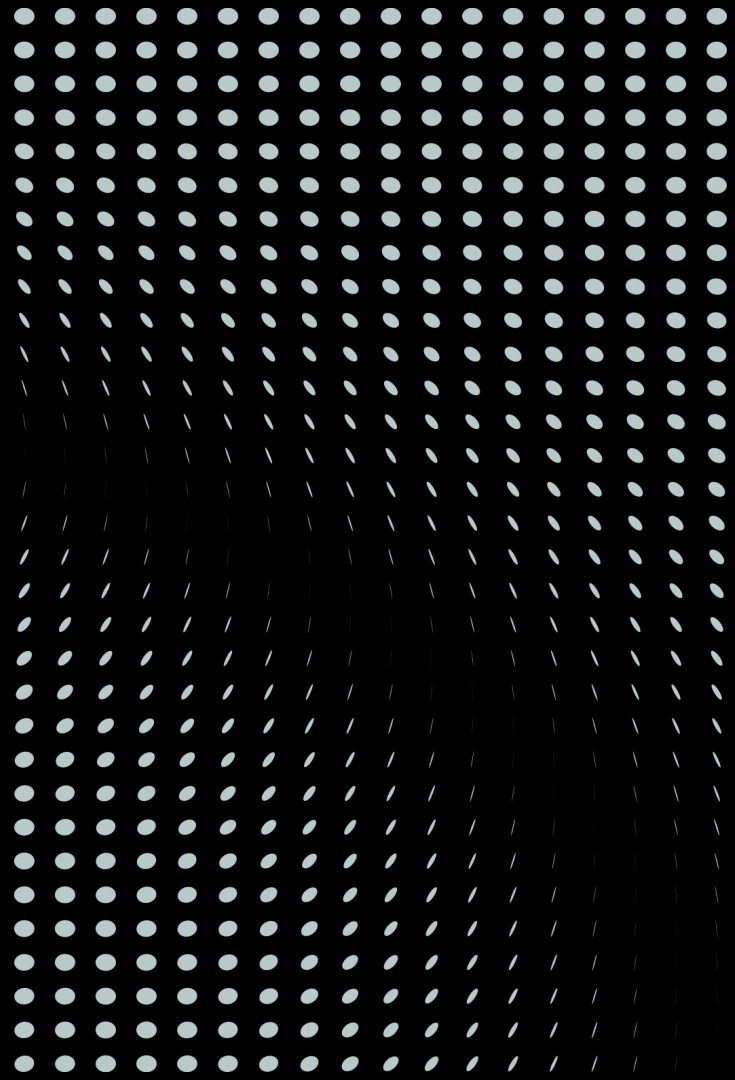


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Digital Assets and Financial Innovation **A Primer**

