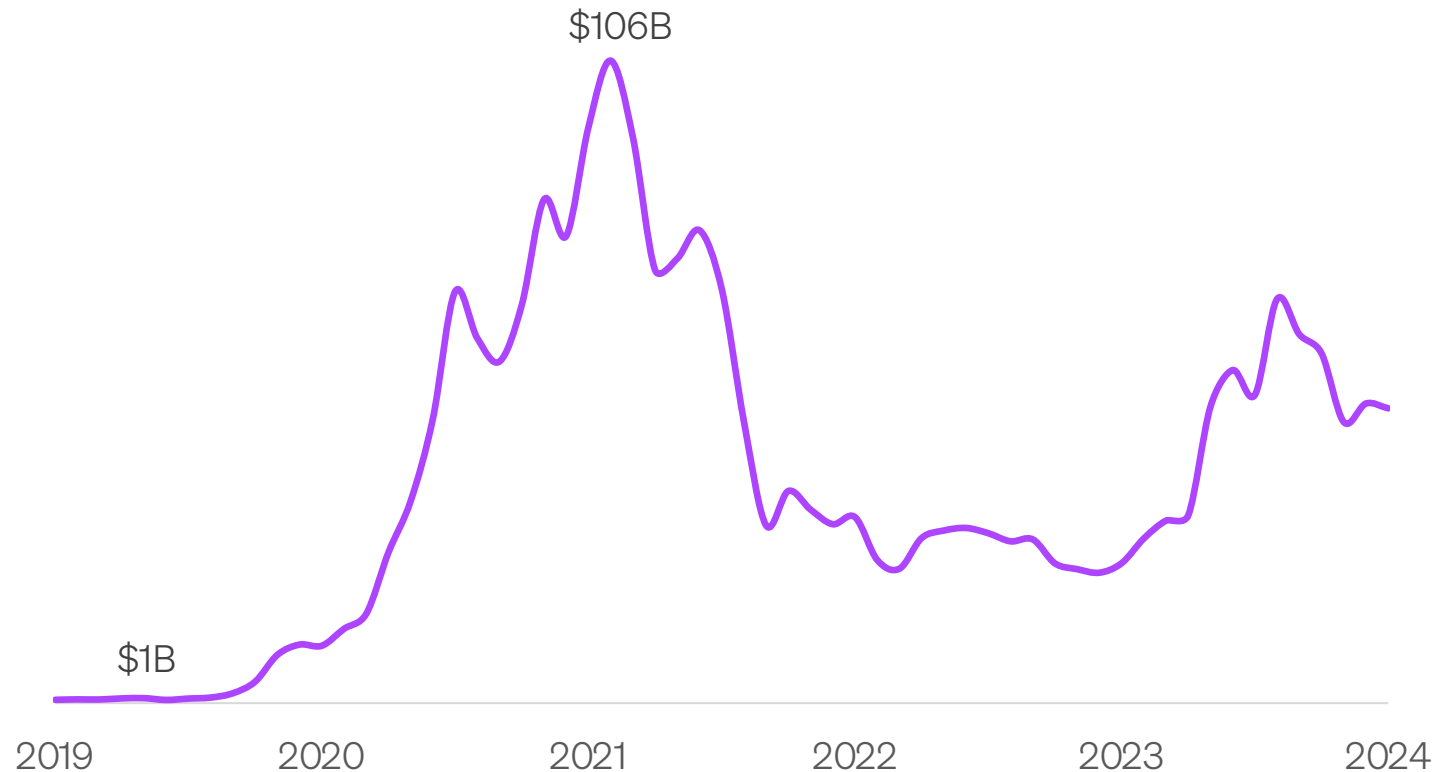
Increased usage revealed Ethereum's scalability limits, where congestion drove fees up so much that transactions became impractical for most users.

Average Transaction Fee on Ethereum, 2019 to 2024

$47

This became a pain point, as it is impractical to pay 40$ fees to send 10$ of value.

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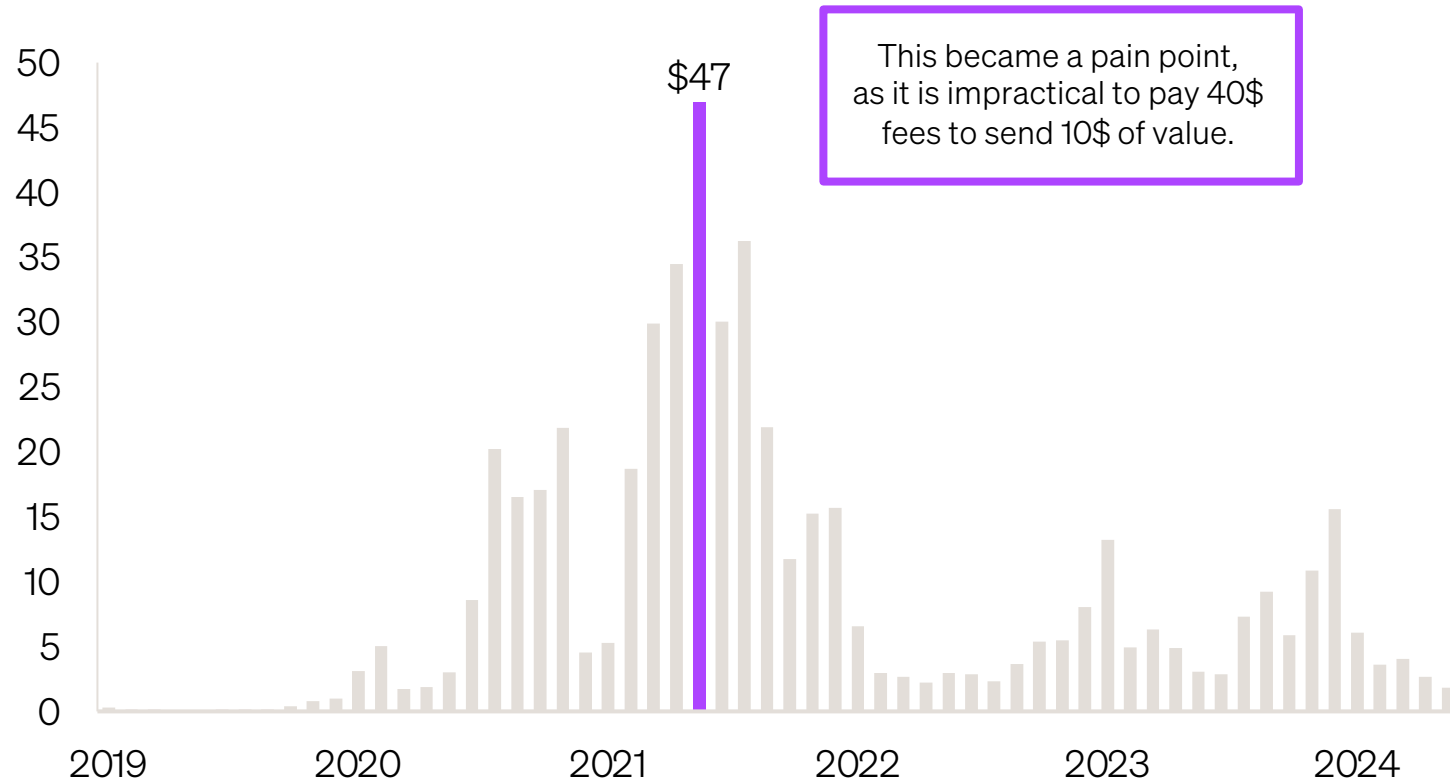
To address these challenges, developers created new networks that bundle multiple transactions together to reduce network costs for users.

Rollup (L2) Network

Receive Validator Reward

User A executes a new transaction.

Transactions are bundled together, processed on a rollup (L2) layer, then settled on Ethereum as a single transaction.

Validators receive the transaction and place it in queue.

Validators compete for the right to create a new block based on how much ETH they have staked—the more they stake, the higher their chance.

Transaction added to the latest block and propagated to all other validators for validation.

Transaction processed.

However, this led to a fragmented Ethereum ecosystem made up of many smaller networks, each built differently to address specific issues.

Users

Applications

Arbitrum (L2)

Base (L2)

Ethereum (L1)

Zora (L2)
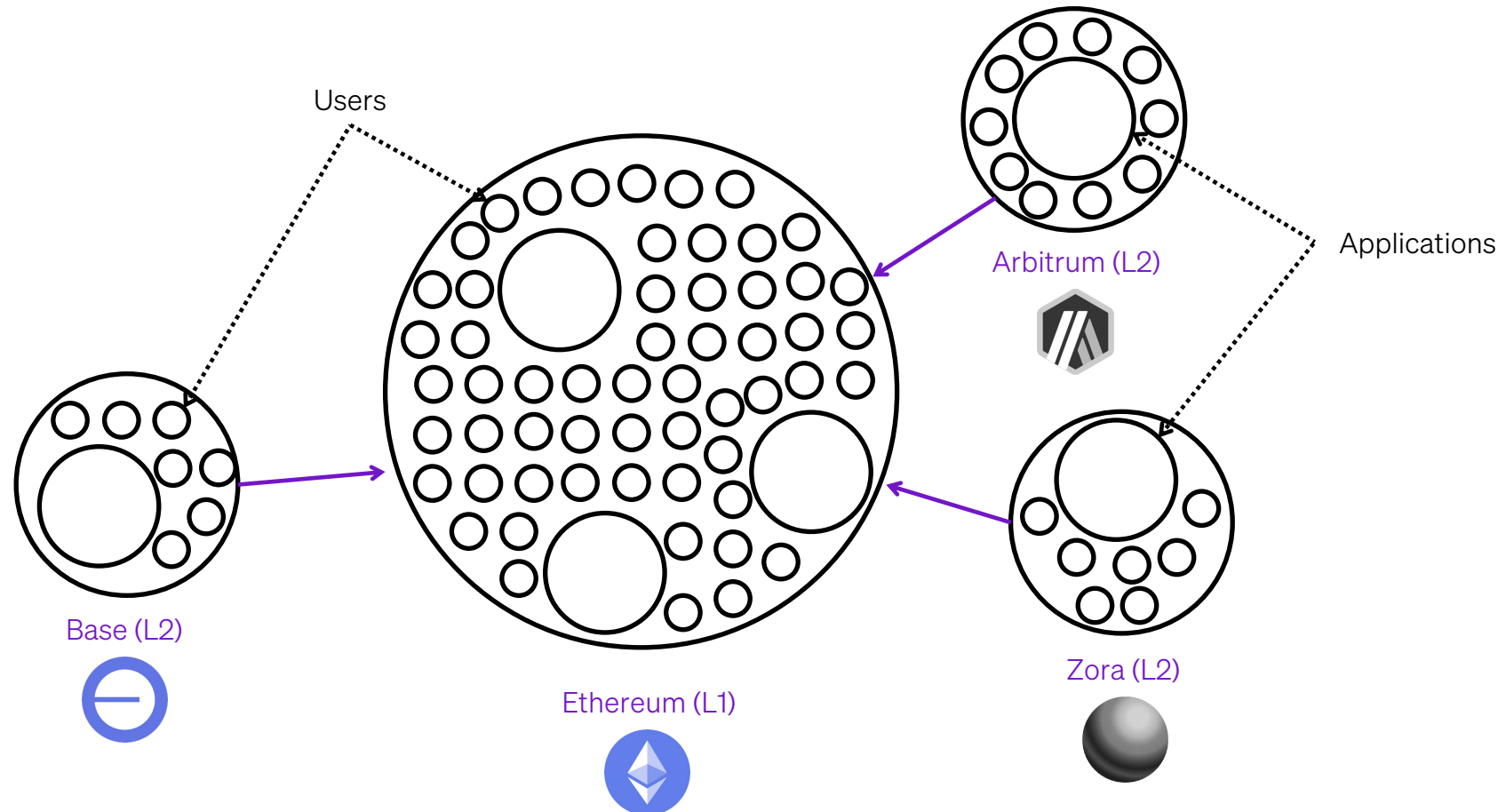
Developed within Coinbase, Base stands out among these rollup networks by making Ethereum substantially more accessible.

Base and Ethereum Average Monthly Transactions, Millions, 2021 to 2024

Base (L2)
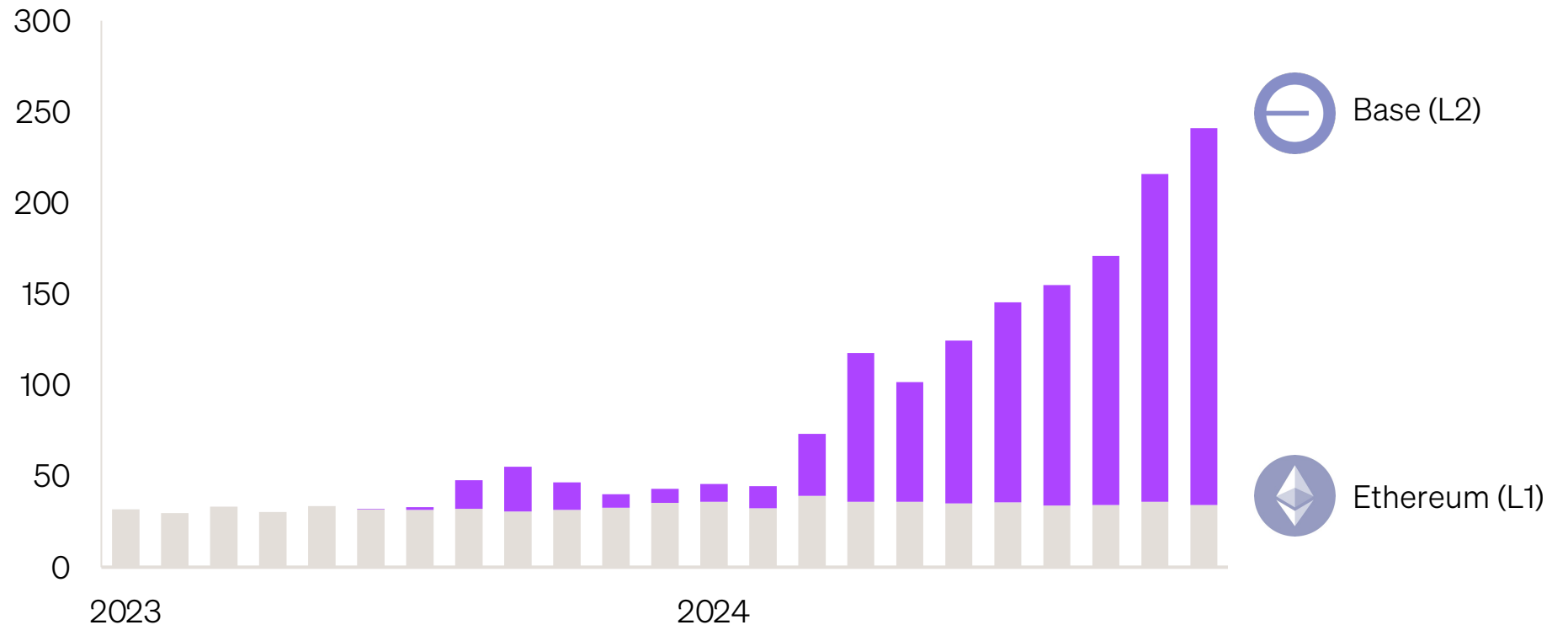
Ethereum (L1)

Ethereum's most valuable feature remains its unmatched security and reliability, strengthened through years of securing billions of dollars in value.

Ethereum L1 and Solana P2P Transfer Volume, 2019 to 2024

While more users prefer to use Solana or rollup networks built on Ethereum for everyday transactions, data suggests that users moving large amounts of value prefer Ethereum itself for its hardiness.

$492B — Ethereum (L1)

$51B — Solana

2019   2020   2021   2022   2023   2024
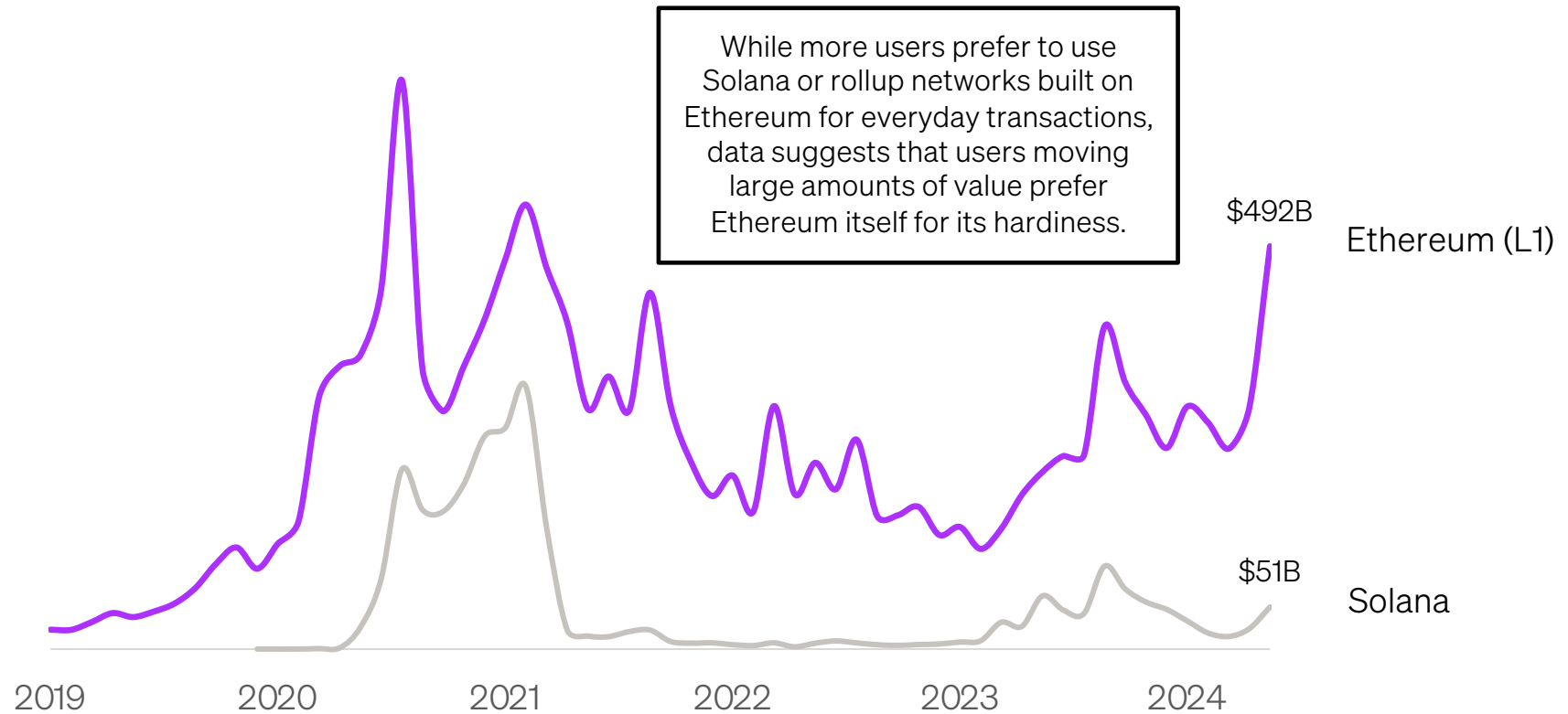
While Ethereum optimized for security and decentralization, new networks like Solana optimized for speed through innovative design choices.
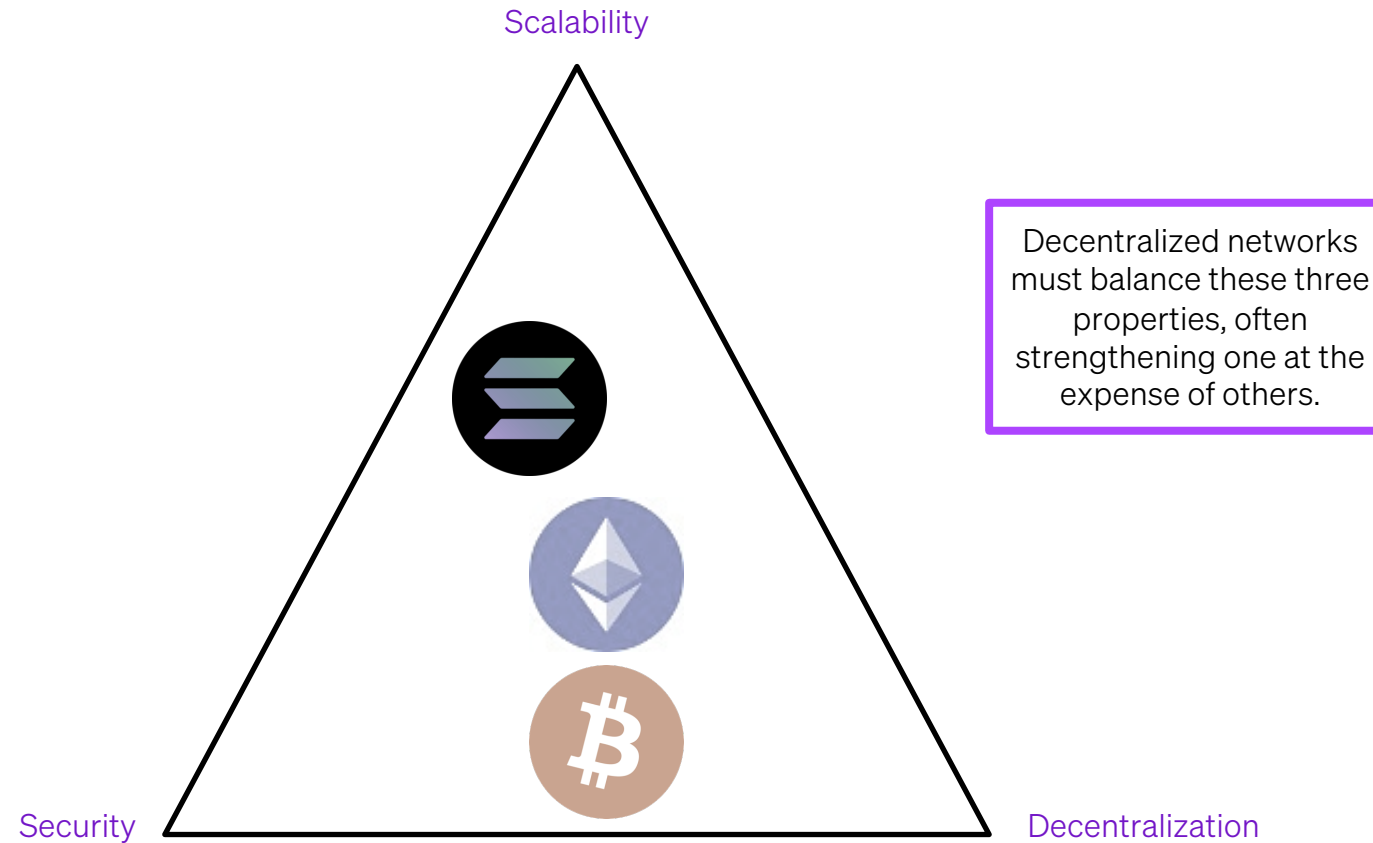
Phase 2

Solana

2017 – Present

Following Bitcoin's digital currency and Ethereum's programmable platform, Solana emerged as a network focused on high speed and low cost.

Bitcoin

Current Block
~ 2000 to 4000 transactions
~ 1$ to 5$ transaction cost

~ 10 minutes →

Next Block

Ethereum L1

~ 100 to 200 transactions
~ 2$ to 50$ transaction cost

~ 12 seconds →

Solana

~ 2000 to 3000 transactions
~ 0.002$ to 0.05$ transaction cost

~ 400 milliseconds →
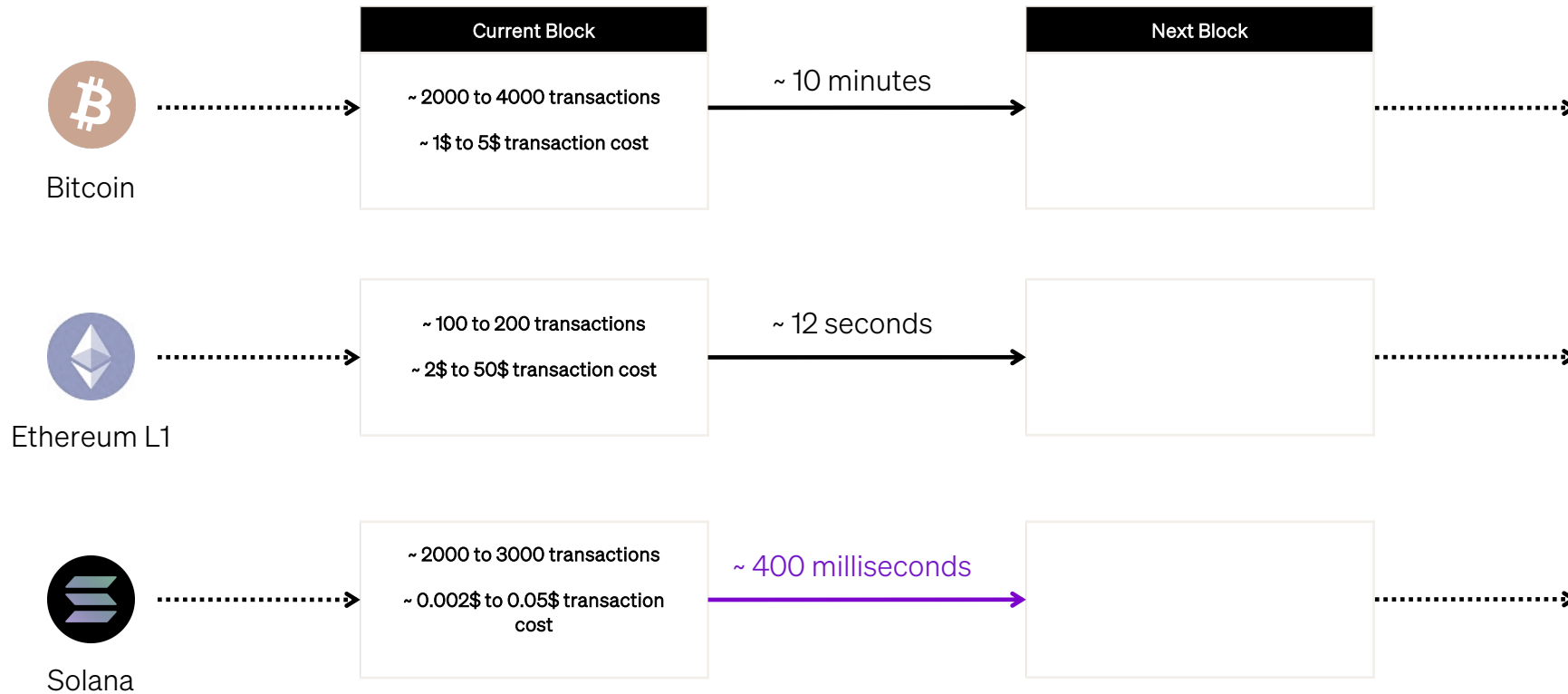
How is Solana different from Ethereum?

Solana's architecture is designed for parallel processing of transactions as opposed to sequential processing, increasing the network's transaction throughput.

Sequential Processing of Transactions

Block 1

1 → 2 → 3 → 4

Block 2

5 → 6 → 7 → 8

Transactions in each block are processed one by one.

Parallel Processing of Transactions

{ 1 2 3 4 } → { 6 7 8 9 }

Block 1   Block 2

Transactions in each block are processed at the same time
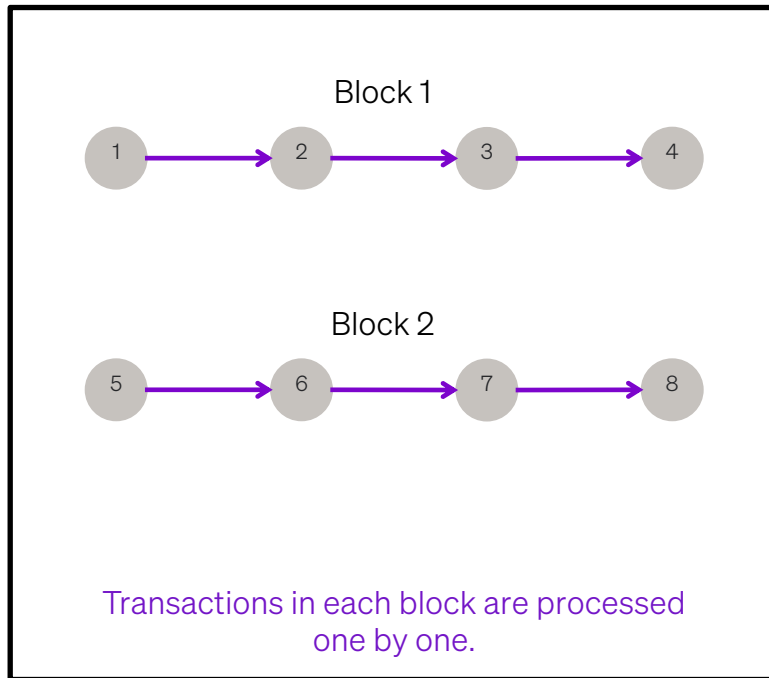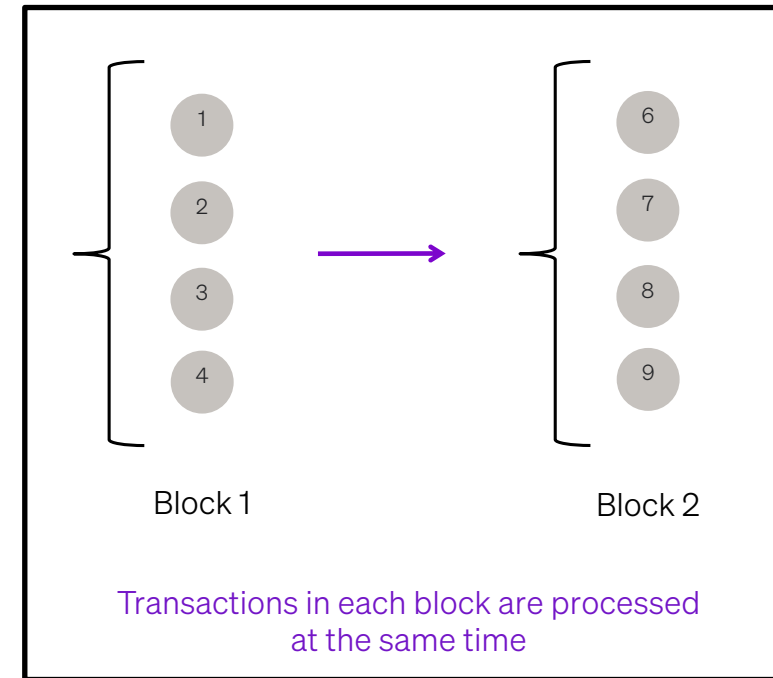
And the single-network design of Solana simplifies the user experience, as new users can simply access all applications through one unified network.

Users on Ethereum

Create a crypto wallet and load it with ETH.

User must frequently move ETH between rollups to access different applications, which complicates the user experience and dilutes the network effects.

Application

Users on Solana

Create a crypto wallet and load it with SOL.
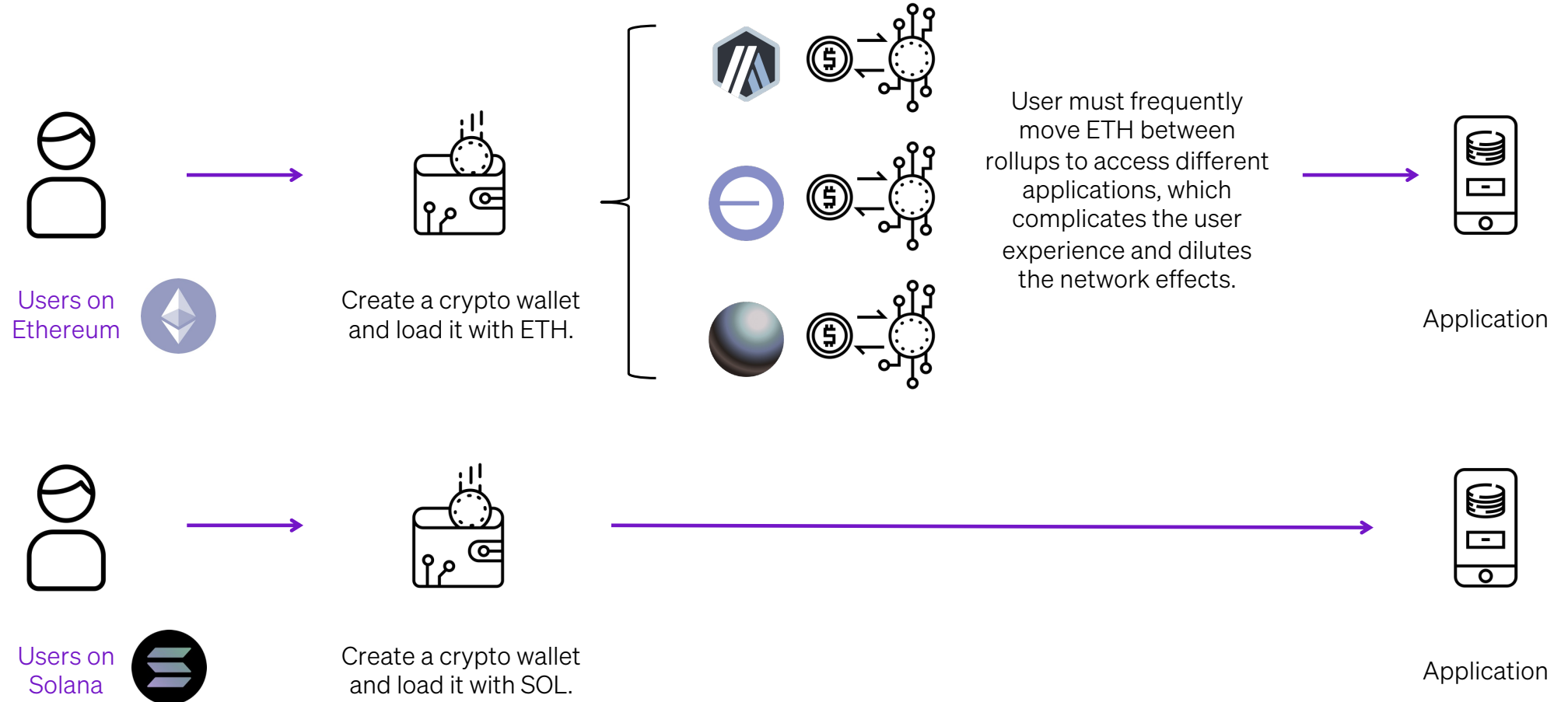
Application

Like Ethereum, Solana relies on validators to maintain the network, but its high-performance design demands expensive hardware that reduces network decentralization.

Scalability

Hardware costs per validator
~ 2500$

Hardware costs per validator
~ 900$

Hardware costs per node
~ 500$

Security
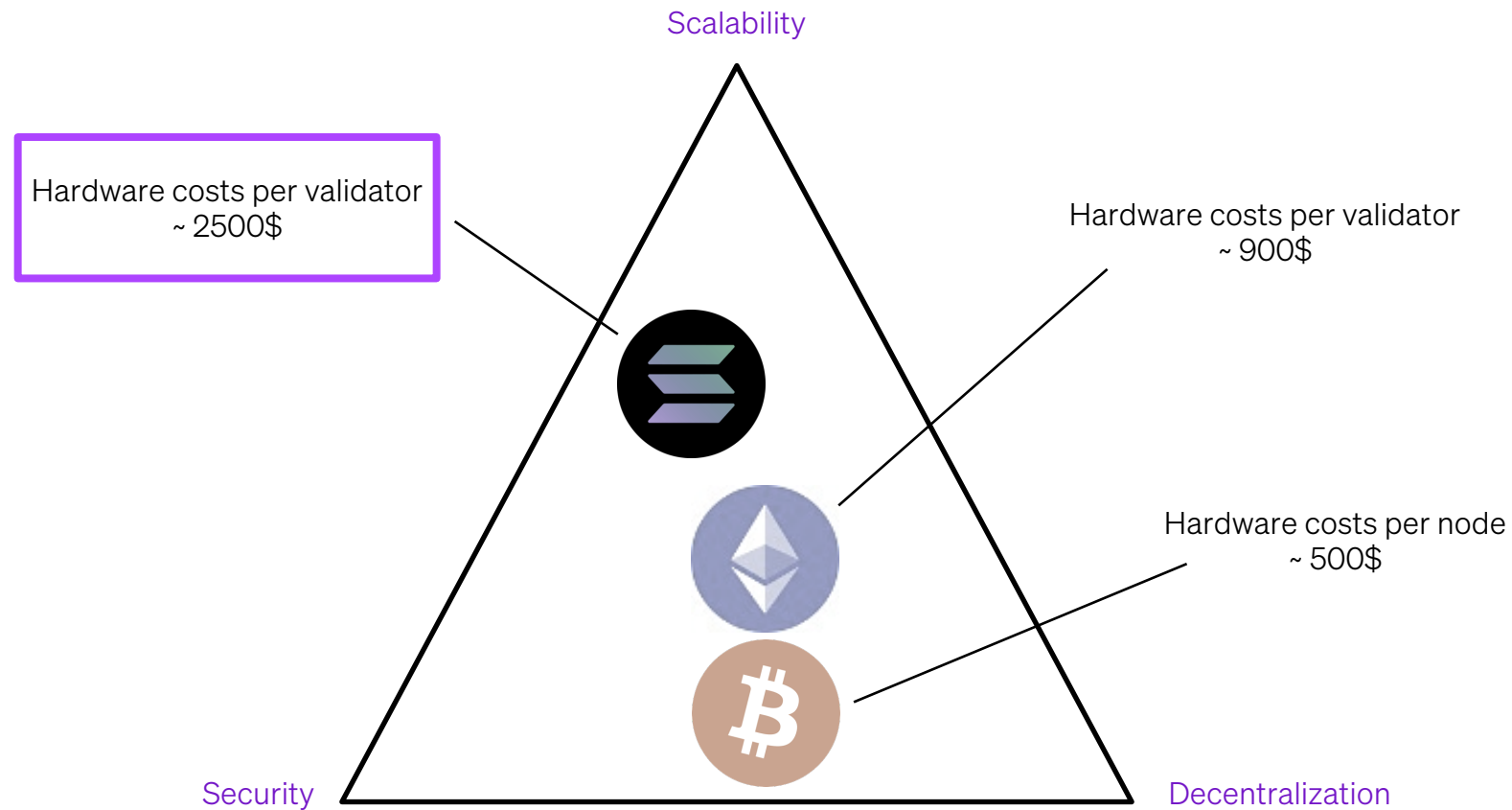
Decentralization

What are the implications of a faster,
low-cost network that is also less decentralized?

Solana processes billions in monthly trading volume by combining high throughput, low latency, and concentrated liquidity on a single chain.

High Throughput
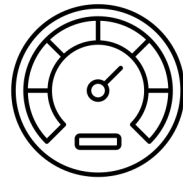
Low Latency

Concentrated Liquidity
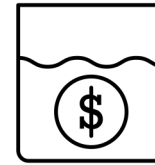
Traders can instantly find and execute trades at accurate market prices because transactions settle quickly and trading activity is sufficiently concentrated in one place.

This allows Solana to match and eventually exceed traditional
financial systems in speed, processing thousands of transactions per second.

	Real Time Transactions Per Second	Max Theoretical Transactions Per Second	Type
Visa	N/A	65,000 tx/s	Traditional
Ethereum	~ 17 tx/s	120 tx/s	Decentralized Network
Arbitrum (L2)	~ 30 tx/s	333 tx/s	Ethereum Rollup
Base (L2)	~ 100 tx/s	1,000 tx/s	Ethereum Rollup
Solana (Current)	~ 1240 tx/s	65,000 tx/s	Decentralized Network
Solana (Firedancer Update)	N/A	1,000,000 tx/s	Decentralized Network

This also demonstrates that decentralized networks can handle the demands of apps that require fast transaction speeds, without requiring central authorities to work.

High-frequency
Trading

Raydium

Solana's sub-second settlements and low fees enable rapid trades with near-instant execution from liquidity pools.

Decentralized Physical
Infrastructure Networks

Helium Network

Solana's speed and low fees make it practical to process millions of tiny payments needed to reward network operators of physical infrastructure.

Moreover, usage data indicates most users prioritize speed, suggesting they are less concerned with the degree of decentralization.

Solana and Ethereum Daily Active Users, Millions of Users, 2022 to 2024
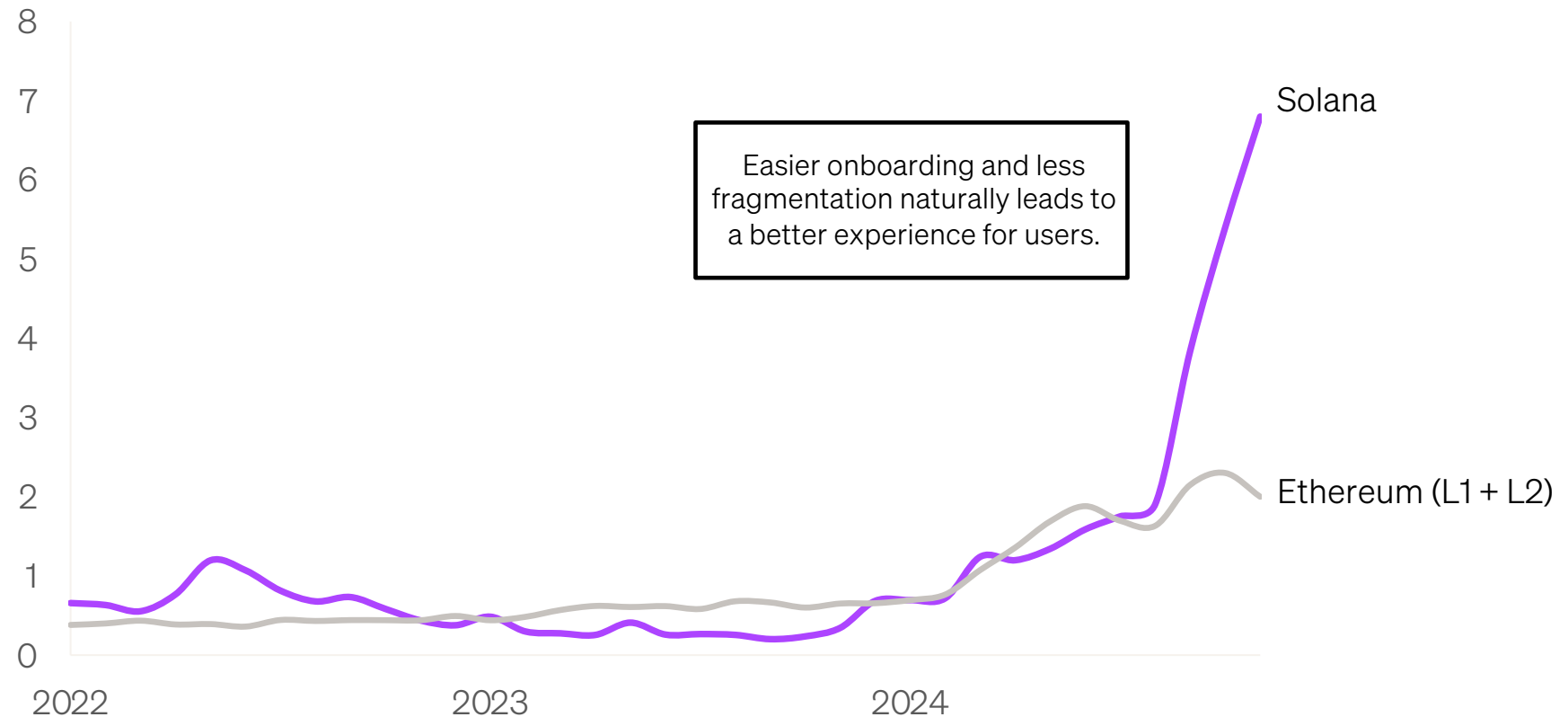
Easier onboarding and less fragmentation naturally leads to a better experience for users.

Solana

Ethereum (L1 + L2)

From early network outages to current stability, Solana's growth reflects both its maturing infrastructure and growing real-world use.

Price of Solana, US Dollars, 2020 to 2024

Solana's network stability after the 2023 upgrades restored market confidence.

$224

Network outages

$167

Network outages

Network outages

Key upgrades led to consistent stability

$12

2020   2021   2022   2023   2024
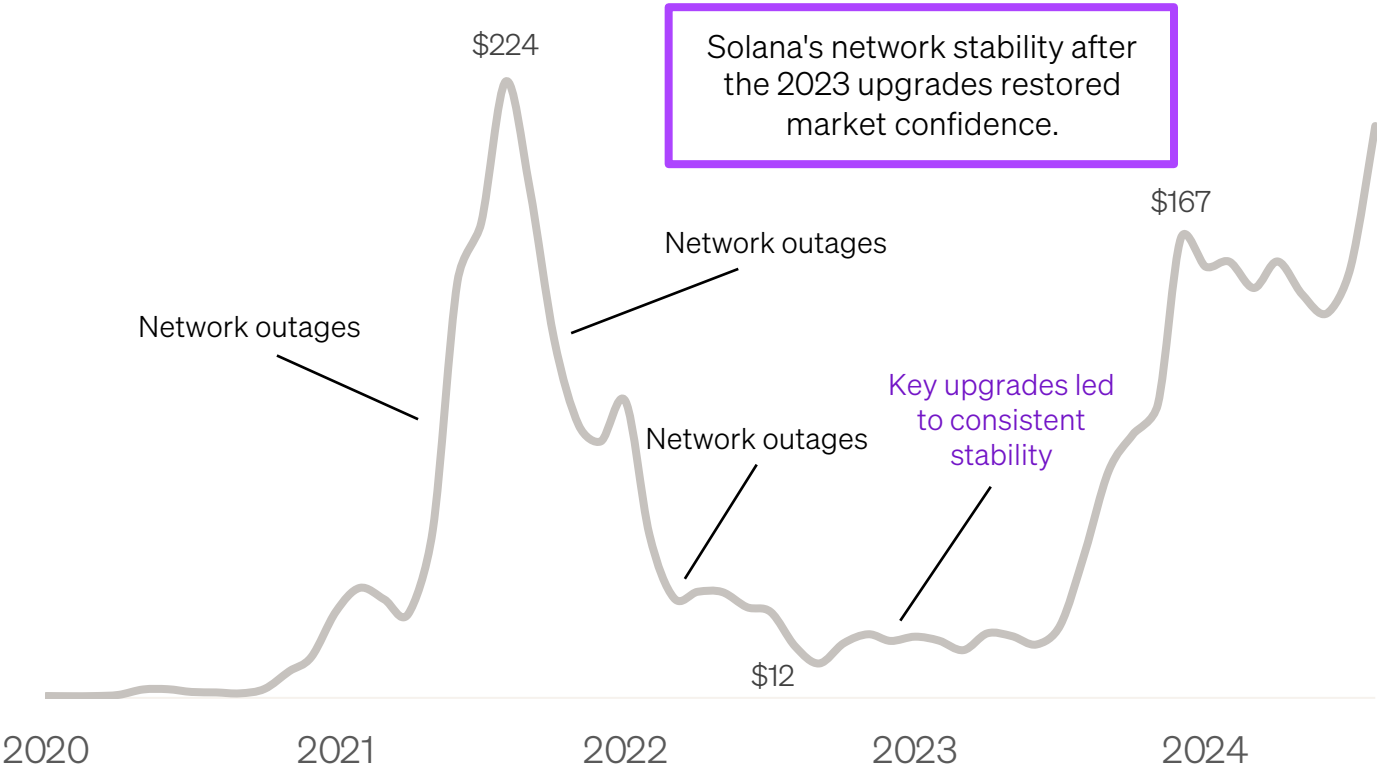
Phase 3

Decentralized Finance

2021 – Present

Over time, improved network infrastructure has increased network capacity and reduced transaction costs.

2013

Total network capacity:

8 Transactions per second

Average cost of a transaction:

1$ to 5$

2024

Total real time network capacity:

18,000 Transactions per second

Average cost of a transaction:

0.02$ to 0.15$
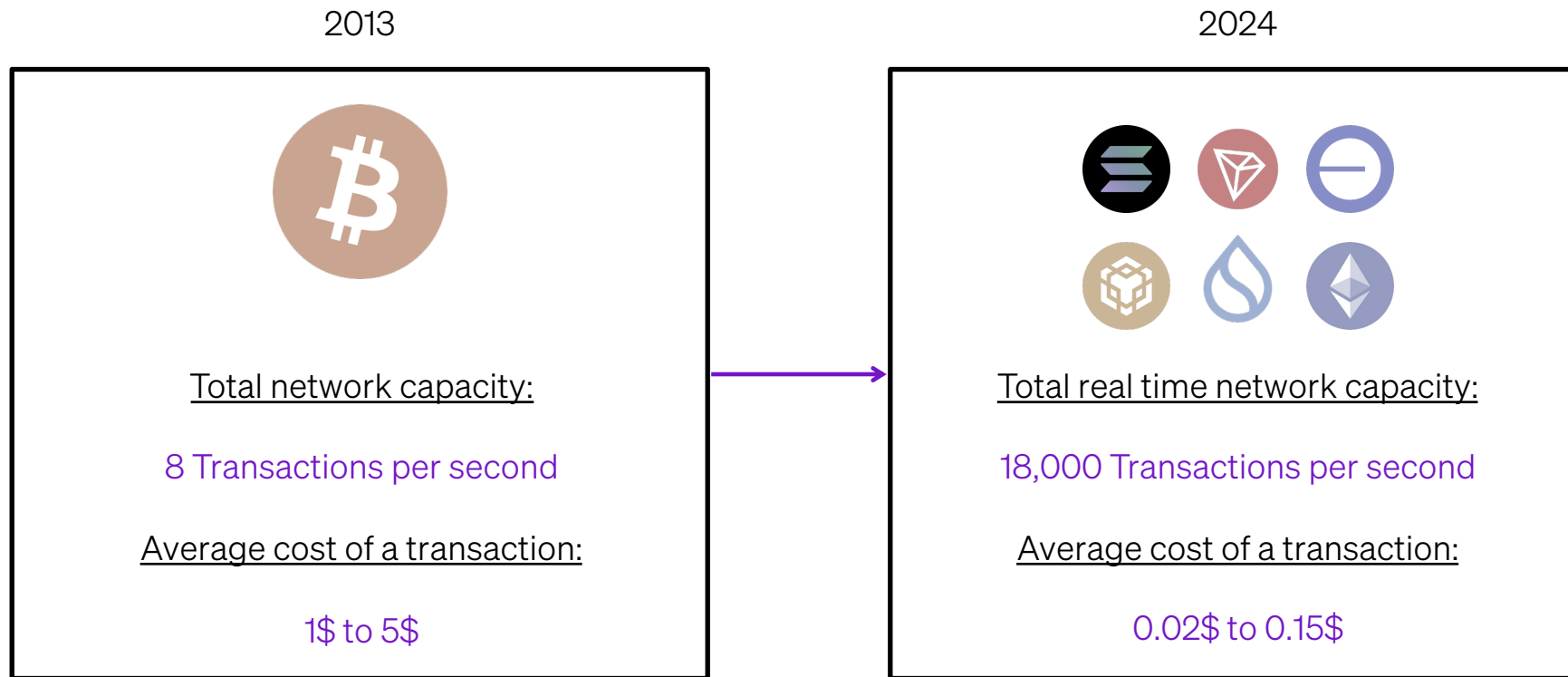
As a result, DeFi emerged as a category of applications
that can run on any smart contract network like Solana or Ethereum.