Coinbase – April 2022

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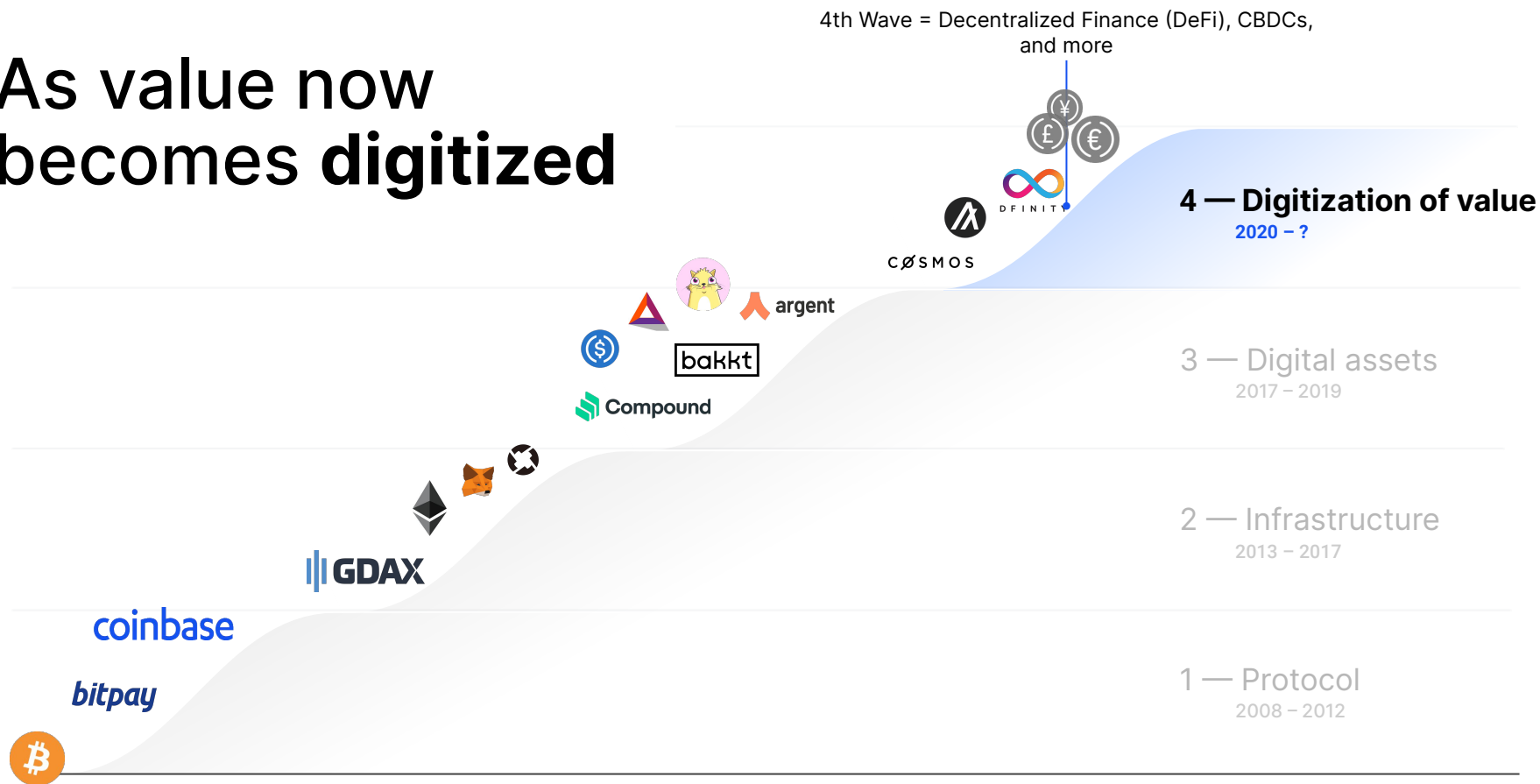
Digital Value

- ✓ Bitcoin as a Store of Value
- ✓ Ethereum as a Platform

Overview

- ✓ Digital Value
- ✓ Consensus Mechanisms
- ✓ Use Cases for Crypto
- ✓ Finance 2.0

As value now becomes digitized



Key Features of digital assets?

Blockchain and digital asset technology are ushering in one of the biggest disruptions in Finance in 100+ years



Global & Borderless

Real-time, 24×7, equal access for anyone around the world



Decentralized & Transparent

No single point of failure (or control)



Open Source & Credibly Neutral

All transaction records are publicly auditable



Composable

Open source by default, allowing applications to build on each other



Tokenization of assets

Liquid exchange of any real or financial asset

What is Bitcoin?

Bitcoin is a new form of peer to peer digital value that eliminates the need for trust.

Est 40 million holders of Bitcoin globally.

Why is does the market value Bitcoin Network at nearly \$1 Trillion today?