DeFi Applications

DeFi Applications

Users

Users
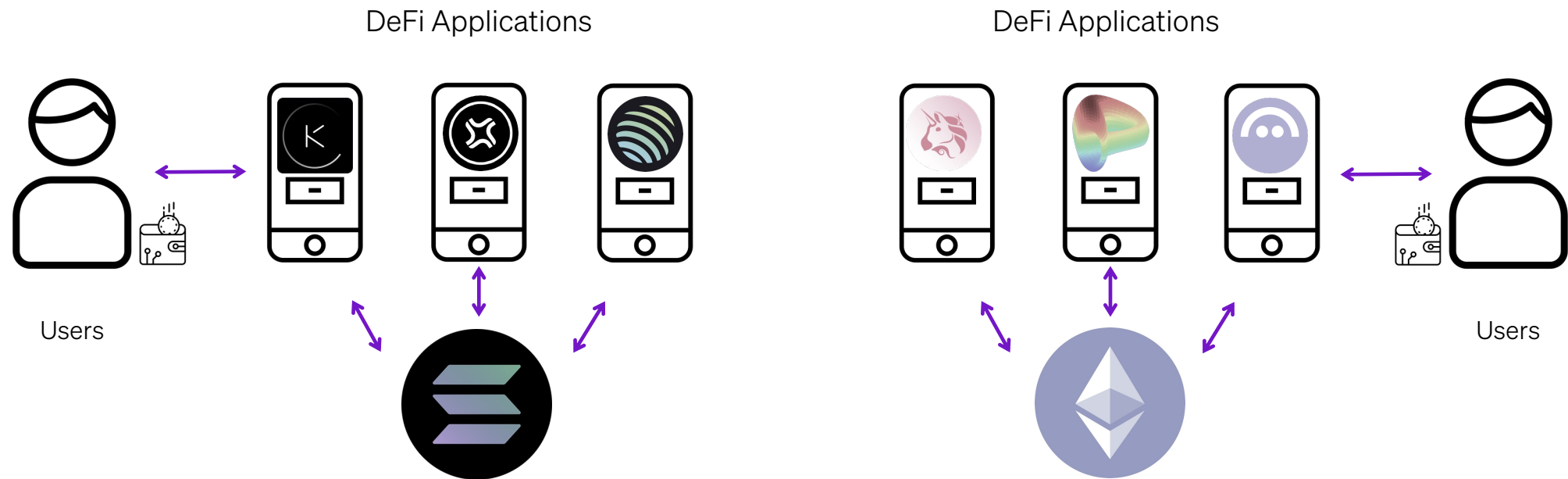
What is DeFi?

Traditional financial services rely on banks and brokers as trusted intermediaries to handle complex financial transactions.

Client — $50,000 loan request → Commercial Bank — Receives 50,000$ → Client

- Credit Check
- Income verification
- Risk assessment
- Approval process
- Takes days/weeks

Client — Buy 10 AAPL → Broker-Dealer — Receives 10 AAPL → Client

- Account KYC
- Fund clearing
- Shares held by broker
- Instant trade
- 2 days for settlement
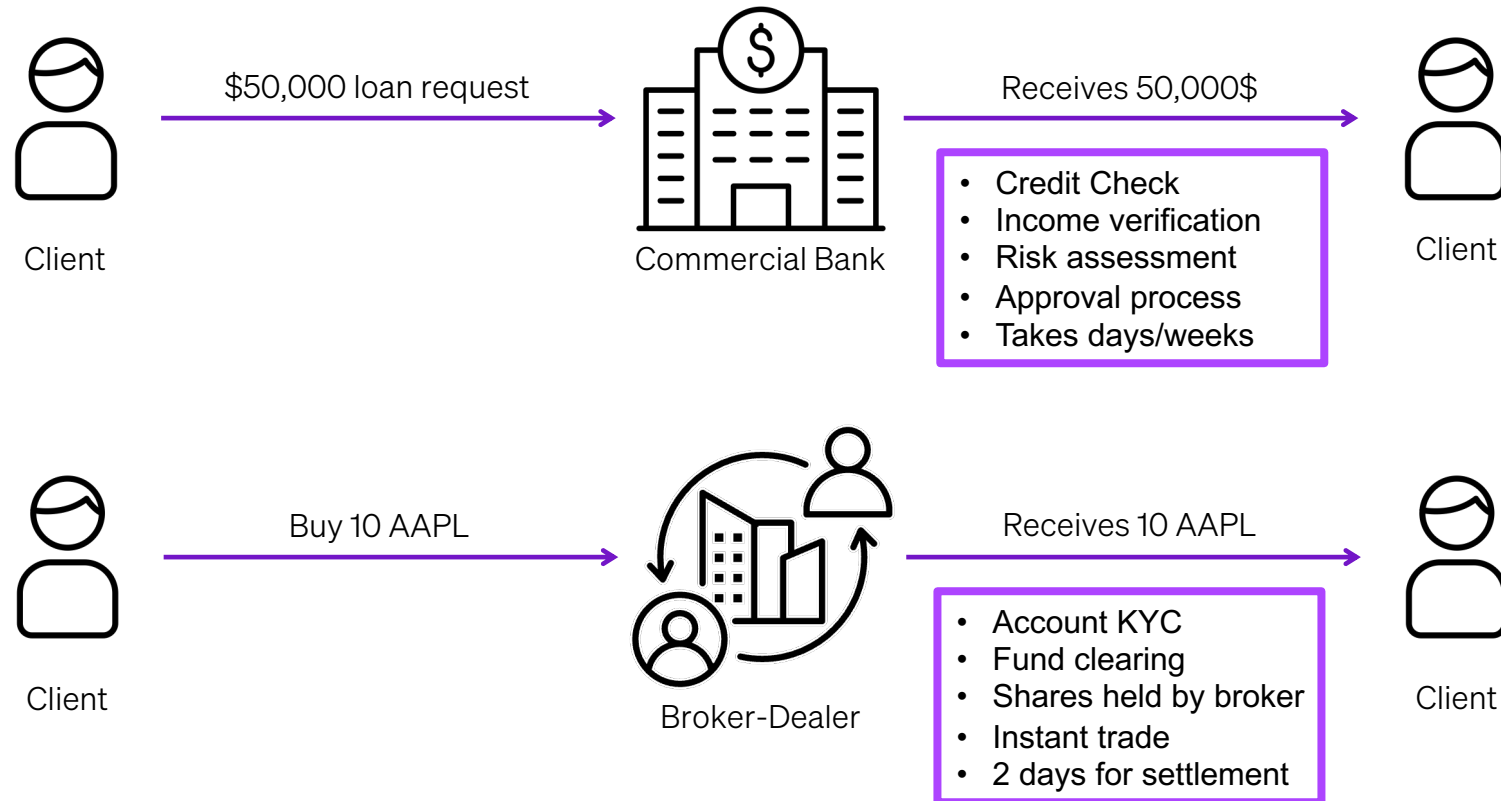
DeFi replaces these intermediaries with smart contracts, creating automated financial services accessible to anyone with internet access and a crypto wallet.

User — Deposit ETH collateral → DeFi Lending App — Receives 50,000$ → User

- Auto verification
- Algorithmic rates
- No process
- Takes seconds

User — Buy 10 SOL → DeFi Trading App — Receives 10 SOL → User

- No account creation
- No deposit
- Instant trade
- Instant settlement
- Self custody
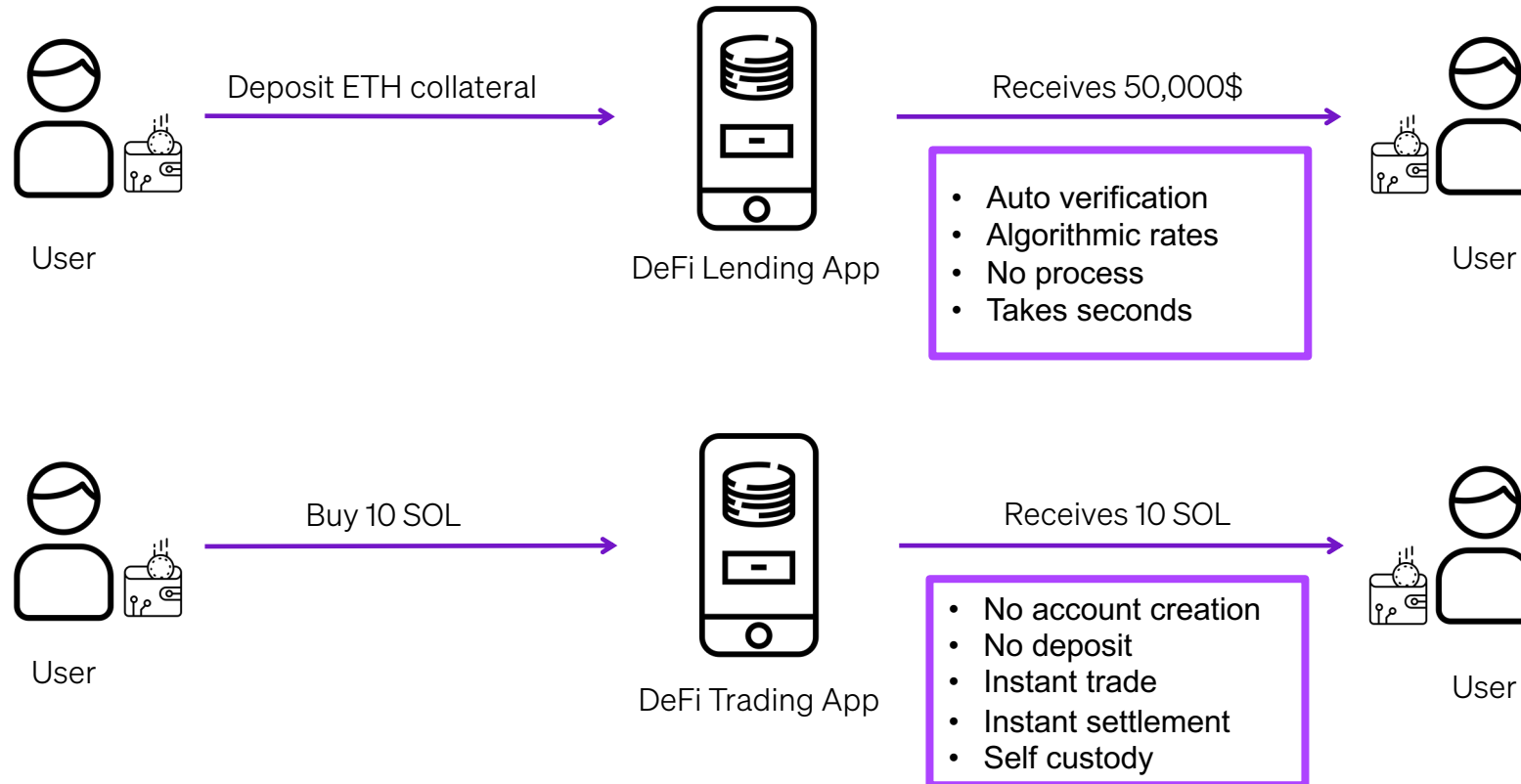
And this disintermediation addresses limitations of traditional finance by lowering barriers to entry.

Users can now trade, borrow, and earn yield on digital assets with just a crypto wallet, minimizing friction in financial transactions.

Want to:
Borrow USDC using ETH as collateral

User

1

Deposits 20 ETH of collateral into a DeFi application.

Borrows 30,000 USDC on that collateral, this way they maintain exposure to ETH while investing in other opportunities.

Want to:
Earn yield on Aave bought with borrowed USDC

Now they want to earn some passive income, so the user goes on the Aave lending application and stakes their 200 Aave.

Staking Aave earns the user on average 4% annual yield.

Using a DeFi trading application, buys 200 Aave with the 30,000 USDC.

The user's ETH collateral will automatically get liquidated if the value of the collateral drops below borrow amount.

2

If the user ever wants to remove his collateral, they just need to repay the borrow amount.

The entire process (steps 1 and 2) only takes a few minutes.

And because DeFi applications run on smart contracts,
they benefit from two key features: interoperability and composability.

Interoperability

Composability

Bridge Application

Public Record Data
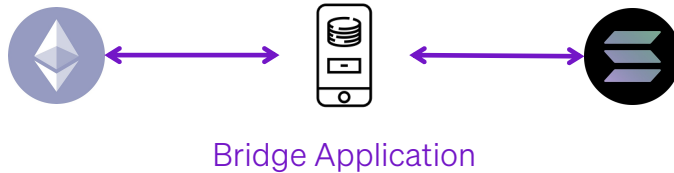
Allows different networks
to communicate and transfer
assets between each other,
such as moving ETH to SOL.
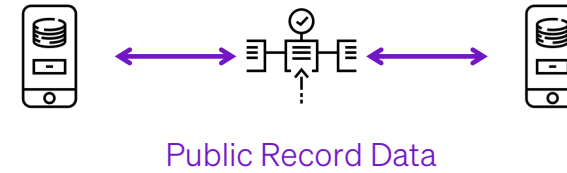
Allows applications to seamlessly
access and build upon each other's
data and functionality, creating
interconnected "money legos".

As a result, your idle Bitcoin held on the Bitcoin network can serve as loan collateral on Solana, which can then be used to invest in other digital assets.

Want to:
Borrow USDC using
BTC as collateral

User

User has 1 BTC in their Bitcoin wallet.

Stakes the SOL he bought for passive yield.

Want to:
Earn yield on SOL using
rest of borrowed USDC

Uses 50,000 USDC of borrowed capital to invest in SOL.

Use a bridge application to move that BTC to Solana.

Now that the BTC is on the Solana network, the user deposits it in a lending application.

The user borrows 75,000 USDC or up to 90% on that collateral.

The user's BTC collateral will automatically get liquidated if the value of the collateral drops below borrow amount.

Want to:
Invest in JUP using part
of borrowed USDC

Uses 25,000 USDC of the borrowed capital to invest in JUP.

1

2

3

What are the implications of
this alternative financial system?

DeFi applications currently handle billions in daily transaction volume, rivaling traditional finance infrastructure.

DeFi Trading and Robinhood Equity Trading, Monthly Volume, Billions of Dollars, 2024

Ethereum (L1 + L2) and Solana

Robinhood Equity

2024
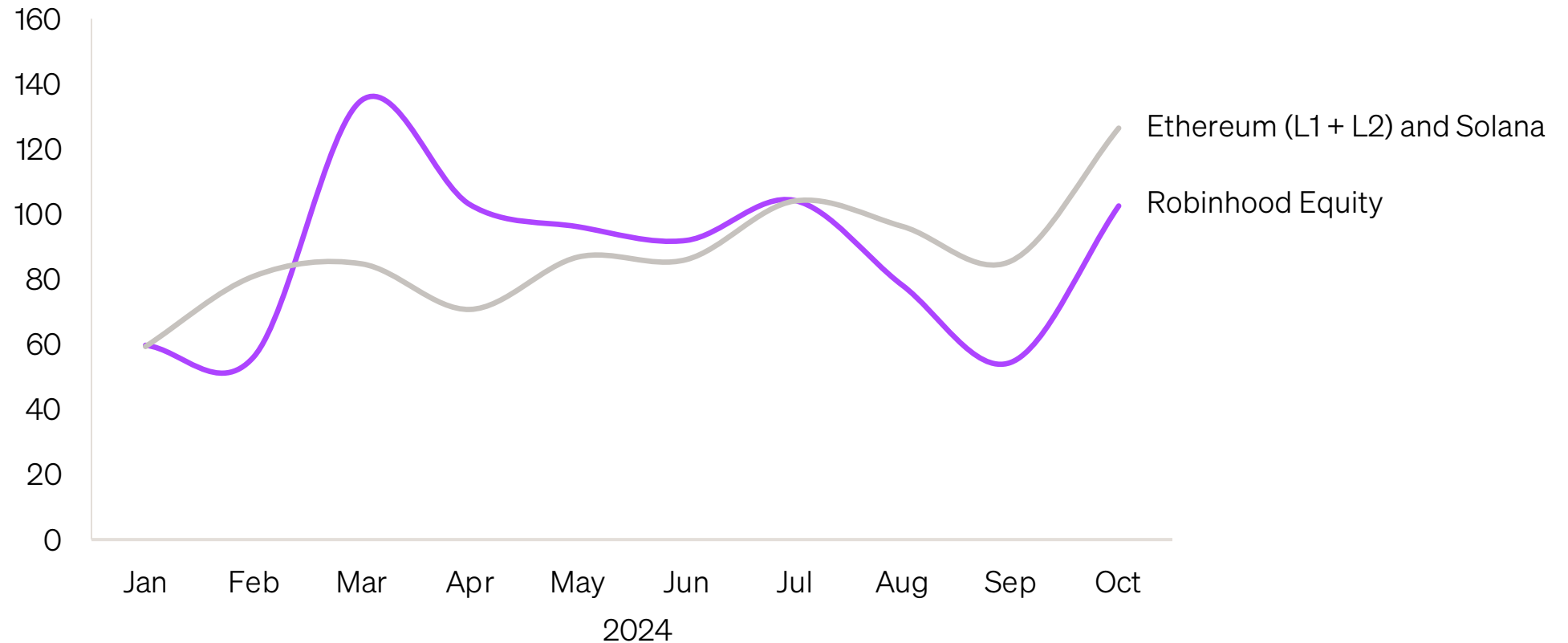
And expansion continues as traditional assets like bonds and commodities are tokenized, bringing regulated real-world assets into DeFi's composable ecosystem.

Scenario for Gold

User

Scenario for T-bills

A

B

User has a large 1000 SOL position in his wallet.

User has 1000 SOL in his wallet.

Wants some exposure to Gold.

Wants exposure to US Treasury bonds

Buys 4 ounces of Tether Gold with 45 SOL on a DeFi trading application.

Tether Gold tokens represent ownership of real gold.

While the user can then buy OUSG, restriction on transfers are implemented via smart contracts that only allow movement between verified wallets.

OUSG is restricted for accredited investors that have gone through their onboarding process.

Ondo Finance OUSG tokens let investors buy shares of US Treasury bonds.

DeFi's ecosystem growth is evident in the total value locked across DeFi applications, reaching billions of dollars.

DeFi Categories by Total Value Locked in Applications, Billions of Dollars, 2024

Category	TVL	Description
Staking	$62B	Locking up crypto to support network operations and earn rewards.
Lending	$46B	Providing crypto assets to borrowers.
Bridges	$40B	Asset transfers between different networks.
DEX (Trading)	$23B	
Restaking	$22B	Re using staked assets for additional rewards.
Yield	$8B	Provide assets that generate yield from complex strategies like arbitrage
Real World Assets	$7B	Tokenized physical assets.
Derivatives	$6B	Leveraged speculation

Phase 3

Stablecoins

2021 – Present

Stablecoins are cryptocurrencies designed to maintain a fixed value pegged to fiat currencies like the U.S. dollar.

Circle

Deposit USD

Deposit USD

Bank

Send Stablecoin
1 USD : 1 USDC
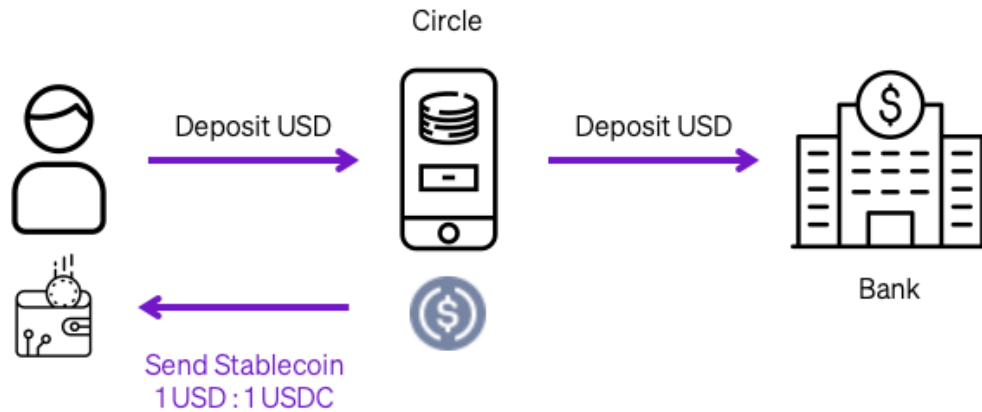
USDC, issued by Circle, is a digital dollar backed by audited US dollar reserves held in bank accounts.
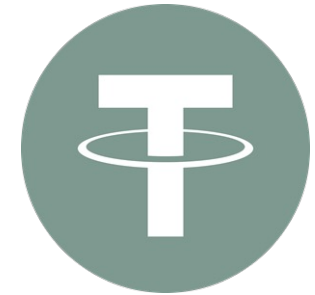
USDT, issued by Tether, is the most widely used digital dollar, backed by a mix of assets with less transparent reserves.

And DeFi increases stablecoin demand because users prefer to trade, lend, send, and borrow in familiar terms.

Scenario using stablecoins

User

Scenario not using stablecoins

A

B

Deposits 20 ETH of collateral into a DeFi application.

Deposits 20 ETH of collateral into a DeFi application.

Borrows 10 SOL on that collateral, this way they maintain exposure to ETH while investing in SOL.

Borrows 30,000 USDC on that collateral, this way they maintain exposure to ETH while investing in other opportunities.

Stablecoins let you stay "in crypto" while avoiding price swings, creating a stable base for all DeFi activities.

The user's ETH collateral will automatically get liquidated if the value of the collateral drops below borrow amount.

ETH upward volatility does not affect the user, as his repayment amount is in a stablecoin USDC.

If the price of SOL does a 2x, it means the borrow amount has doubled in dollar terms and makes repayment harder.

The user's ETH collateral will automatically get liquidated if the value of the collateral drops below borrow value.

This utility in enabling bankless transactions at stable values continues to drive growing stablecoin usage.

Stablecoin Supply, Billions of Dollars, 2019 to 2024

Growing stablecoin supply directly reflects rising real-world money flowing into the crypto ecosystem, as each stablecoin is backed by actual dollars.
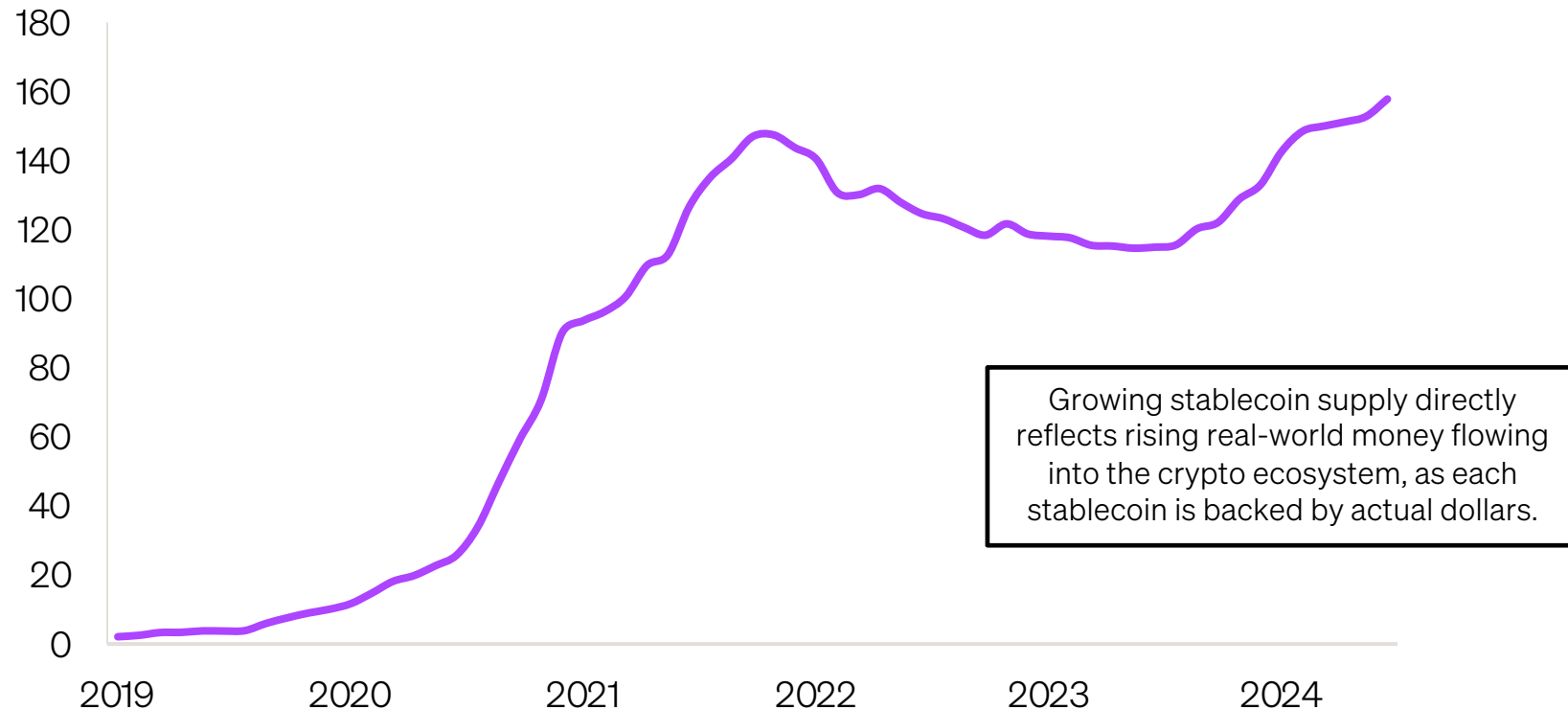
Moreover, stablecoin issuers have become major holders of U.S. Treasuries, creating steady demand that is interest rate agnostic.

Holders of US Treasury Securities, Billions of Dollars, 2024

Country	Value
Japan	1150B
China	770B
UK	710B
Luxembourg	384B
Canada	338B
Cayman Islands	319B
France	276B
Switzerland	272B
Singapore	208B
Saudi Arabia	135B
Stablecoin Issuers	130B
South Korea	120B
Germany	87B
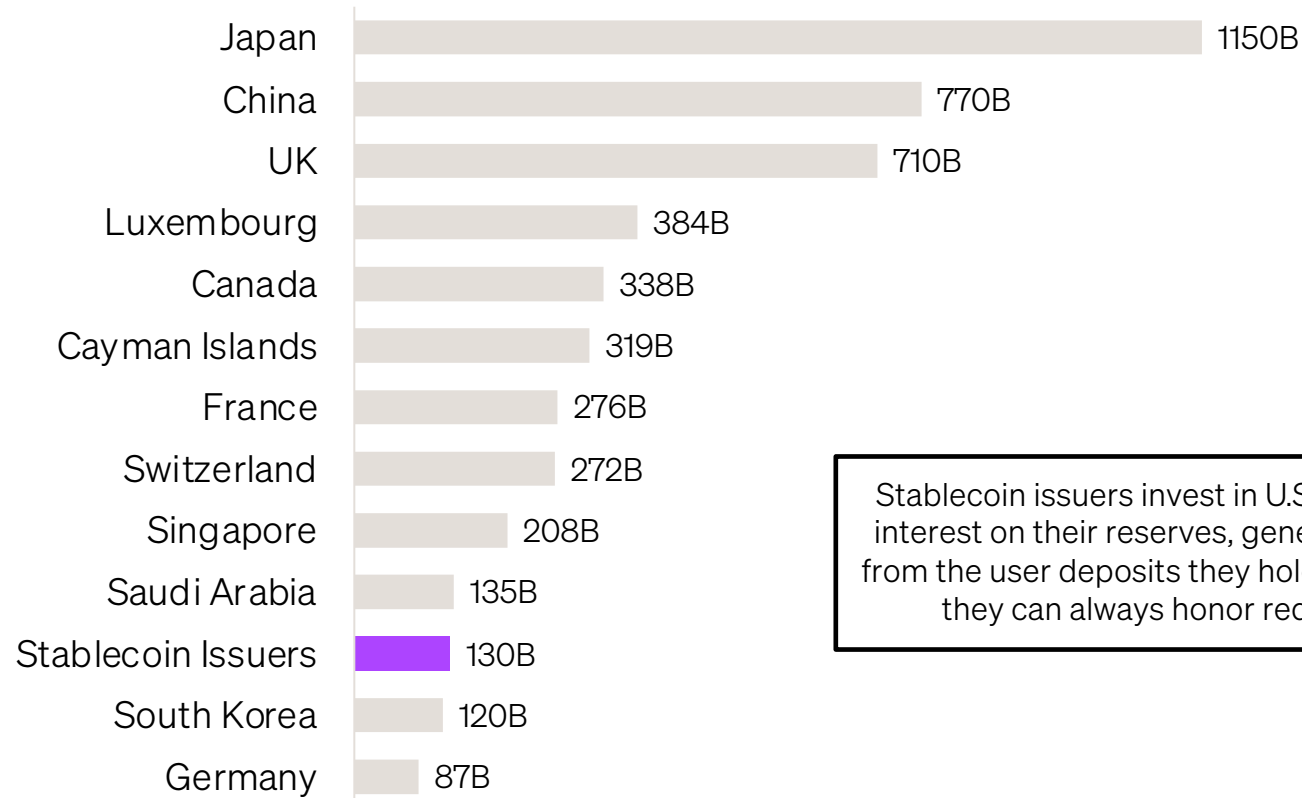
> Stablecoin issuers invest in U.S. T-bills to earn interest on their reserves, generating revenue from the user deposits they hold while ensuring they can always honor redemptions.

What are the implications of stablecoins?

Despite the internet's global reach, the financial system still lacks a simple and universal method for transferring money across borders.

	Stablecoin Payments	Debit/Credit Card Payments	Paypal/Venmo/Zelle	Wire Transfer
Transfer Fees	<0.01$	1.5% - 3% merchant fees + currency exchange fees	Free (but subject to fees on withdrawals)	10$ - 50$
Settlement Time	Instant	Instant authorization but actual settlement takes 2-3 days	Instant	1-5 business days (longer internationally)
Onboarding	Requires setting up a crypto wallet	Bank account required	Bank account required	Bank account required
Geographic Limitations	Global access	Widely accepted globally but limited by merchant	Mostly U.S. based only services	Subject to bank/country regulations
Security	High (private keys control assets)	Secure, but prone to fraud/scams	Secure, but susceptible to fraud/scams	Secure, but susceptible to fraud/scams

Users are increasingly leveraging decentralized networks for instant, worldwide stablecoin transfers.

Stablecoin P2P Transfer Volume, Billions of Dollars, 2019 to 2024

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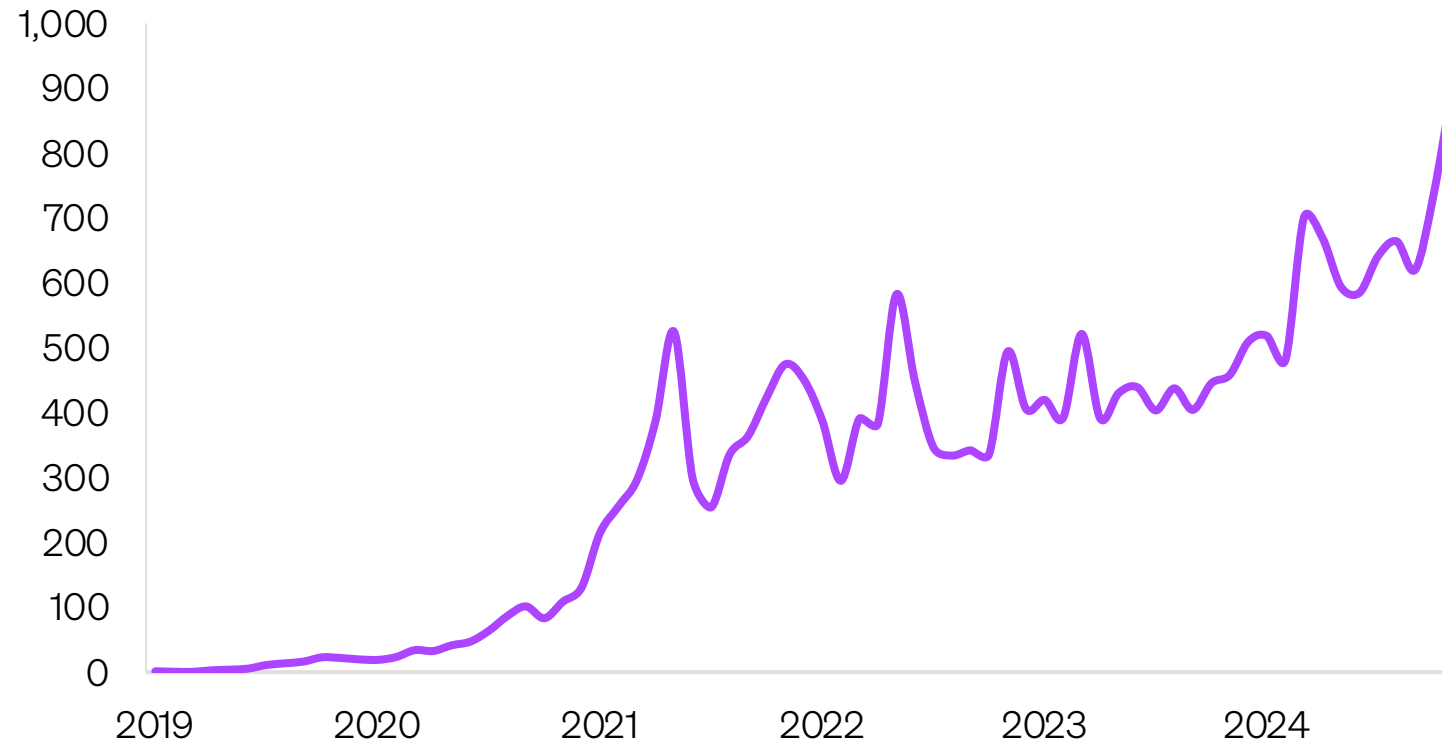
And unlike other cryptocurrencies, their stable value makes them suitable for everyday transactions and remittances.

User

Scenario for quick access to USD in a decentralized network

A

Scenario for remittances

B

User has 1000 SOL in his wallet.

User has lives overseas away from his family which he financially supports.

Market dynamics create some negative price volatility.

He has 100 SOL in his wallet and needs to send money to his family quickly.

The user can immediately exit his position and sell his SOL for USDC without needing to use an exchange like Coinbase or Binance.

Sells 50 SOL for 10,000 USDC and then instantly sends the amount to his family's crypto wallet.

Instant transfers, no volatility risk, and easy to exchange into fiat.

While access to crypto is the most popular reason to use stablecoins, non-crypto uses are becoming popular as well.

Survey: what are your primary goals when using stablecoins? (Select all that apply)

Goal	Percentage
Trade Crypto	50%
Save money in USD	46%
Earn Yield	38%
Convert local currency to dollars	37%
Buy and sell services	34%
Sending money internationally	32%
Self custody of money	29%

Coinbase offers 4.7% yield on USDC holdings, which is just one example of how stablecoins can generate returns across the DeFi ecosystem.
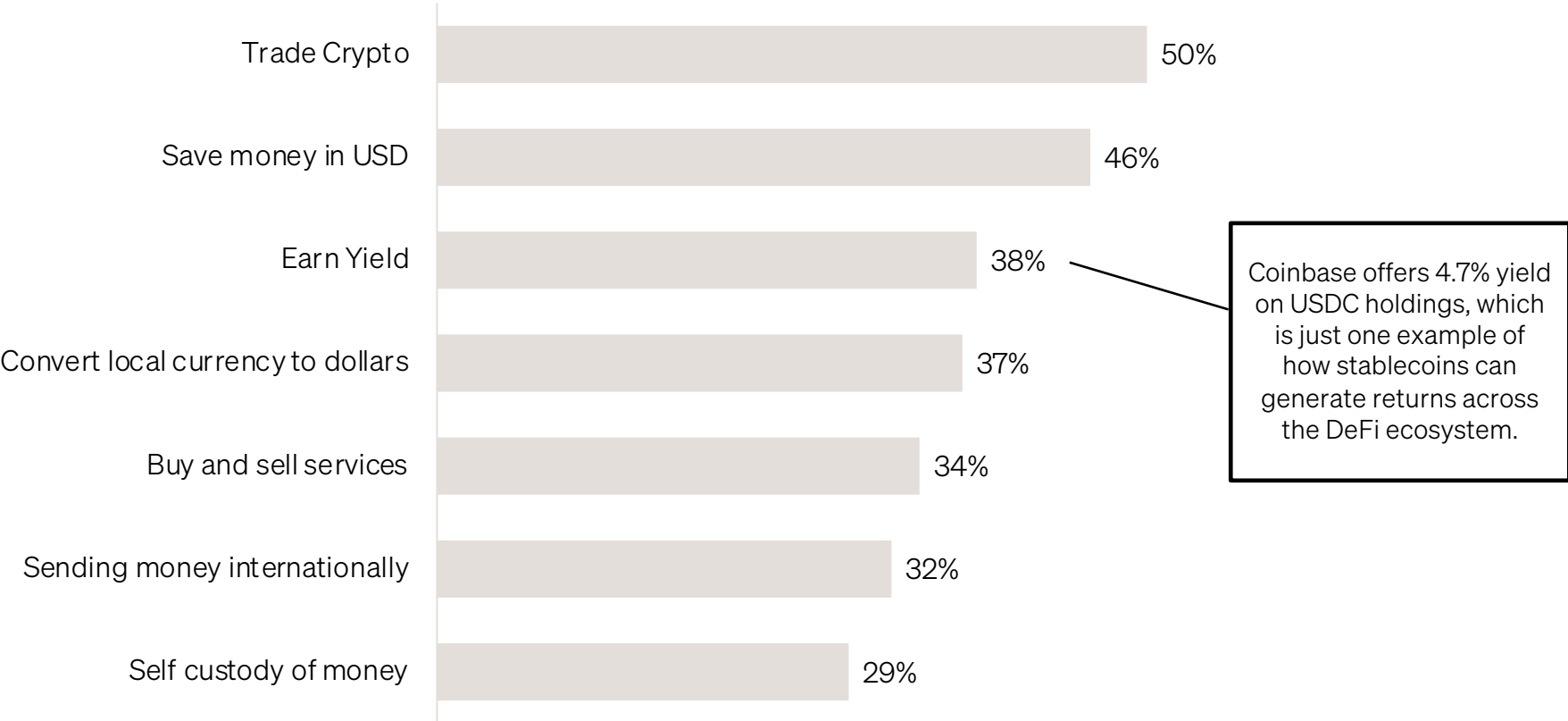
Even traditional payment processors are taking notice, integrating stablecoins to improve their global money transfer and payment services.

stripe

Stripe acquired stablecoin platform Bridge to enhance its global payments infrastructure.

VISA

Visa has been exploring stablecoin settlements to streamline cross-border transactions.

PayPal

Paypal launched its own U.S. dollar-backed stablecoin, PayPal USD (PYUSD).

Phase 3

Tokens

2021 – Present

Cryptocurrencies appear to be evolving from purely financial tools into platforms for exchanging both monetary and cultural value.

It is possible to embed both monetary and cultural value because most digital assets are programmable units of value built on smart contract platforms, called tokens.

Cryptocurrency

Native cryptocurrencies like BTC, ETH, and SOL are digital currencies that power their own networks, where they're used as transaction fees and are created through mining or validation.

Token

Tokens are digital assets created using smart contracts on existing networks like Ethereum or Solana, serving various purposes from representing stablecoins to NFTs.

Tokens are Programmable

```
// Example of a programmable token

if (token.owner == "Alice") {

  // Tokens can have rules built in

  allowSpend (200, "groceries");

  lockUntil (nextMonth);

  requireApproval ("parent");

}
```

A token's smart contract can enforce rules like spending limits, time locks, and required approvals.

Tokens provide a new form of programmable ownership that enables crypto projects to reward token holders with measurable benefits.

Scenario for governance

A

User

B

Scenario for revenue sharing

Owns 2.5 million UNI tokens.

Owns a 200 Aave tokens.

UNI governance requires that a holder own at least 2.5 million UNI to create proposals.

Stakes his tokens and earns a pro rata share of the fees generated from lending activities on the application.

C

Scenario for access

Submits a proposal to increase fee structure on the application.

Owns a single cryptopunk NFT

Gets access to a token-gated Discord channels where only holders can chat.

Votes 'Yes' on his proposal using his 2.5 million UNI tokens.

Allowlisted for early access to purchase a new NFT by a famous artist.

Tokens use existing network infrastructure, making them easily tradable through the same crypto wallets and DeFi applications as other digital assets.

User

Scenario for trading

A

User owns 100 JUP tokens.

They can sell it for USDC on a DeFi trading application.

Scenario for earning

B

User owns 10,000 USDC tokens.

Deposits the 10,000 USDC into a DeFi lending application as liquidity for borrowers and earns interest yield in return.

C

Scenario for selling NFT

Owns a Cryptopunk NFT

List the NFT on a marketplace for a set price.

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Tokens provide frameworks for creating digital assets, simplifying fundraising and feature implementation across crypto projects.
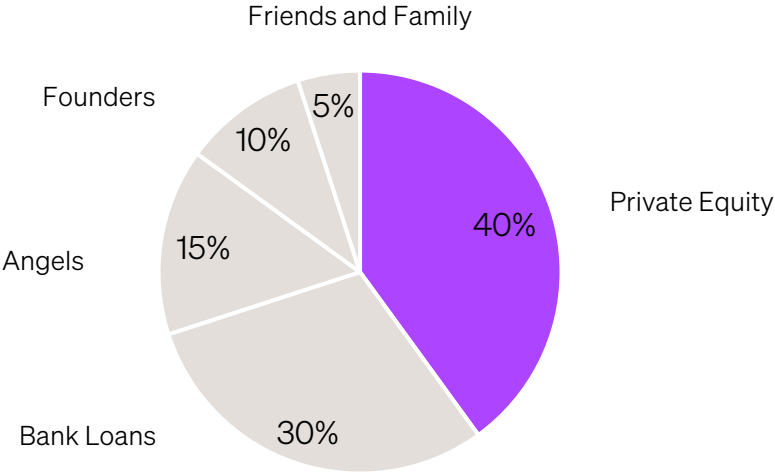
Traditional Capital Raise

Traditional fundraising is restricted by geography and investor type, involves lengthy processes, lacks trading flexibility, and offers no utility.
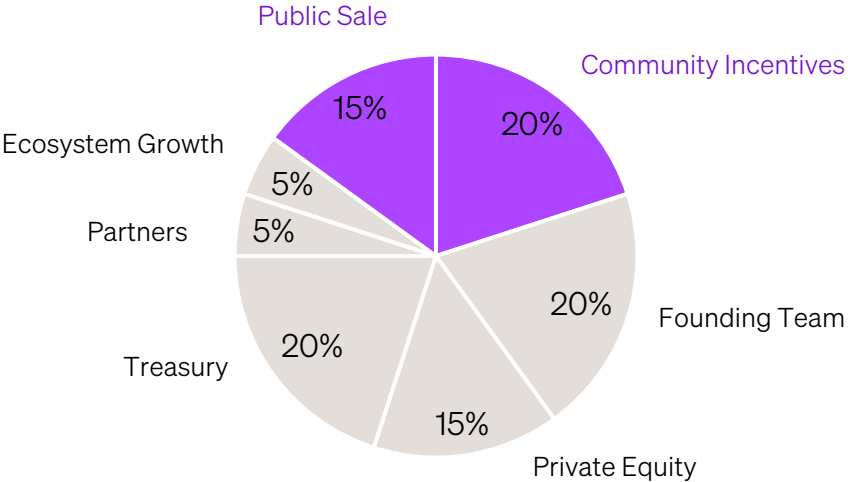
Example Token Launch

Token launches offer global, instant access to investment and trading, while providing additional utility through programmable features.

As a result, crypto projects frequently launch tokens as
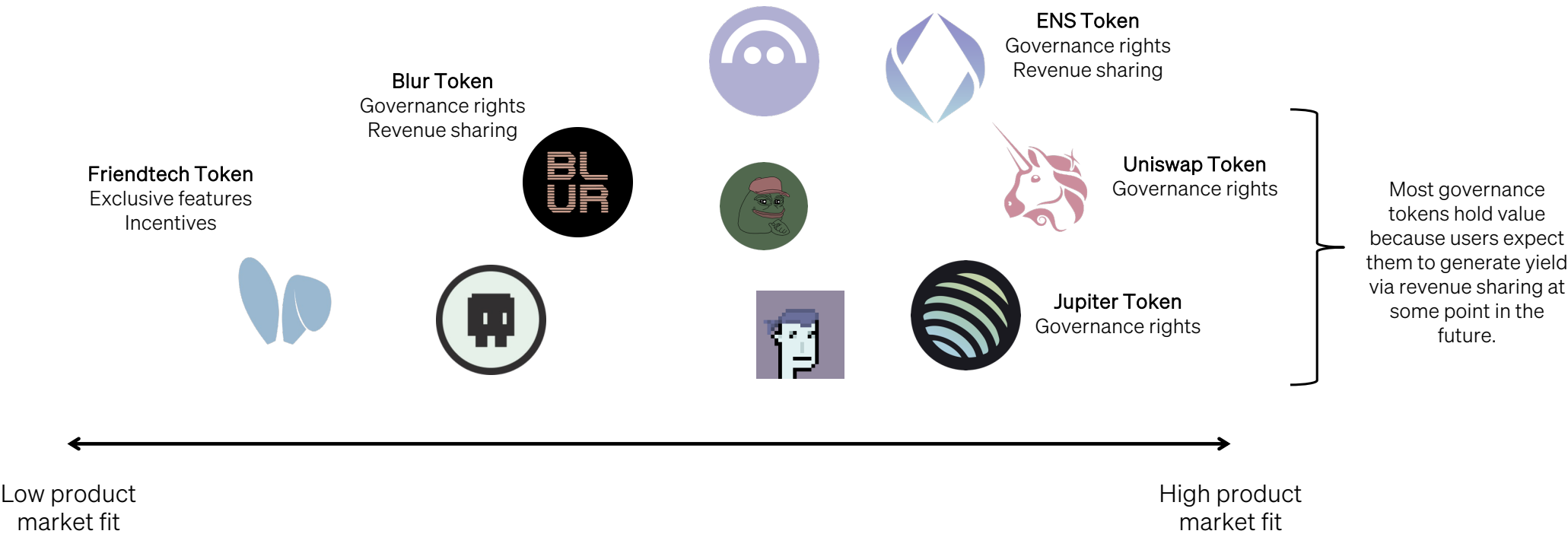equity instruments, creating value and adding utility functions.

ENS Token
Governance rights
Revenue sharing

Blur Token
Governance rights
Revenue sharing

Uniswap Token
Governance rights

Friendtech Token
Exclusive features
Incentives

Most governance
tokens hold value
because users expect
them to generate yield
via revenue sharing at
some point in the
future.

Jupiter Token
Governance rights

Low product
market fit

High product
market fit

And token launchpad applications enable easy token creation for all users, with customizable rules and features for various purposes.