Self-sovereign

Universal and not bound by any jurisdiction



Scarce

Only 21 million bitcoins exist



Open to all

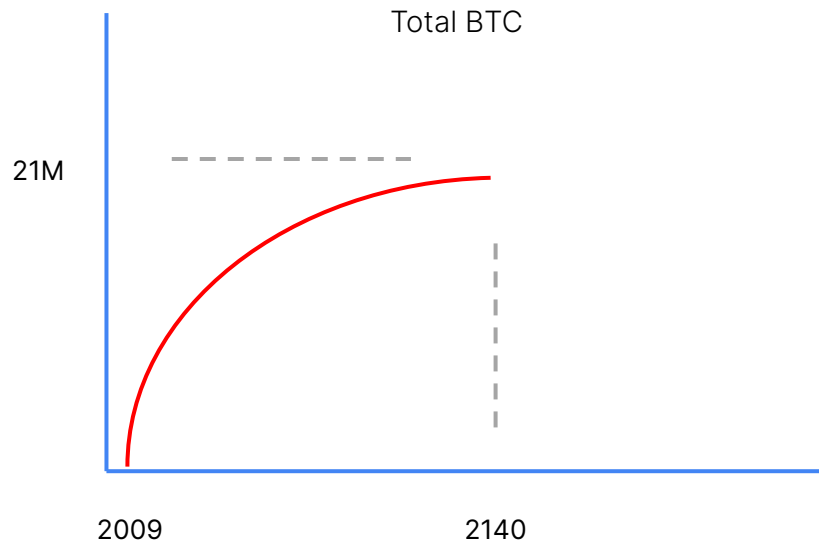
Transparent ledger of transactions and immutable

Digital scarcity

Only 21 million bitcoins will ever exist.
This fixed monetary policy cannot be changed and is apolitical

The 21M supply cap is enforced by
code, verifiability and social consensus

Every four years the “block reward” to
miners drops by half



The last new bitcoin will be issued in the year 2140

What is Ethereum?



Mission and Vision

Bitcoin is Store of Value.
Ethereum is a global,
decentralized, permissionless
world computer



Utility

Ethereum is a world computer and
enables “smart contracts” -
expressive programs that execute



Roadmap

Ethereum plans to move to
proof-of-stake and sharding for
higher throughput and
scalability



Data Structure

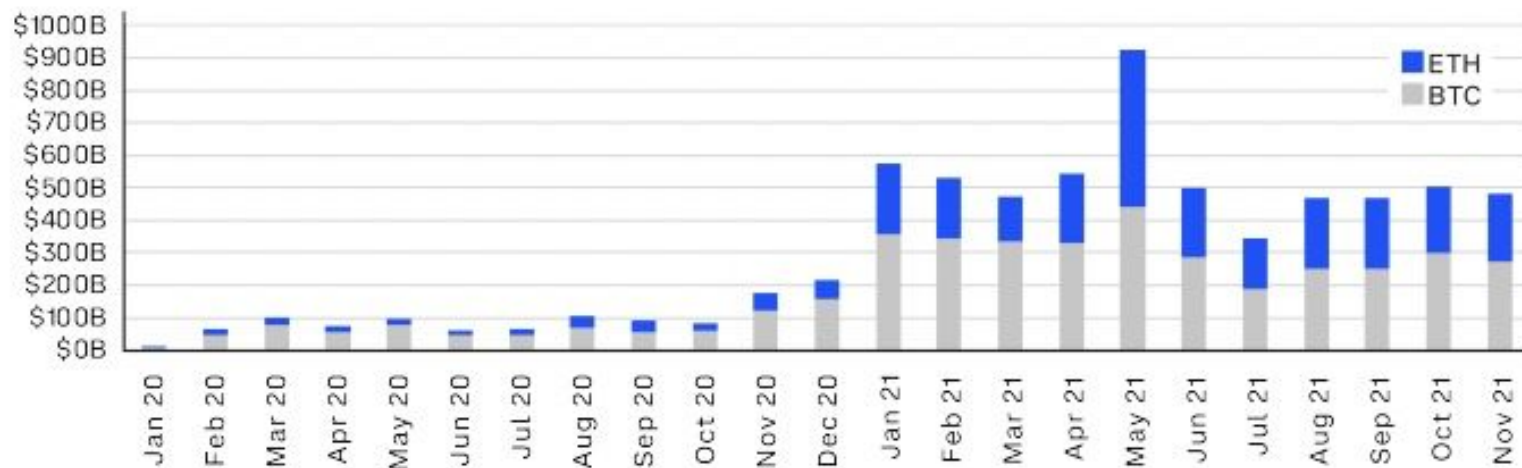
Ethereum aims to become a global,
open source platform for
decentralized applications



*“Bitcoin is like a
Calculator, Ethereum is
a full computer”*

2021 monthly ETH & BTC spot trade volume on centralized exchanges ranged between \$300bn to \$500bn.

ETH vs. BTC total spot volume across centralized exchanges



Source: Coinbase Analytics. Exchanges include: Binance, Binance US, Bitfinex, BitFlyer, Bitso, Bitstamp, Bittrex, Coinbase, CoinField, FTX, Gate.io, Gemini, HitBTC, ItBit, Kraken, Liquid, LMAX Digital, Mercado Bitcoin, NomineX, Poloniex

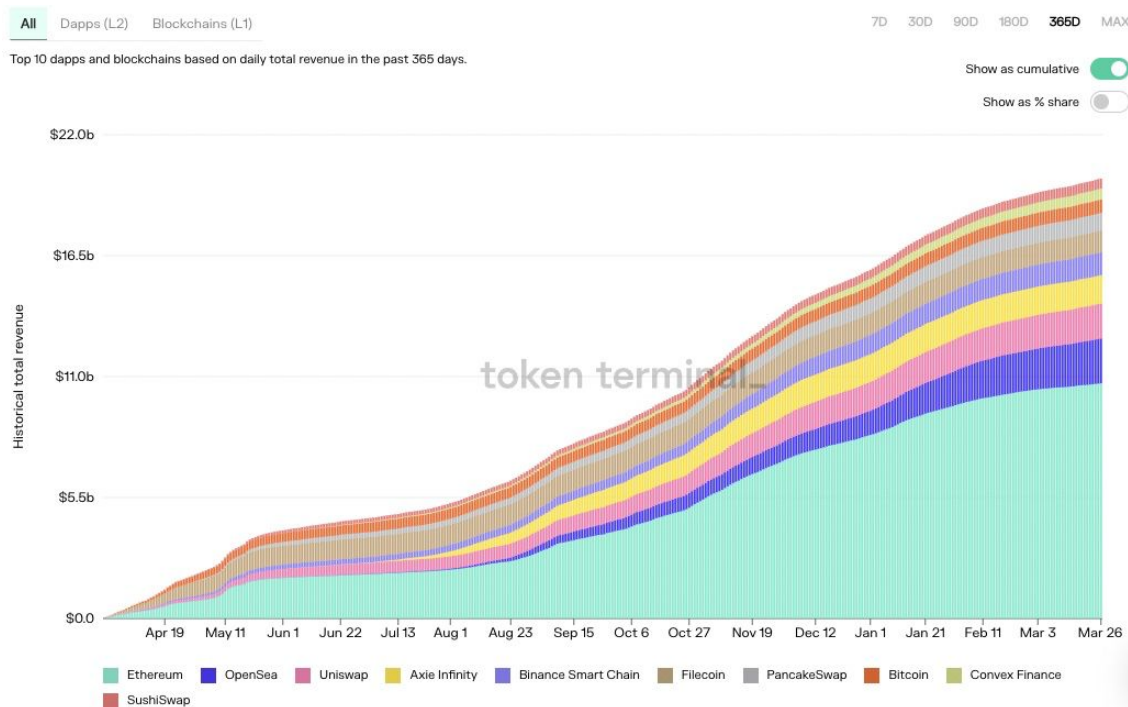
2021 ETH network averaged 1.2 million daily transactions

Ethereum network daily transactions since inception



Source: Coinbase Analytics

In 2021 the Ethereum network generated ~\$10 billion in revenue, nearly 50% of the combined top 10 applications and blockchains.