User

Token Launchpad
Applications

Token Created
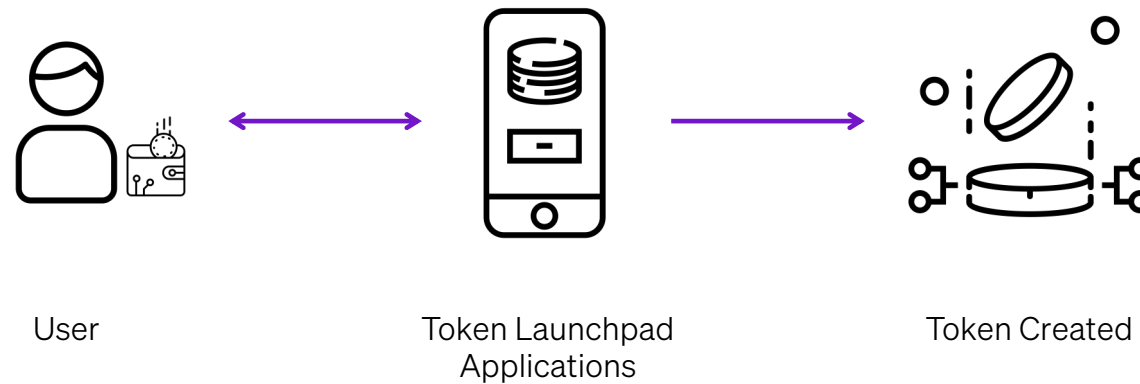
User sets properties:
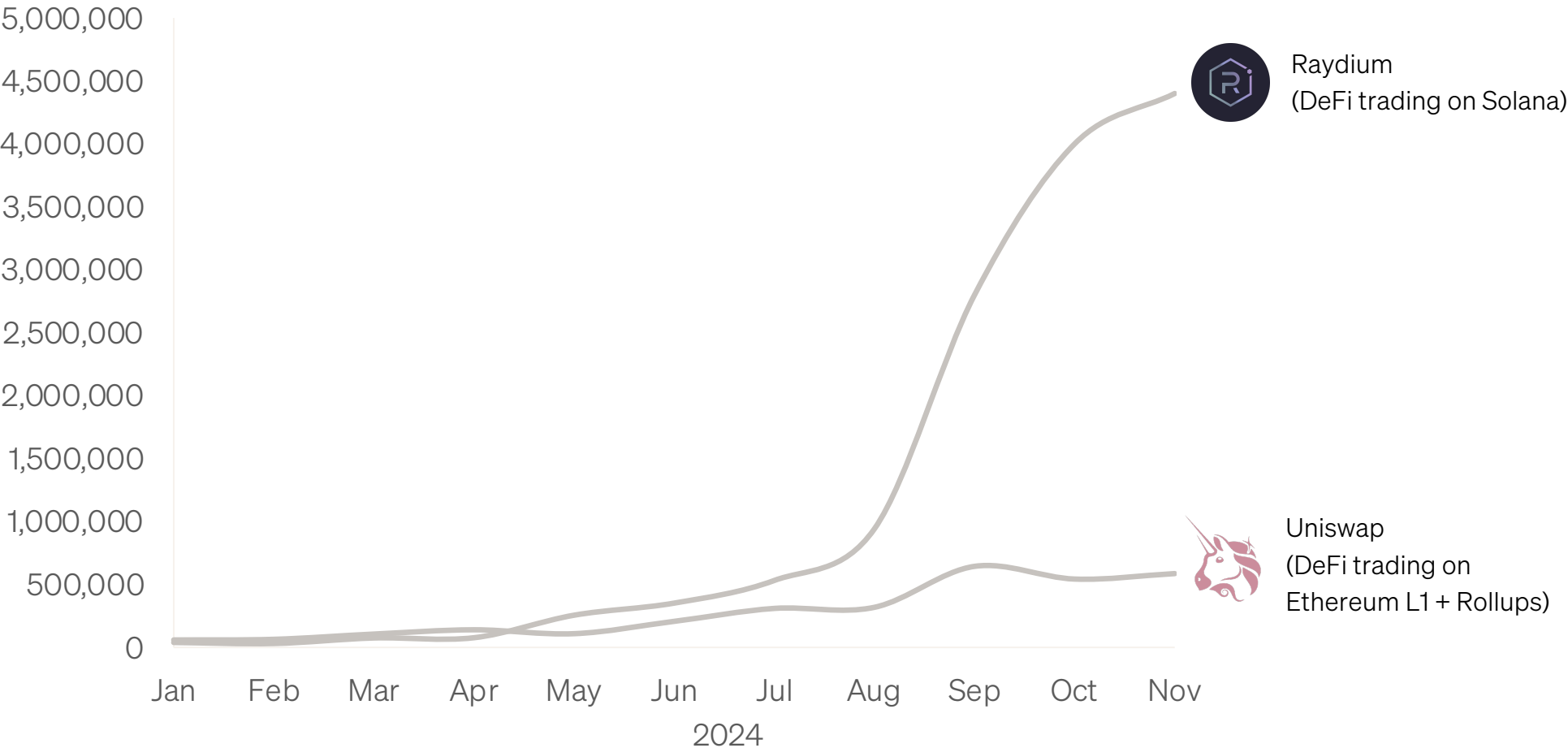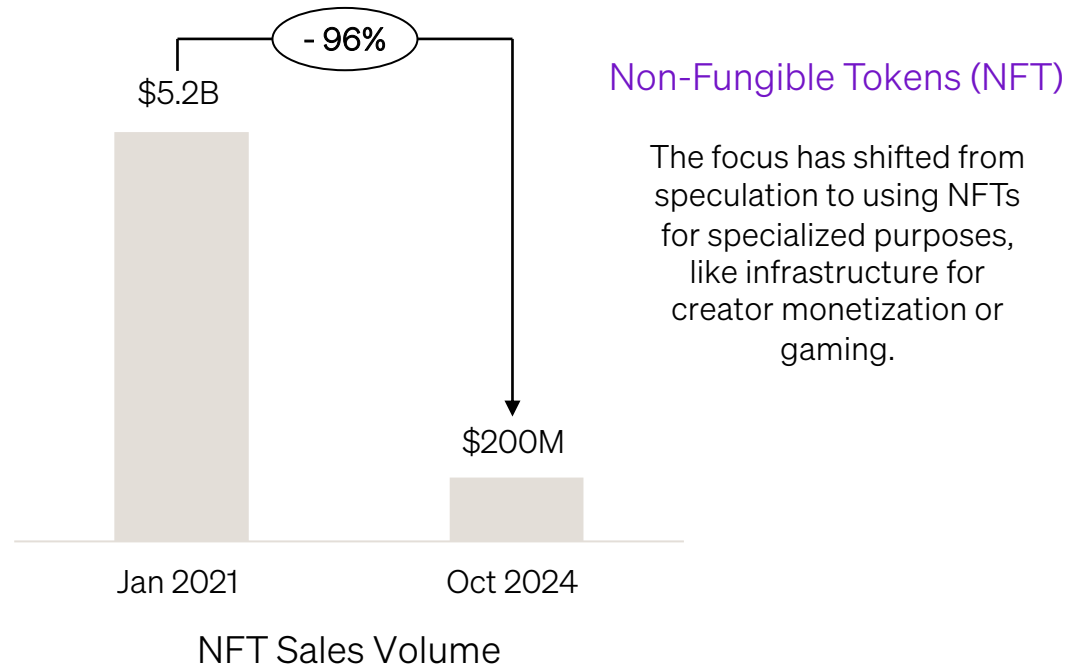
- Token type
- Total supply
- Distribution method
- Transfer restrictions
- Special features

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Most importantly, these tokens and applications are gaining real traction.

Daily Active Users on Raydium and Uniswap, 2024

Raydium
(DeFi trading on Solana)

Uniswap
(DeFi trading on Ethereum L1 + Rollups)

Many token narratives gained traction during different attention cycles, but not all have endured.

NFT Sales Volume

- 96%

$5.2B — Jan 2021

$200M — Oct 2024

Non-Fungible Tokens (NFT)

The focus has shifted from speculation to using NFTs for specialized purposes, like infrastructure for creator monetization or gaming.

Decentralized Games

Unlike earlier play-to-earn models, the current iteration of games is focusing on "game-first" experiences rather than just focusing on tokenomics.

Axie Infinity Token Price

- 95%

158$ — Nov 2021

7$ — Nov 2022

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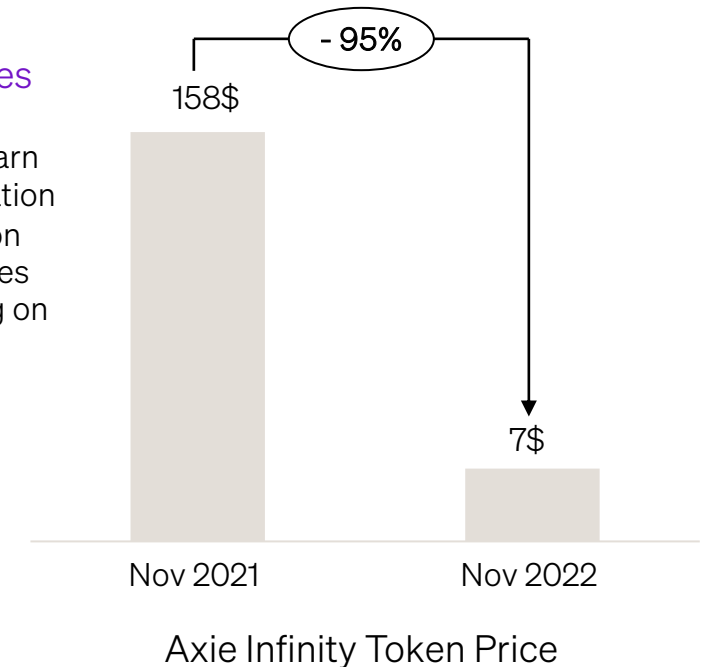
Despite setbacks, programmable tokens and composable applications continue to create new opportunities, most recently in memecoins.

Phase 4

Social Tokens

2021 – Present

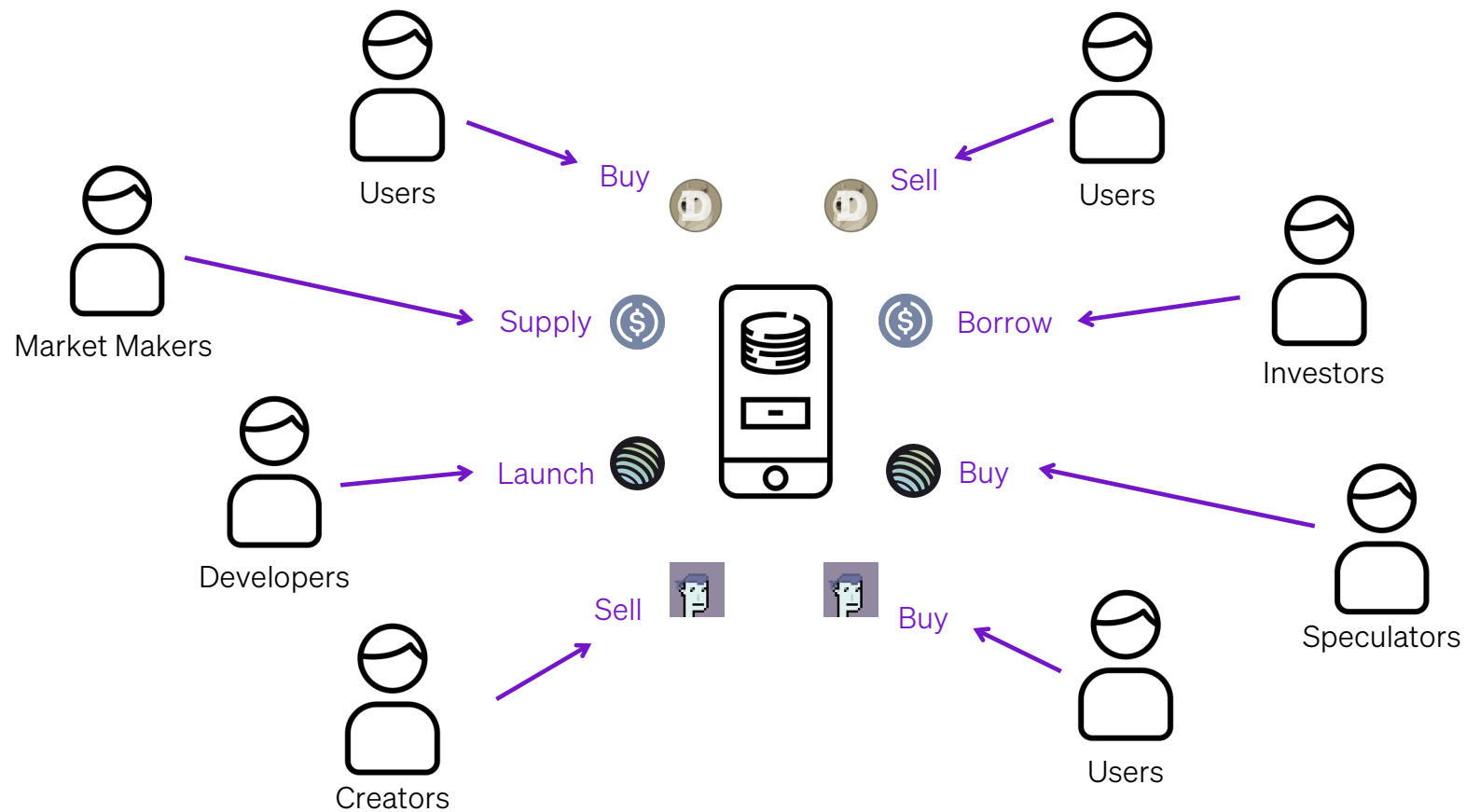Crypto has always been a multiplayer social phenomenon, from early cryptography mailing lists to recent NFT communities.

As traditional community structures weaken, internet-native communities have emerged as alternatives for belonging and coordination.

Traditional Communities	Non-Traditional Communities	Internet Based Communities	Crypto Communities
• Religious centers • Community centers • Cultural clubs • Advocacy groups	• Running clubs • Pickleball clubs • Social clubs • Health clubs	• Subreddits • Facebook groups • Online gaming guilds • Professional networks	• Bitcoin maxis • Luna lunatics • Doge army • NFT communities
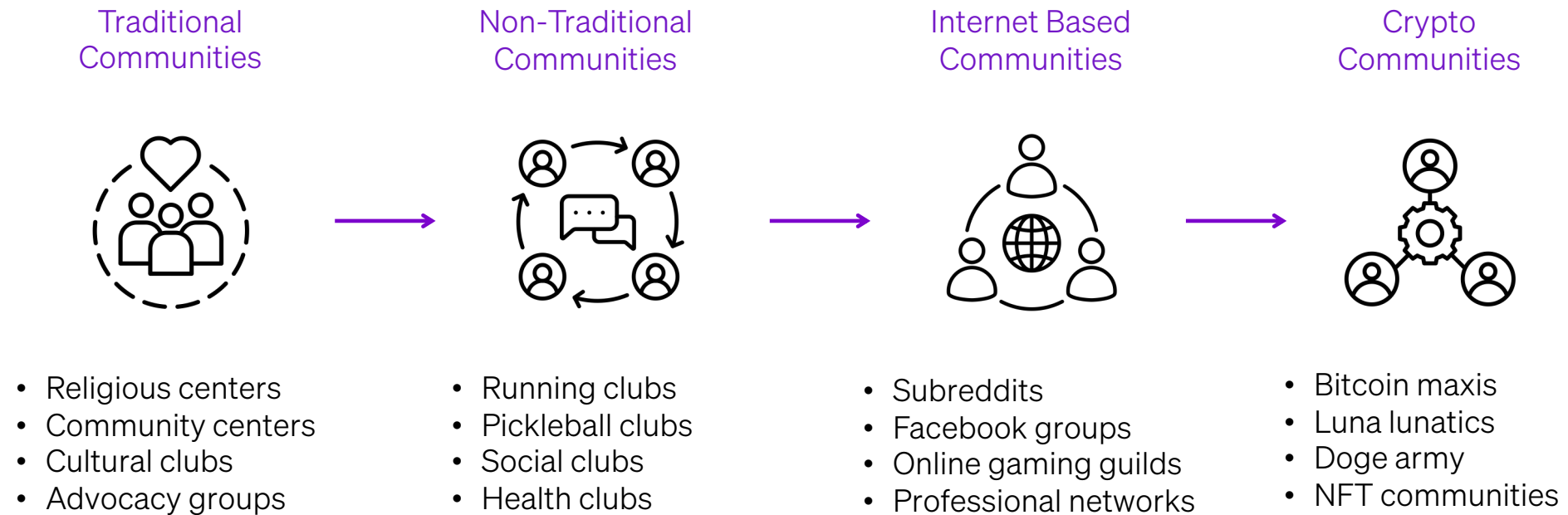
Crypto communities coordinate through a dynamic social stack and organize around tokens.
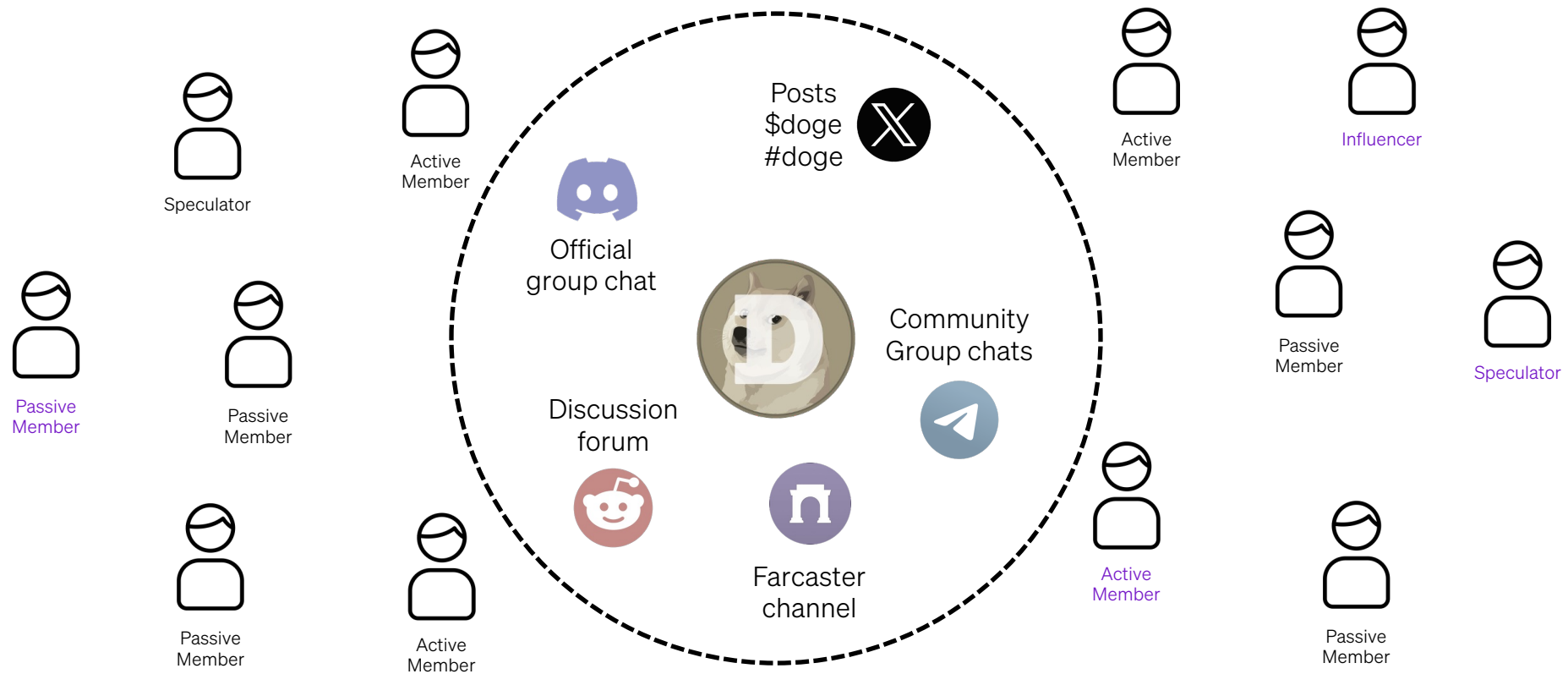
Community members contribute "free cult labor," motivated by shared beliefs and potential future price gains.
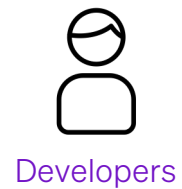
Developers design and implement token utility and roadmaps.

Developers

Posts $doge #doge

Official group chat

Discussion forum

Community Group chats

Farcaster channel

Creates memes, drives social engagement, and actively promotes the community culture.

Active Member

Holds tokens and follows community updates but rarely participates in discussions.

Passive Member

Influencers amplify content and facilitate community discussions.

Influencer

SOCIAL CAPITAL_
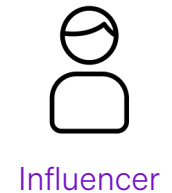
Social tokens, particularly memecoins, merge economic value with cultural value.

Higher Memecoin

⬆

Fair token launch that anyone could participate in, combined with a fixed supply.

Community creates website, merch shop, Telegram group chat, and crowdfunds community treasury.

Fair Distribution

Price

$30M — Market cap

Trading volume

Supply

Simple assets

Stronger community ownership

Shared identity

Amplified network effects

Community engagement

Memes

Social media presence

Cultural references

Memes that play on the arrow up logo.

"higher" references the concept of aiming higher.

Economic Value

Cultural Value

Public network data allows users to monitor successful traders' memecoin wallet activity for instant copy-trading.

Transactions

Monitors wallet activity

Users

Copy trade

DeFi Trading Application

Successful Traders

This data has created a new form of social trading where successful traders turn into transparent investment influencers.
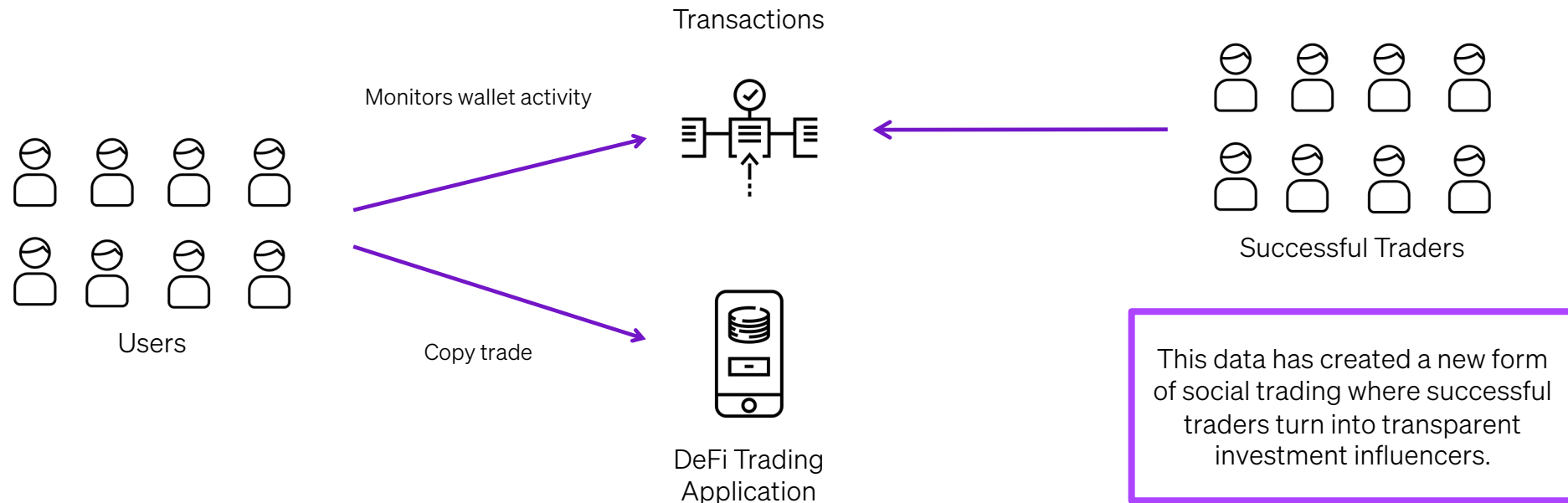
As a result, popular memecoins have outperformed in 2024 despite having minimal utility.

Weighted Token Category Performance, Percentage increase YTD, 2024

Ethereum	NFTs	DeFi Tokens	Solana	Bitcoin	RWAs	Memes
46%	57%	81%	144%	127%	1490%	1725%
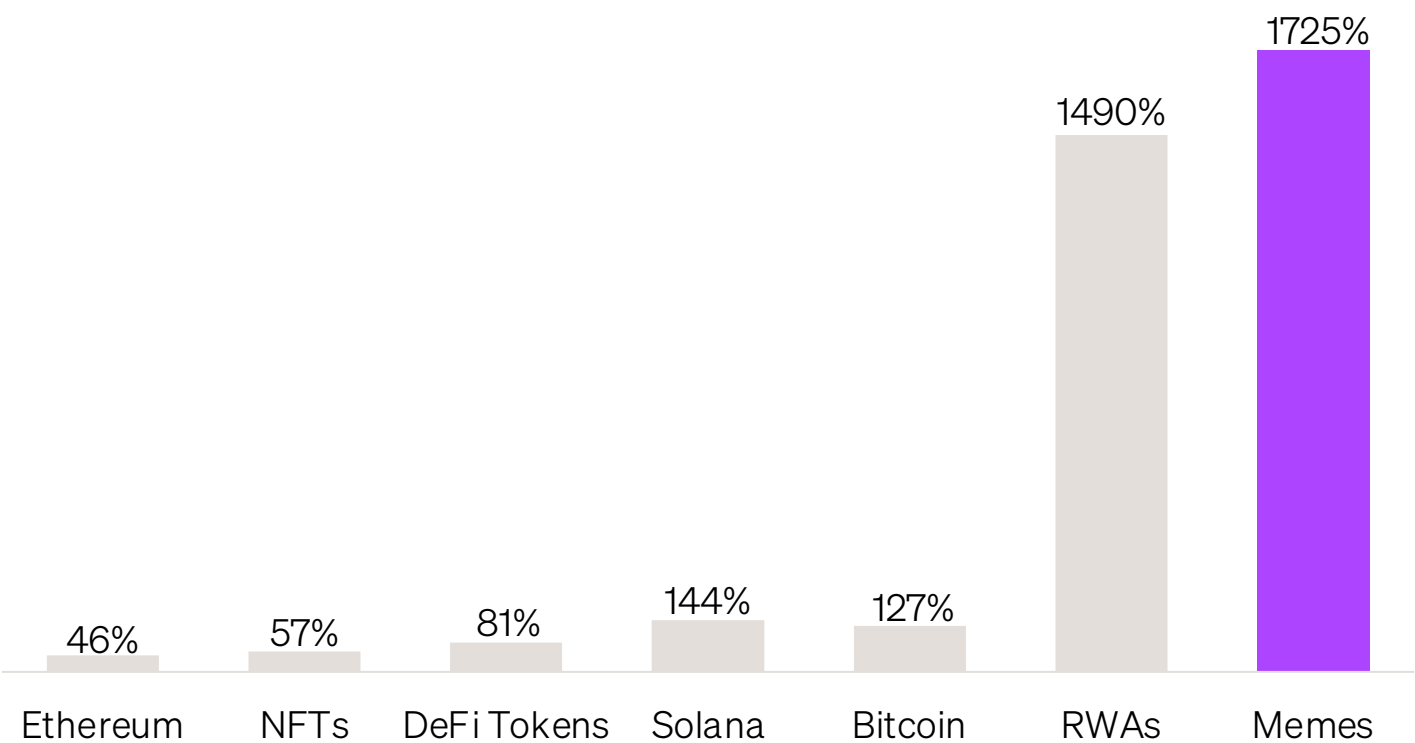
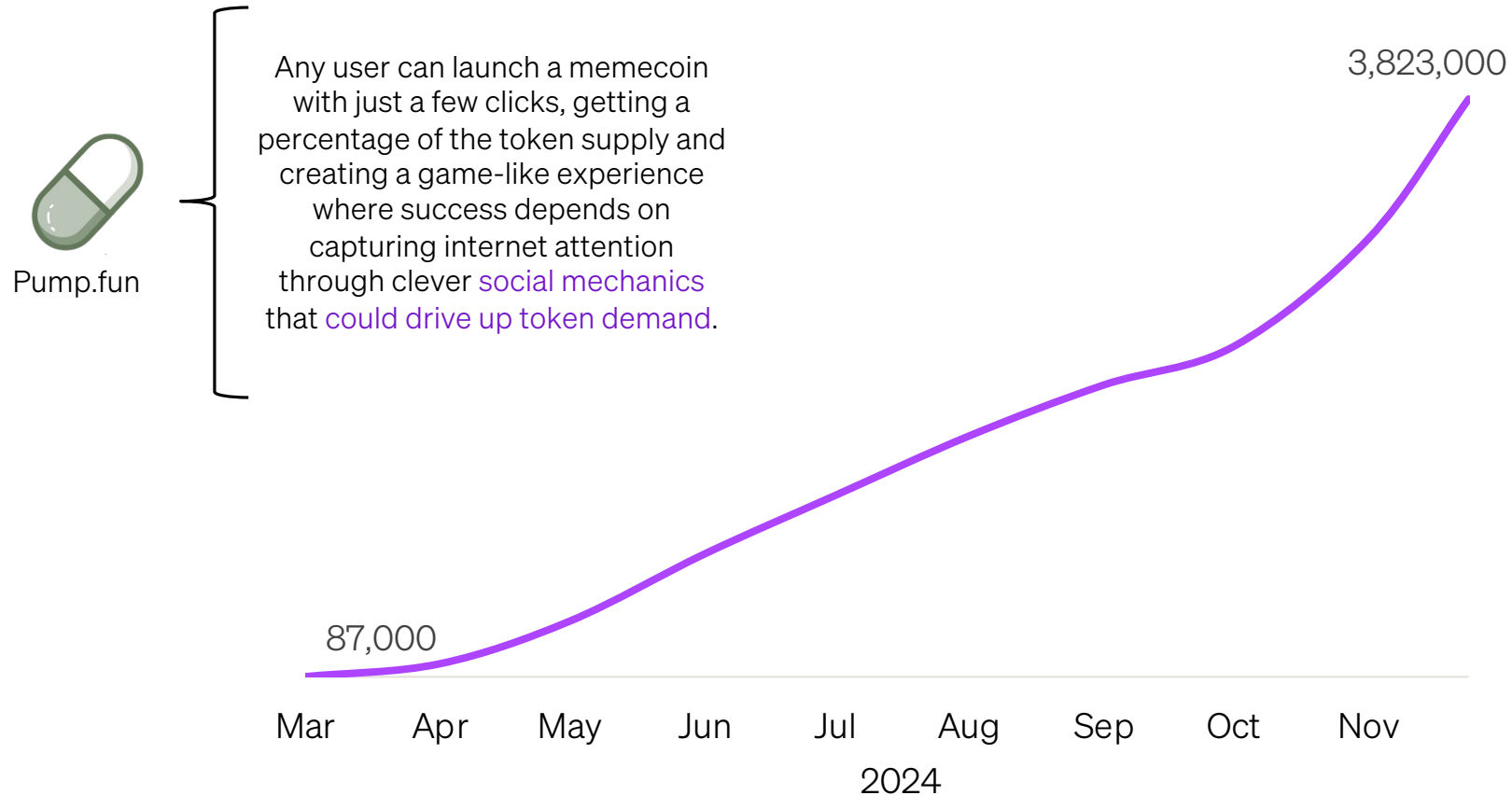# Memecoin-specific token launchpad applications like Pump.fun on Solana demonstrate how social dynamics and financial speculation are merging.

Number of Tokens Launched on Pump.fun, 2024

Pump.fun

Any user can launch a memecoin with just a few clicks, getting a percentage of the token supply and creating a game-like experience where success depends on capturing internet attention through clever social mechanics that could drive up token demand.

3,823,000

87,000

Mar   Apr   May   Jun   Jul   Aug   Sep   Oct   Nov

2024

The platform's clever launch mechanics automatically create liquidity and enable immediate trading for new memecoins.
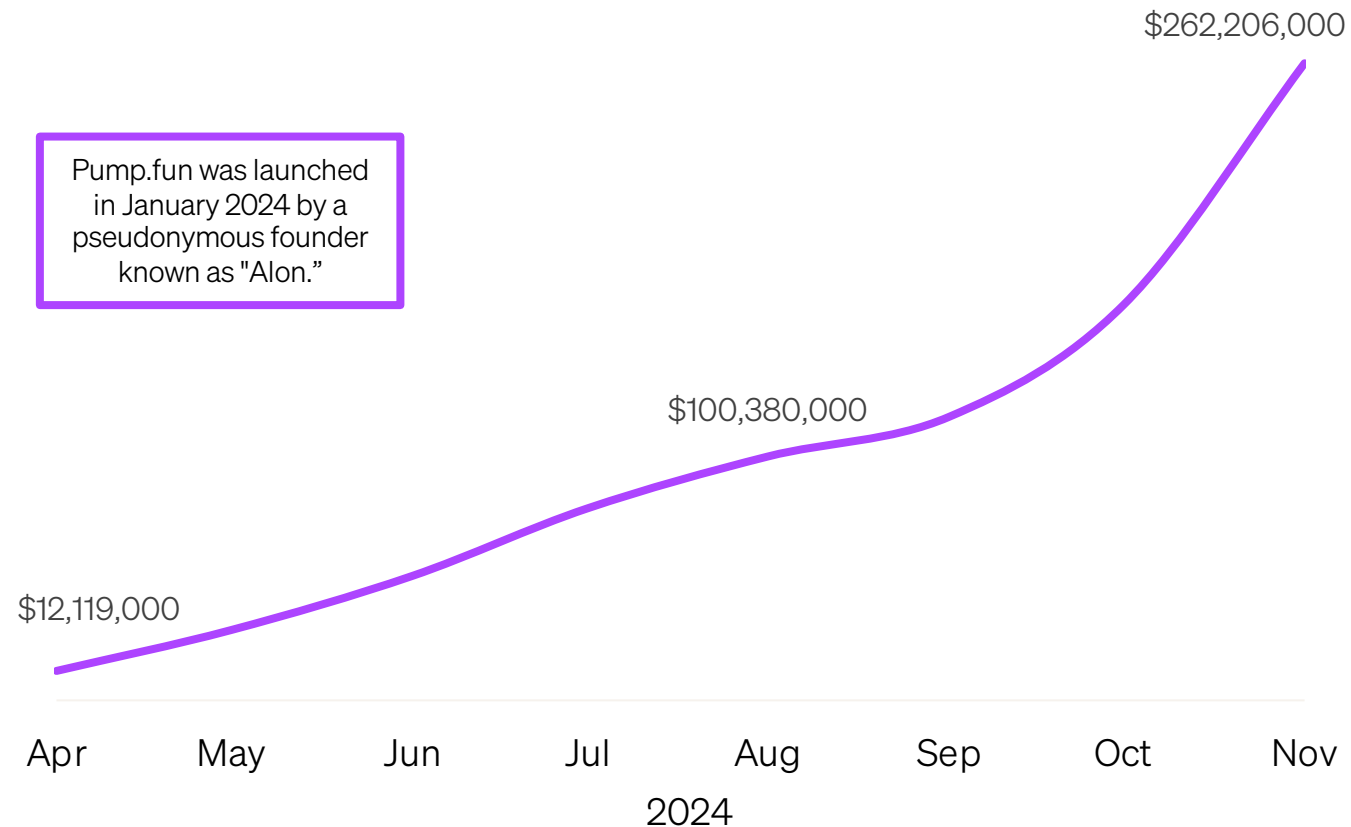
Pump.fun Price Bonding Curve Mechanism

Target supply sold hits 1bn tokens. Token graduates with a $100k market cap.

The platform then automatically provides liquidity from the sales for trading on broader DeFi trading applications.

Only 1.5% of all tokens launched hit the graduation milestone.

Current price

User creates token

Buys move the price up, sells move it down.

Current supply
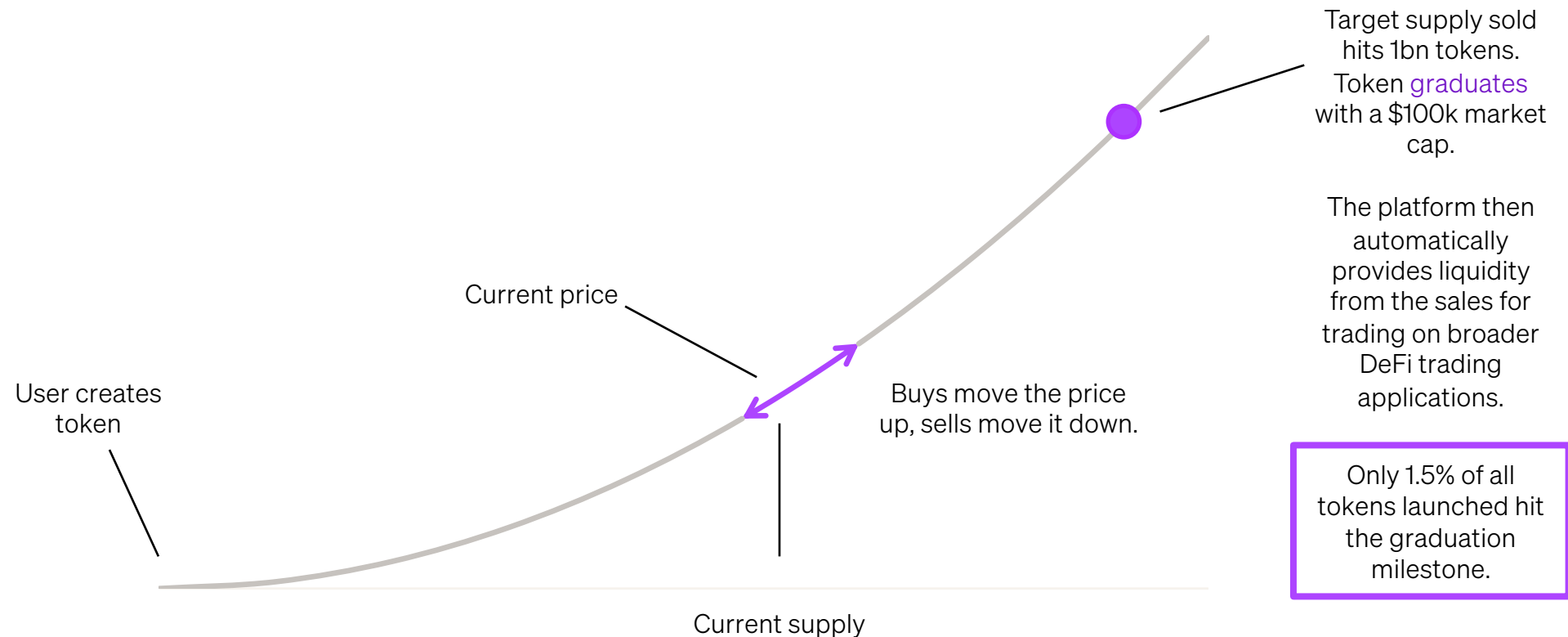
Pump.fun generates revenue through a 1% fee on all trades, reaching $262M in revenue since launching in early 2024.

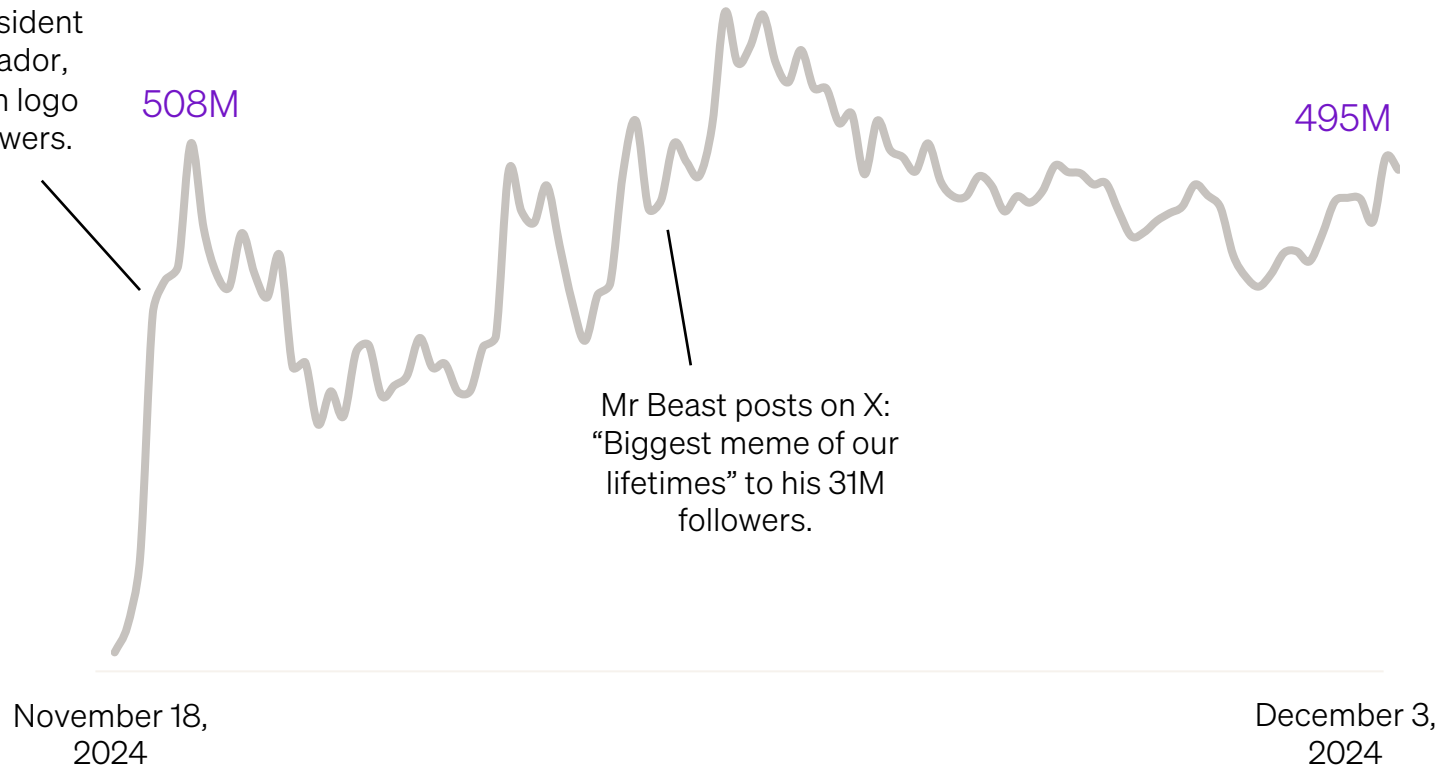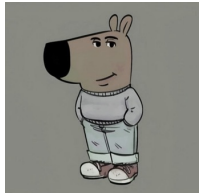**Pump.fun Cumulative Revenue, US Dollars, April to November 2024**

$262,206,000

Pump.fun was launched in January 2024 by a pseudonymous founder known as "Alon."

$100,380,000

$12,119,000

Apr   May   Jun   Jul   Aug   Sep   Oct   Nov

2024

While most memecoins are short-lived, some gain lasting value through viral social attention and celebrity mentions.

CHILLGUY Market Cap, Millions of Dollars, November 18ᵗʰ, 2024 to Dec 3ʳᵈ, 2024

Nayib Bukele, the president of pro-crypto El Salvador, posted the memecoin logo on X to his 6.8M followers.
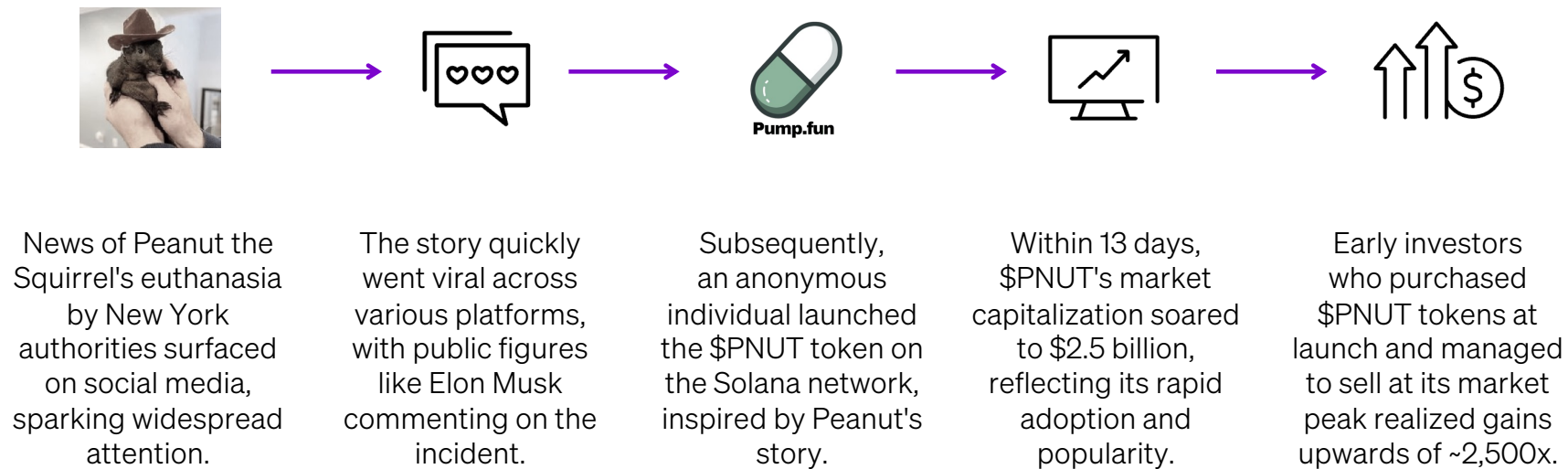

508M

495M

Mr Beast posts on X: "Biggest meme of our lifetimes" to his 31M followers.

November 18, 2024

December 3, 2024

This social-first approach creates value through predictable patterns.

Pepe and Bonk Market Caps, Billions of Dollars, 2023 to 2024

New wave of adoption leads
to another price discovery

Phase 2
Price finds equilibrium as
core community stabilizes

10B

Token gains attention and
price rises as more people
join the community

Phase 1
Small groups discover the token
and build initial community
momentum

Pepe memecoin

4B

Bonk memecoin

2023

2024

And amid economic uncertainty, memecoins have become popular as "moonshot" gambles, particularly among young people seeking dramatic financial gains.

How Did Peanut the Squirrel's Viral Story Lead to the $PNUT Memecoin?

News of Peanut the Squirrel's euthanasia by New York authorities surfaced on social media, sparking widespread attention.

The story quickly went viral across various platforms, with public figures like Elon Musk commenting on the incident.

Subsequently, an anonymous individual launched the $PNUT token on the Solana network, inspired by Peanut's story.

Within 13 days, $PNUT's market capitalization soared to $2.5 billion, reflecting its rapid adoption and popularity.

Early investors who purchased $PNUT tokens at launch and managed to sell at its market peak realized gains upwards of ~2,500x.

Memecoin success shows crypto value extends beyond technical utility to include community-driven engagement and social momentum.

Rare Pepe digital cards, launched before the PEPE token, are integral to the broader Pepe community, having established the meme's cultural significance within the crypto space.

PEPE

A token based on a popular internet frog meme, gained attention in 2023 through clever marketing and an active community.

Market Cap: $8 Billion

Dogwifhat

Inspired by a picture of a dog wearing a hat, quickly gained popularity through internet jokes and community engagement.

Market Cap: $3 Billion

The community raised $700K in 4 days to put their logo on the Las Vegas sphere.

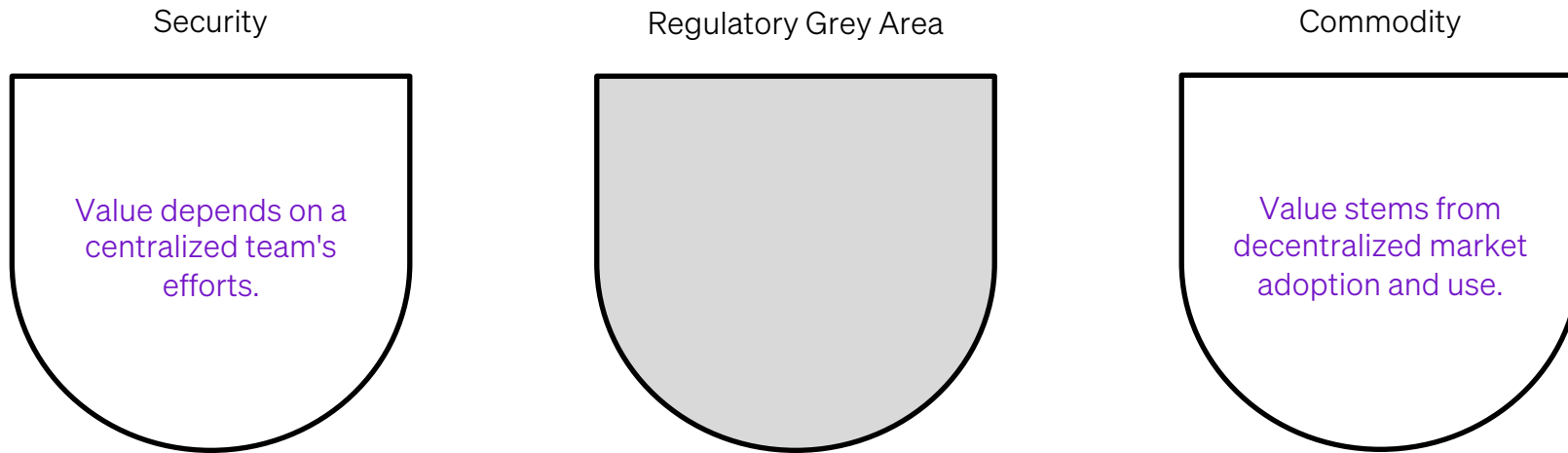# The implications extend beyond memecoins, as all cryptocurrencies derive value from their communities.

Bitcoin HODL Culture Refers to the Percentage of Bitcoin That Hasn't Moved from Wallets

| HODL	Percentage of BTC Supply	HODL Profile
1 Year+	63%	These holders have weathered some volatility but may not have experienced full market cycles yet.
5 Year+	31%	These holders have been through multiple bull/bear cycles, showing strong conviction.
10 Year+	17%	The earliest Bitcoin adopters who never sold, though some of these wallets may be lost or inaccessible due to forgotten keys or deceased owners.

Regulation

Easy token creation and global reach
has spawned both legitimate projects and scams
designed to deceive investors and steal funds.

The fundamental challenge of cryptocurrency regulation stems from a critical classification dilemma: are digital assets securities or commodities?
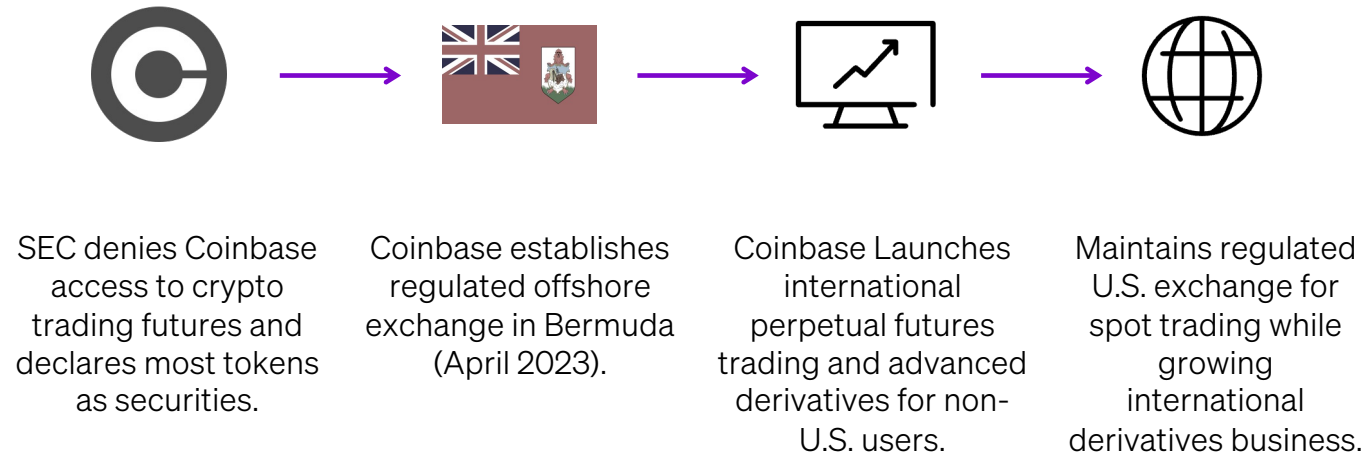
Security

Regulatory Grey Area

Commodity

Value depends on a centralized team's efforts.

Value stems from decentralized market adoption and use.

Crypto assets lie on a spectrum that shifts between security and commodity classifications over time, often occupying a hybrid status.