Source: Token Terminal

Consensus Mechanisms

- ✓ Proof Of Work
- ✓ Proof of Stake

Consensus Mechanisms

Proof of Work



Miners solve computationally intensive cryptographic problems to validate the blockchain



The first miner to solve the problem produces the next block and receives a reward



Miners are incentivized to properly validate because of the cost of electricity to solve problems



Uses large amounts of energy in the process

Proof of Stake



Validators “stake” their holdings, using them as collateral to validate the blockchain. Staked funds may be subject to a lockup period.



A validator is chosen based on the size of their stake to produce the next block & receive a reward



“Slashing” incentivizes validators to properly validate, as bad behavior results in loss of funds



Energy efficient and much more scalable

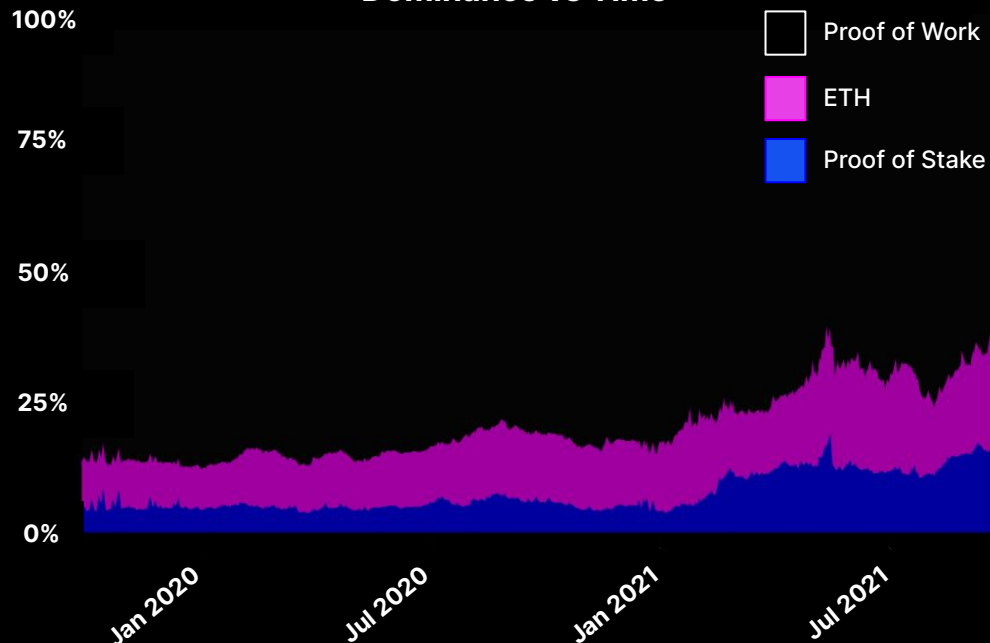
The Shift to Proof of Stake = “The Merge”

Proof of stake market cap has grown from ~\$9B USD to over ~\$339B USD from October 2019 to October 2021

New chains are launching with proof of stake with improved scaling properties and better aligned incentives

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Proof of Stake vs Proof of Work 2020-21
Dominance vs Time