Security
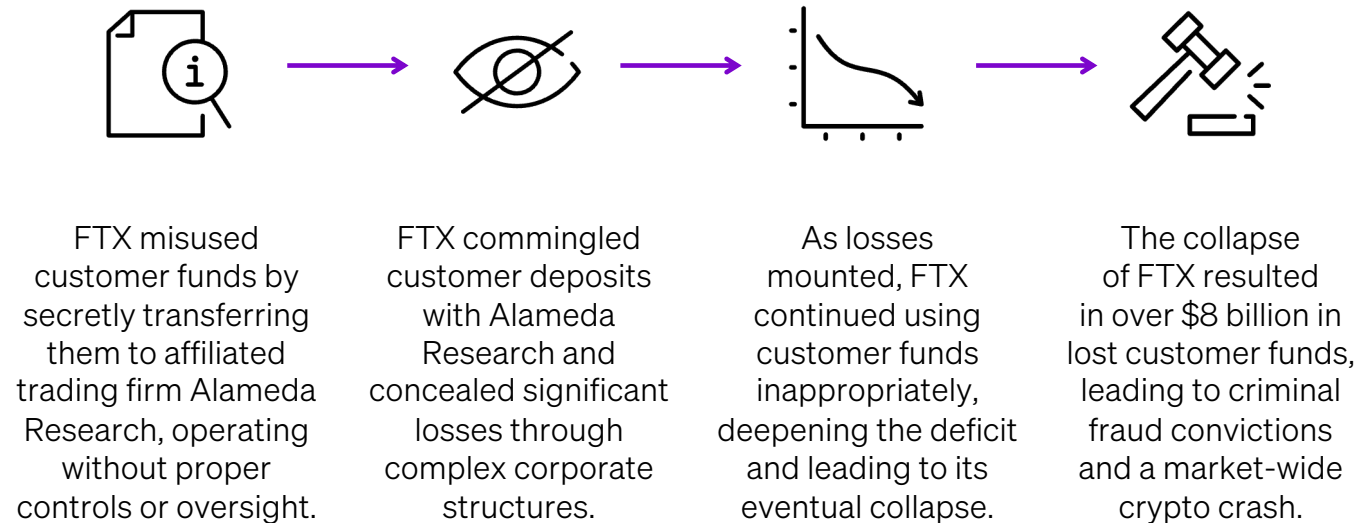
Regulatory Grey Area

Commodity
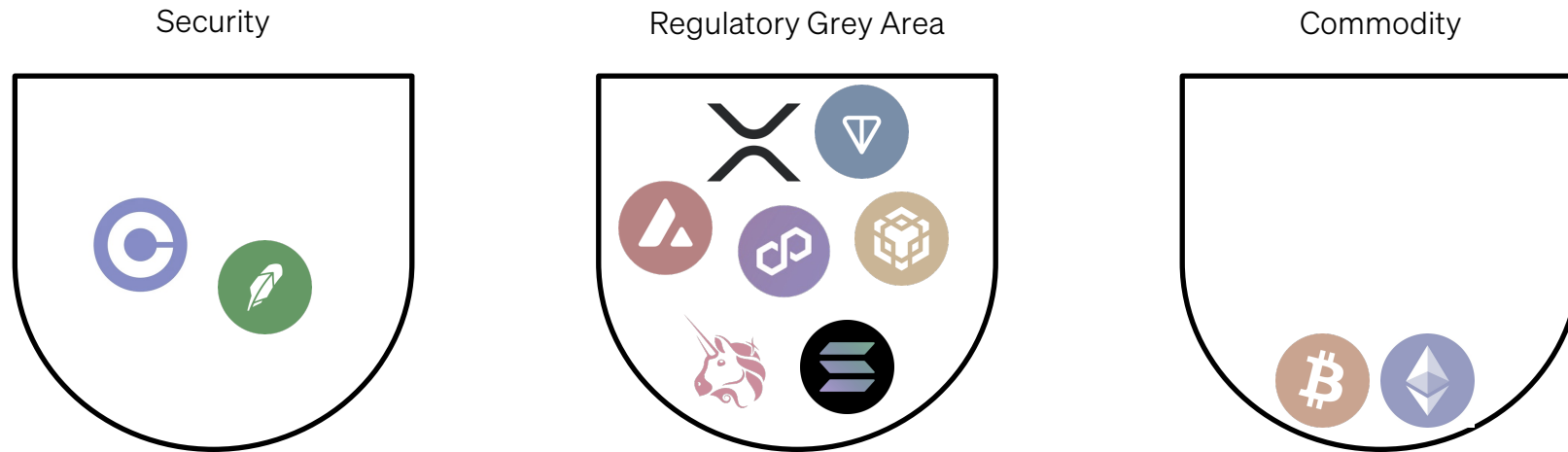
And shaping the SEC's aggressive crypto enforcement has pushed companies offshore, paradoxically reducing U.S. regulatory oversight of the industry.

How did Coinbase respond to U.S. regulatory restrictions on crypto trading?

SEC denies Coinbase access to crypto trading futures and declares most tokens as securities.

Coinbase establishes regulated offshore exchange in Bermuda (April 2023).

Coinbase Launches international perpetual futures trading and advanced derivatives for non-U.S. users.

Maintains regulated U.S. exchange for spot trading while growing international derivatives business.

The lack of clear regulations in the U.S. undermines investor safety, as demonstrated by FTX's ability to conduct fraud while evading regulatory oversight.

How did lack of clear regulations allow FTX to conduct fraud?

FTX misused customer funds by secretly transferring them to affiliated trading firm Alameda Research, operating without proper controls or oversight.

FTX commingled customer deposits with Alameda Research and concealed significant losses through complex corporate structures.

As losses mounted, FTX continued using customer funds inappropriately, deepening the deficit and leading to its eventual collapse.

The collapse of FTX resulted in over $8 billion in lost customer funds, leading to criminal fraud convictions and a market-wide crypto crash.

While current SEC policies remain restrictive under Gary Gensler, a pro-crypto incoming Trump administration in 2025 has shifted market sentiment positively.

SEC Under Gary Gensler

Gensler views nearly all cryptocurrencies as unregistered securities requiring SEC oversight.

His enforcement-heavy approach claims to prioritize investor protection over crypto innovation.

Trump Administration

Gensler has already declared that he will be resigning from his position as SEC chair on January 20.

Plans to establish a cryptocurrency advisory council to develop transparent regulatory guidance for the industry within 100 days.

BONUS SECTION

Phase ????

DOGE

2013 - Present

Created by two engineers as a joke fork of Litecoin in 2013, Dogecoin evolved from an internet meme to a billion-dollar crypto phenomenon.

Dogecoin Market Cap, Billions of Dollars, 2020 to 2024
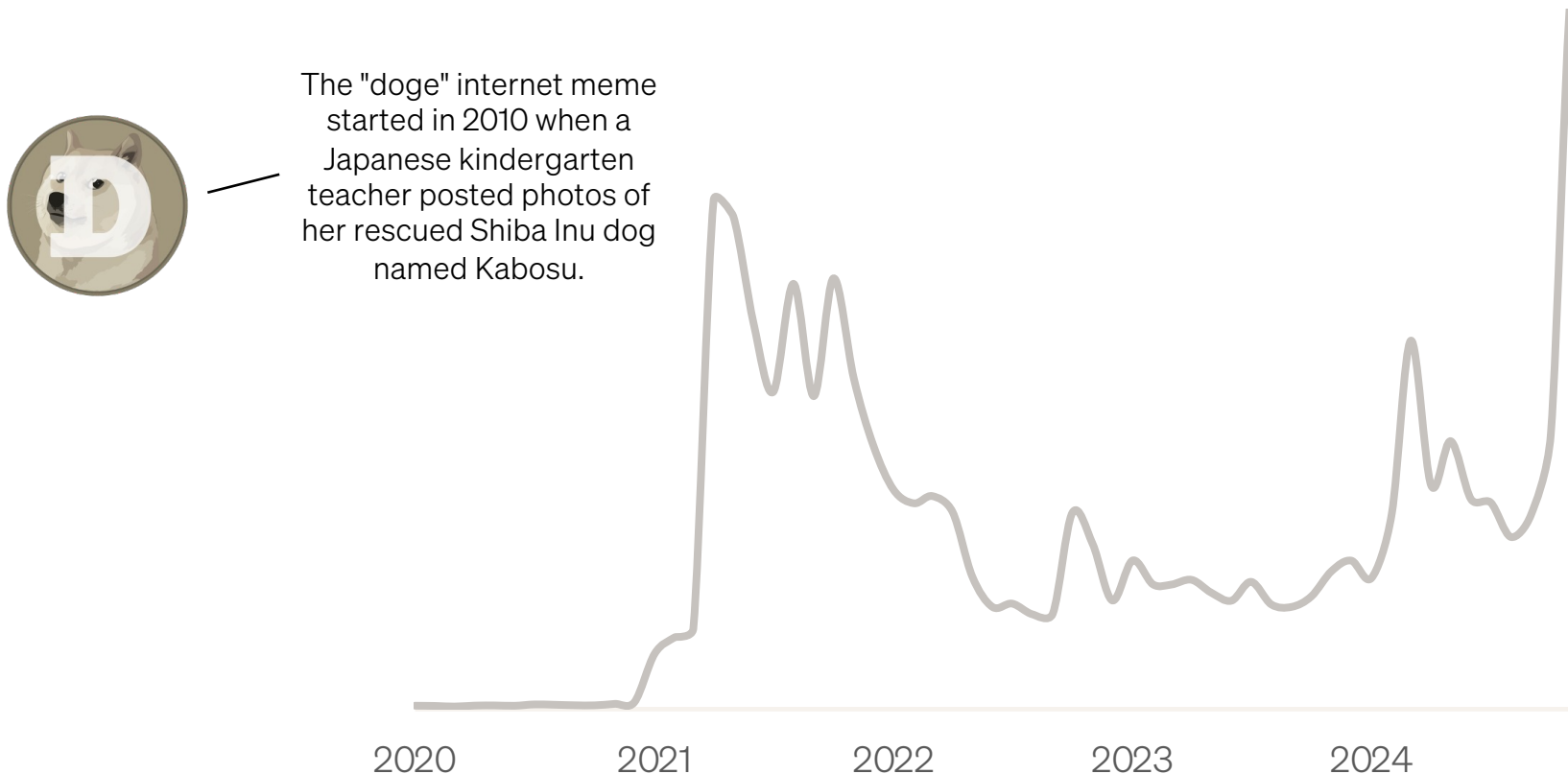
The "doge" internet meme started in 2010 when a Japanese kindergarten teacher posted photos of her rescued Shiba Inu dog named Kabosu.

2020   2021   2022   2023   2024

SOCIAL CAPITAL_

Celebrity posts and social media moments repeatedly catapulted Dogecoin into viral fame, driving massive price swings.

Dogecoin Market Cap, Billions of Dollars, 2020 to 2024

In an appearance on SNL, Elon Musk called himself himself "The Dogefather". This drove DOGE to its all-time high of about $0.74, though it crashed immediately after the appearance when he called it a "hustle".

Reports emerged that X was advancing plans to introduce payment functionalities, with potential future support for cryptocurrencies like Dogecoin.

$44B

$62B

$32B

Elon Musk's series of tweets about DOGE, including changing his Twitter bio to "CEO of Dogecoin" catalyzed the initial major price move from under $0.01 to over $0.05.

$6B

2020   2021   2022   2023   2024

DOGE's meme status also aligns with Elon and Vivek's government efficiency initiative, creating a self-reinforcing cycle of relevance for the cryptocurrency.

Dogecoin Market Cap, Billions of Dollars, 2020 to 2024

$62B

$44B

$32B

$6B

Elon Musk replies to a post suggesting to name the Department of Government Efficiency (DOGE): "That is the perfect name"

2020   2021   2022   2023   2024

When millions share a meme and engage with an idea globally through crypto, cultural relevance converts directly into financial value.

DOGE Coin Market Cap, Billions of Dollars, 2020 to 2024

Investment value is
now $27,500

5.5x

Elon Musk replies to a post
suggesting to name the
Department of Government
Efficiency (DOGE):
"That is the perfect name"

Invested $5,000

2020   2021   2022   2023   2024
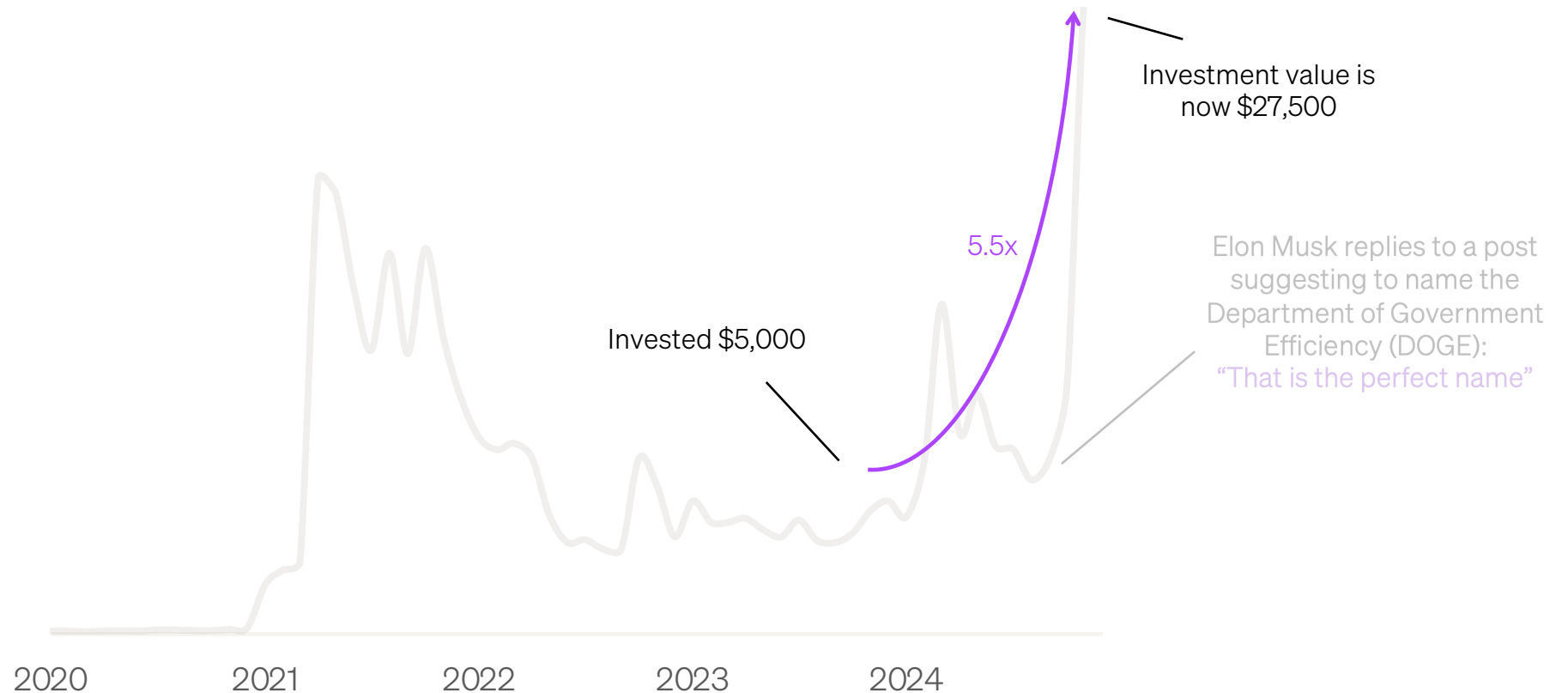
Wrapping Up...

The crypto ecosystem has developed through four distinct phases.
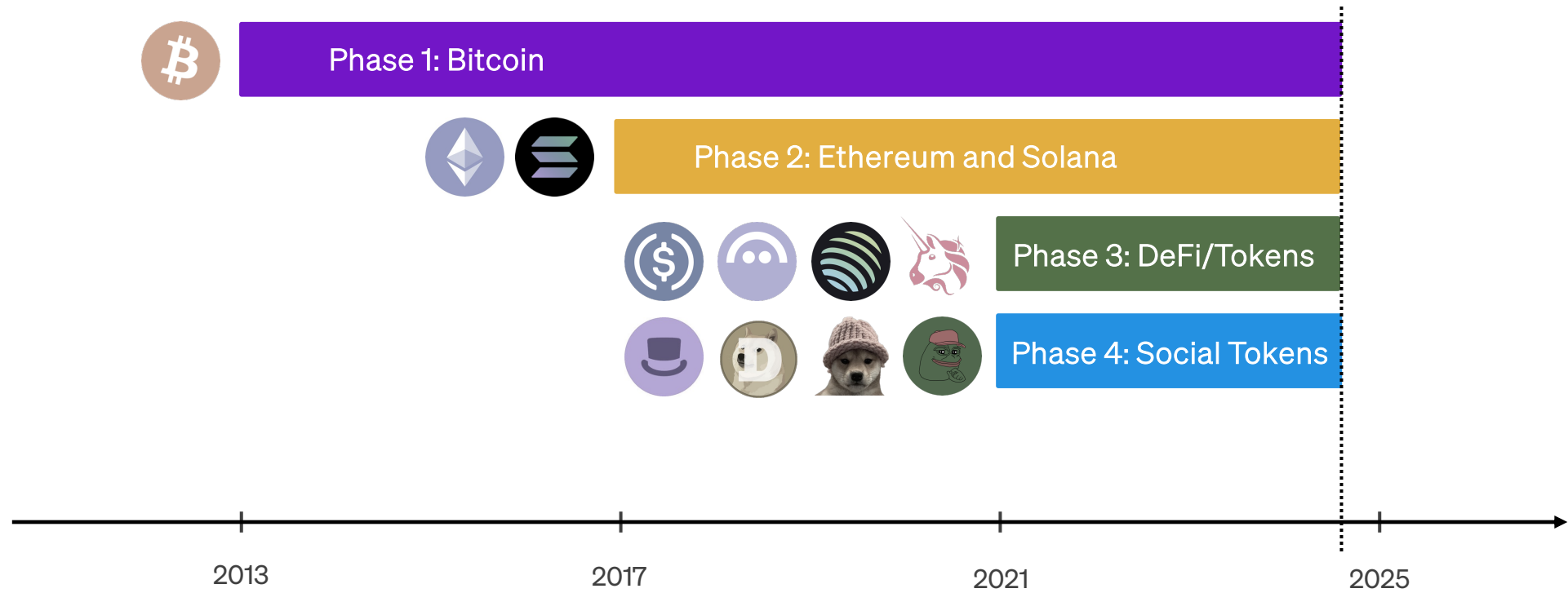
Bitcoin achieved institutional and retail traction
as the first cryptocurrency with true product-market fit.

El Salvador begins buying Bitcoin for their national treasury

Tesla buys Bitcoin

Square and Microstrategy buy Bitcoin

KPMG and Tether buy Bitcoin

ETFs launch and institutions investors begin buying Bitcoin

2017   2018   2019   2020   2021   2022   2023   2024

SOCIAL CAPITAL_
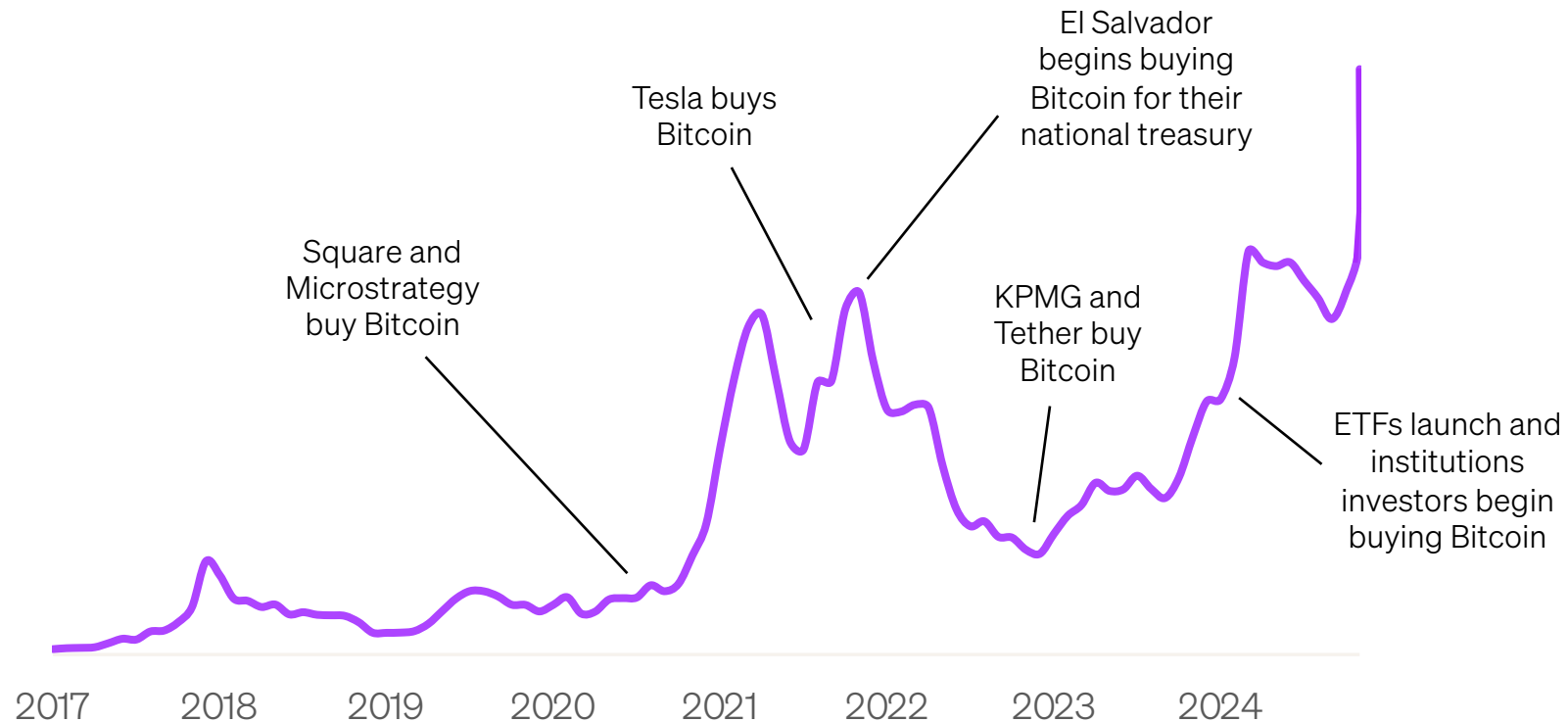
While Bitcoin focused on being a digital currency, Ethereum built
a computing platform where developers could program smart contracts.

Contracts written in
code are embedded in
transactions.

Deploys

Programmable Assets

Developer/User

The Ethereum network not
only stores balances in
records but can also store
and run snippets of code.
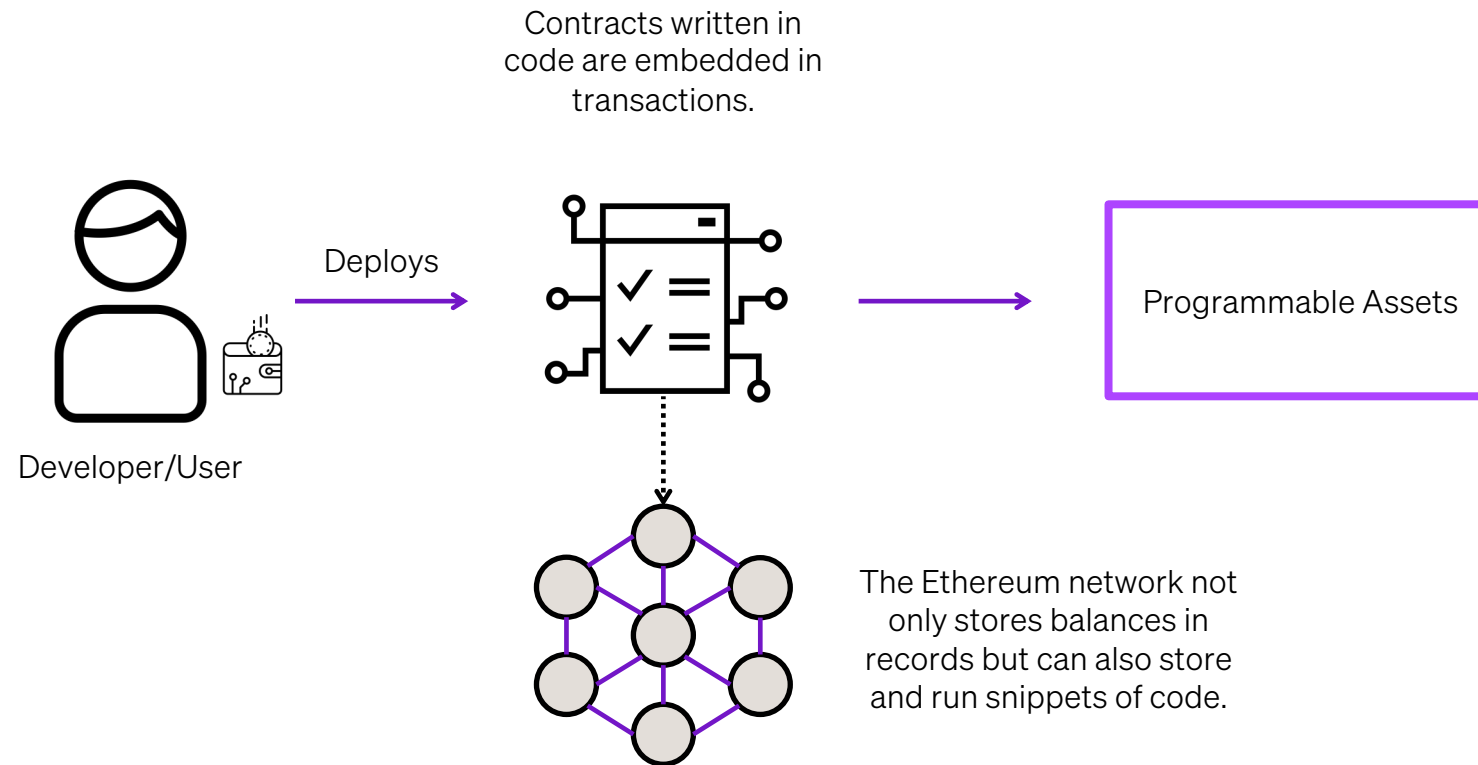
The market validated smart contracts during 2020-2021, when applications built on them attracted hundreds of billions in user deposits.

Total Value Locked in Ethereum Smart Contracts, Billions of Dollars, 2019 to 2021
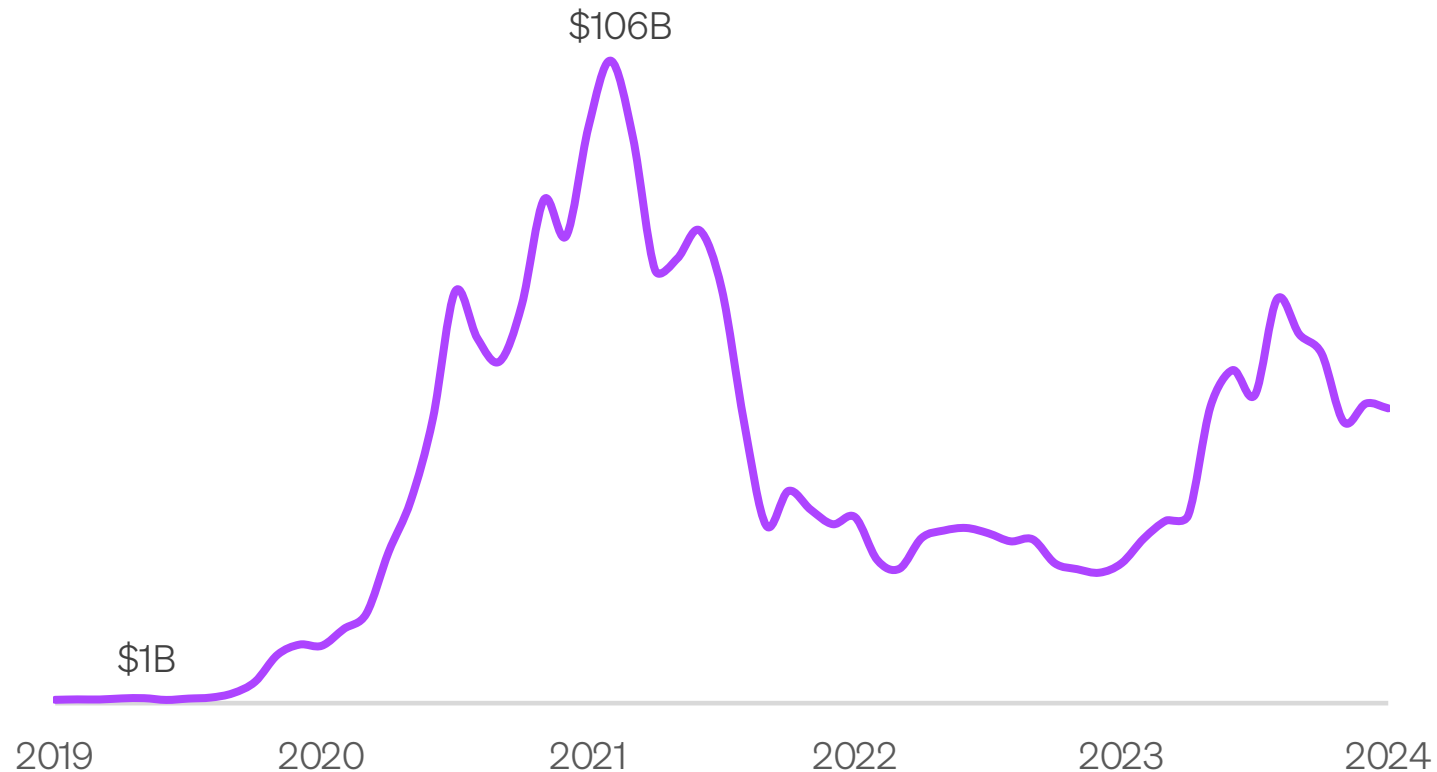
$106B

$1B

2019   2020   2021   2022   2023   2024

Following Bitcoin's digital currency and Ethereum's programmable platform, Solana emerged as a programmable network focused on high speed and low cost.
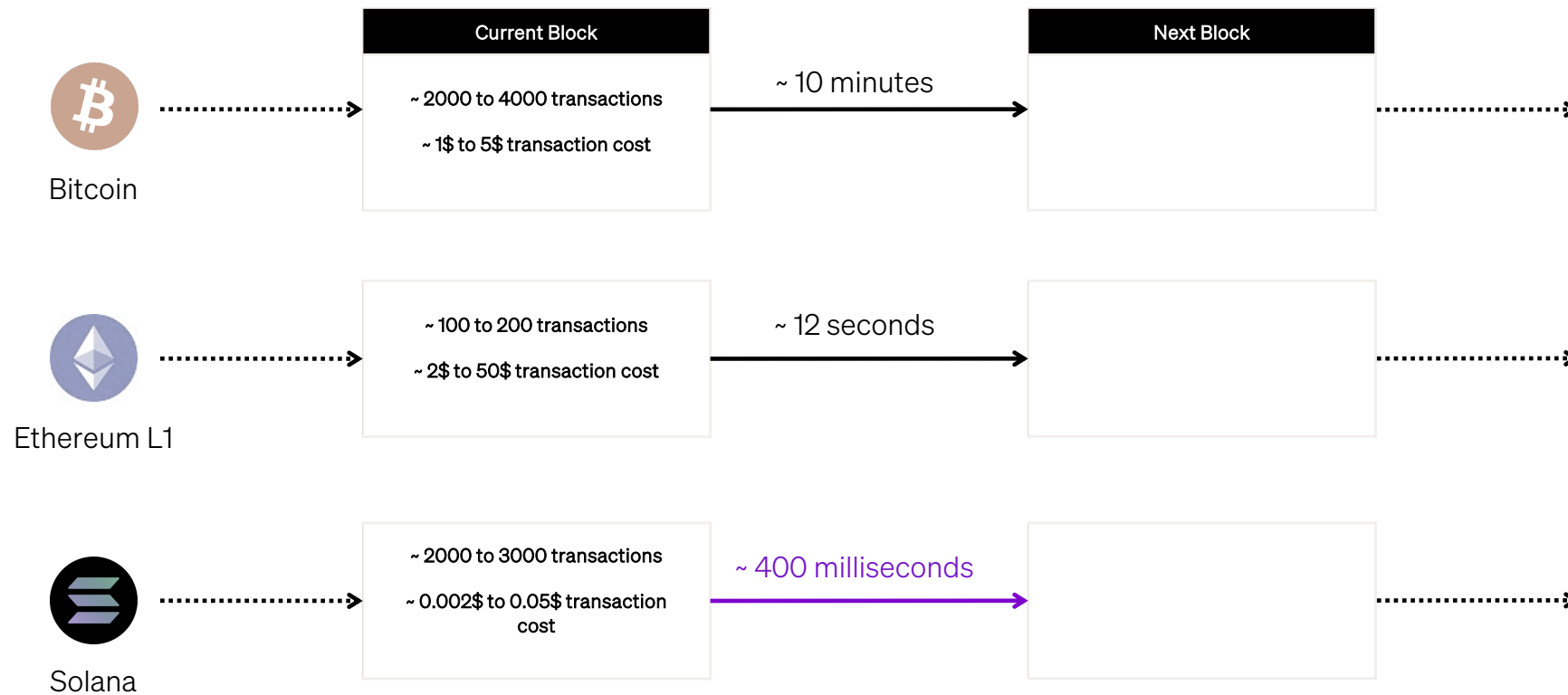
Bitcoin

Current Block
~ 2000 to 4000 transactions
~ 1$ to 5$ transaction cost

~ 10 minutes →

Next Block

Ethereum L1

~ 100 to 200 transactions
~ 2$ to 50$ transaction cost

~ 12 seconds →

Solana

~ 2000 to 3000 transactions
~ 0.002$ to 0.05$ transaction cost

~ 400 milliseconds →

From early network outages to current stability, Solana's growth reflects both its maturing infrastructure and growing real-world use.

Price of Solana, US Dollars, 2020 to 2024

$224

Solana's network stability after the 2023 upgrades restored market confidence.

$167

Network outages

Network outages

Network outages

Key upgrades led to consistent stability

$12

2020   2021   2022   2023   2024
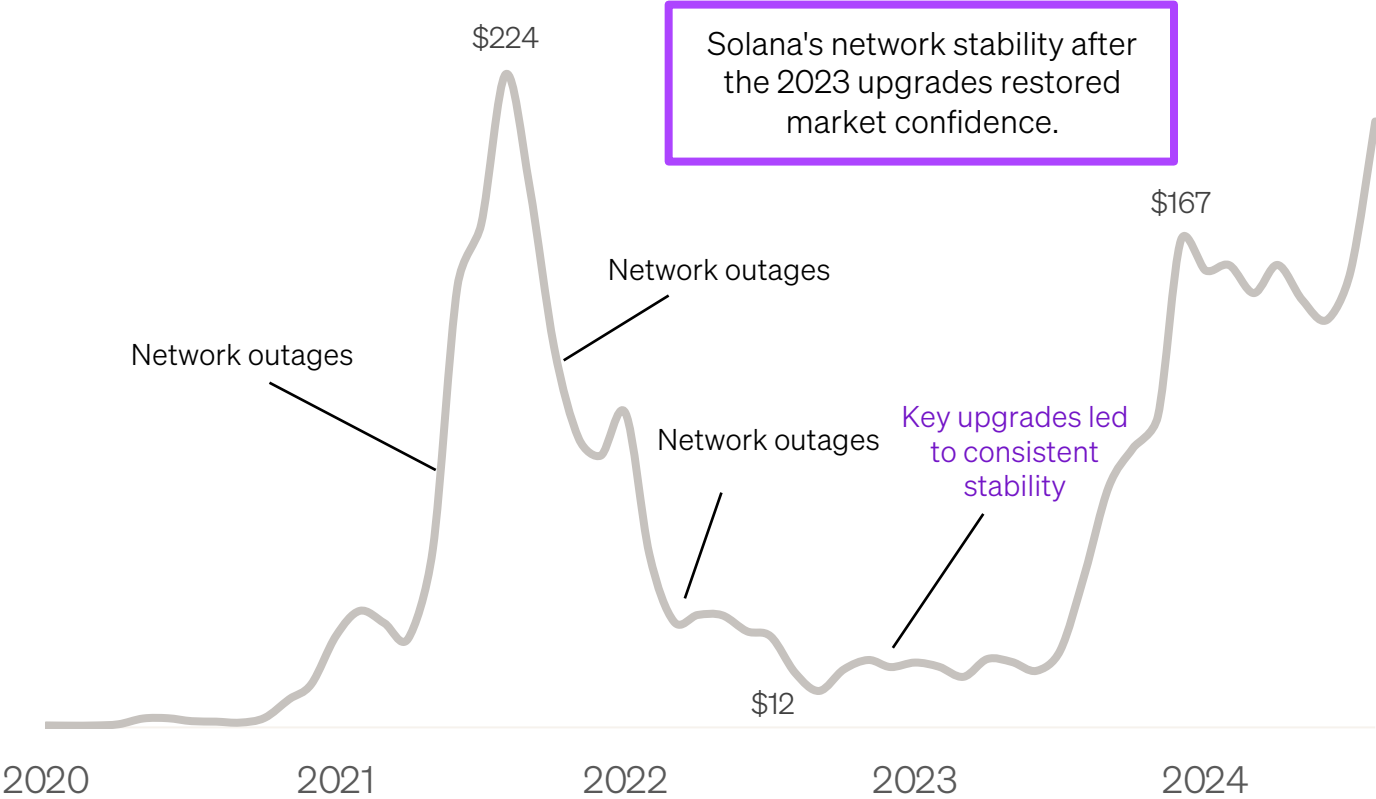
DeFi applications can now handle billions in daily transaction volume, rivaling traditional finance infrastructure.

DeFi Trading and Robinhood Equity Trading, Monthly Volume, Billions of Dollars, 2024
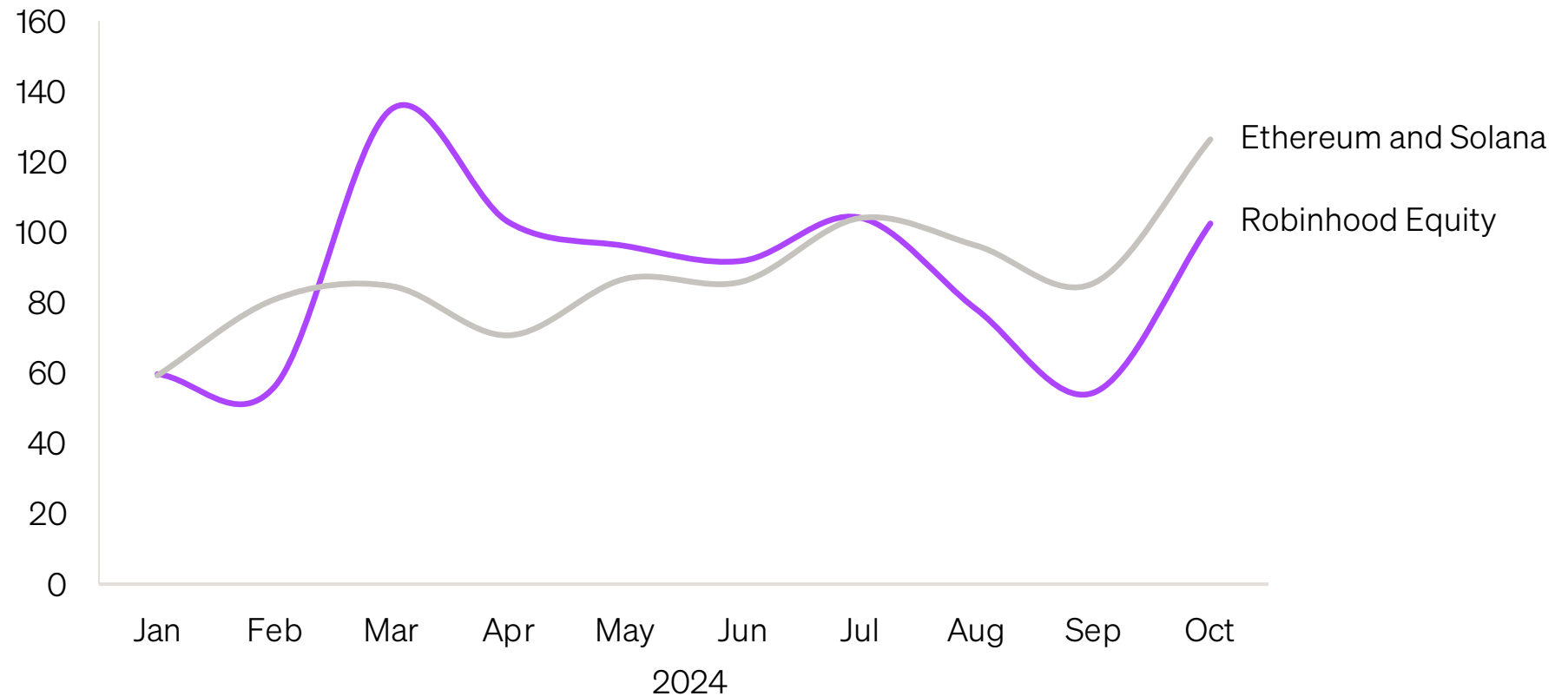
DeFi's ecosystem growth is evident in the total value locked across DeFi applications, which has reached billions of dollars.

DeFi Categories by Total Value Locked in Applications, Billions of Dollars, 2024

Category	TVL	Description
Staking	$62B	Locking up crypto to support network operations and earn rewards.
Lending	$46B	Providing crypto assets to borrowers.
Brdiges	$40B	Asset transfers between different networks.
DEX (Trading)	$23B	
Restaking	$22B	Re using staked assets for additional rewards.
Yield	$8B	Provide assets that generate yield from complex strategies like arbitrage
Real World Assets	$7B	Tokenized physical assets.
Derivatives	$6B	Leveraged speculation

SOCIAL CAPITAL_
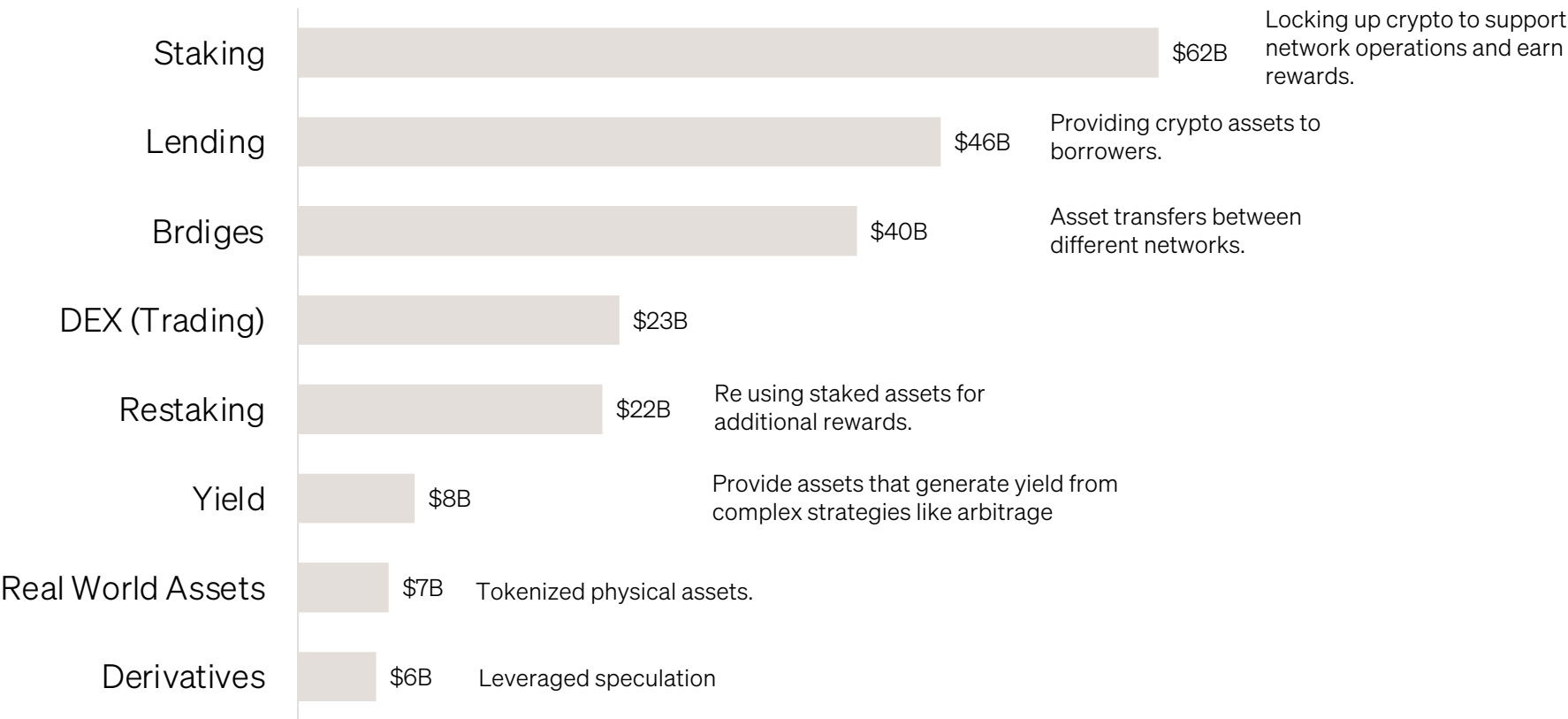
Stablecoins are cryptocurrencies designed to maintain a fixed value pegged to fiat currencies like the U.S. dollar.
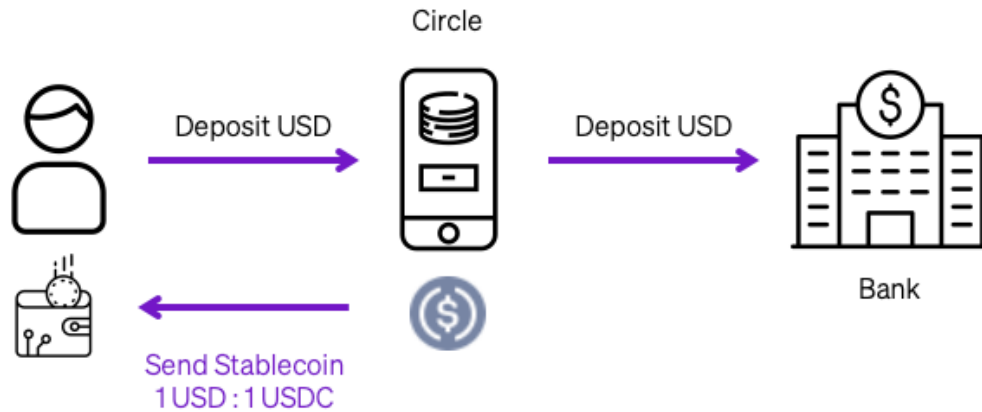
USDC, issued by Circle, is a digital dollar backed by audited U.S. dollar reserves held in bank accounts.
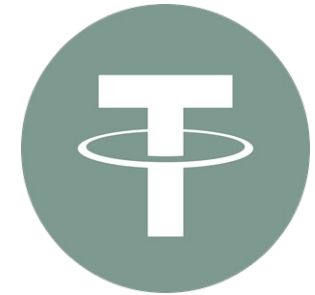
USDT, issued by Tether, is the most widely used digital dollar, backed by a mix of assets with less transparent reserves.

Users are increasingly leveraging decentralized networks for instant, worldwide stablecoin transfers.

Stablecoin P2P Transfer Volume, Billions of Dollars, 2019 to 2024

Cryptocurrencies appear to be evolving from purely financial tools into platforms for exchanging both monetary and cultural value.

2013

2024

Asset

Asset

Asset

Asset + Community

Asset + Voting power

Asset + Access

As a result, crypto projects frequently launch tokens as equity instruments that create both financial and cultural value.

ENS Token
Governance rights
Revenue sharing

Blur Token
Governance rights
Revenue sharing

Friendtech Token
Exclusive features
Incentives

Uniswap Token
Governance rights

Jupiter Token
Governance rights

Most governance tokens hold value because users expect them to generate yield via revenue sharing at some point in the future.

Low product
market fit

High product
market fit

As traditional community structures weaken, internet-native communities have emerged as alternatives for belonging and coordination.

Traditional Communities

- Religious centers
- Community centers
- Cultural clubs
- Advocacy groups

Non-Traditional Communities

- Running clubs
- Pickleball clubs
- Social clubs
- Health clubs

Internet Based Communities

- Subreddits
- Facebook groups
- Online gaming guilds
- Professional networks

Crypto Communities

- Bitcoin maxis
- Luna lunatics
- Doge army
- NFT communities

Crypto communities coordinate through a dynamic social stack and organize around tokens.

Posts
$doge
#doge

Official
group chat

Community
Group chats

Discussion
forum

Farcaster
channel

Speculator

Active
Member

Active
Member

Influencer

Passive
Member

Passive
Member

Speculator

Passive
Member

Active
Member

Active
Member

Passive
Member

As a result, popular memecoins have outperformed in 2024 despite having minimal utility.

Bar chart:
- Ethereum: 46%
- NFTs: 57%
- DeFi Tokens: 81%
- Solana: 144%
- Bitcoin: 127%
- RWAs: 1490%
- Memes: 1725%

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Regulatory Grey Area

Commodity

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Plans to establish a cryptocurrency advisory council to develop transparent regulatory guidance for the industry within 100 days.

Future Deep Dives

Month	Theme	Deep-Dive	Summary	Published
Jan	Deep Tech	A Primer on Artificial Intelligence	What is artificial intelligence and what are the different types? How do the various models work? How is value created? What are the risks?	✔
Feb	Life Sciences	The Business Model of Healthcare	What are the incentives that drive the behavior and outcomes of drug companies, insurers and hospitals? What new disruptions are at hand?	✔
Mar	Deep Tech	The Future of Space	What are the legacy and emerging business models built around space? How do we access space today? What will space look like tomorrow?	✔
Apr	Deep Tech	Moore's Law and Next Steps for Silicon	What is Moore's Law and has it broken down? What are the different types of semiconductors? Why are companies moving towards custom-designed silicon?	✔
May	Economic Analysis	Creator Economy: The Next Phase of Media	How do consumers make decisions today? How are influencers reinventing demand generation? What legacy businesses are being disrupted?	✔
Jun	Deep Tech	Defense 2.0: Protecting America	How much does the U.S. spend on defense? How does the defense industry work? What will the future of defense look like tomorrow?	✔
Jul	Life Sciences	A Primer on Drug Development	How do drugs interact with biological processes in the body? How does drug development work? Why have companies developing novel drugs seen such poor returns over the past decade?	✔
Aug	Economic Analysis	Is India the Next Economic Giant?	Where is India's economy today and where might it be tomorrow? From demographics to geopolitics, what are the key factors that will shape India's economic future?	✔
Sep	Socio-Political Trends	Understanding Federal Agencies	What are the major federal agencies in the U.S. Federal Government? How have federal agencies contributed to government expansion, and what reforms could streamline their operations in the future?	✔
Oct	Socio-Political Trends	U.S. Voting and the Electoral College	How does U.S. voting work? What measures ensure the accuracy and integrity of the voting system? How effectively does the U.S. electoral system translate popular will into political representation?	✔
Nov	Deep Tech	A Primer on Cryptocurrencies	What are cryptocurrencies and how do they work? What are some notable cryptocurrencies in the ecosystem today? Which aspects of the crypto ecosystem create value?	✔
Dec	Socio-Political Trends	A Demographic and Social Breakdown of America	Where is America today? A visual representation of our democracy, demography, economy, quality of life, progress and more.	

Disclaimer