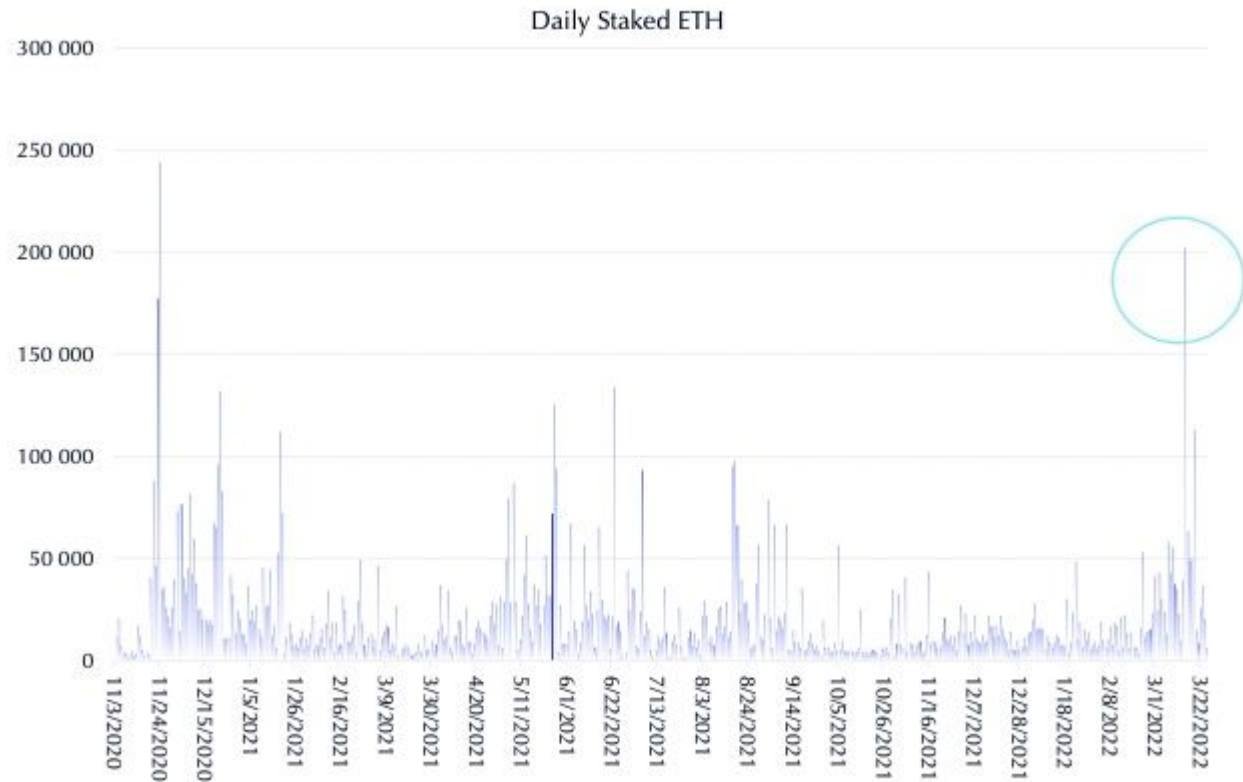
- Proof of stake more than doubled in past two years
- If we include ETH in this equation, proof of stake is already near parity with proof of work

Source: StakingRewards - [Staking Ecosystem Report 2021](#)

Daily ETH staking is rising.

YTD we can see an average of 25k ETH staked per day, or roughly \$75 million per day.

Figure 1: ETH Staking



Source: Dune Analytics

Staking to validate the Ethereum network is estimated to offer rewards between 8% to 12% APR.

Table 1. Estimates of potential ETH staking yields following the merge

	Scenario1	Scenario 2	Scenario 3
Effective ETH balance	9.46M	11.83M	14.20M
Net transaction fees	1750	1750	1750
Base reward factor	64	64	64
Total rewards (ETH)	1.15M	1.21M	1.27M
Total rewards in % APR	12.2%	10.2%	8.9%

Net transaction fees are based on 6m average and exclude the base fee that is burned. Source: Ethereum Foundation and Coinbase.

Source: Coinbase Research & The Ethereum Foundation

<https://www.coinbase.com/institutional/research-insights/research/market-intelligence/eth-staking-post-merge-yield-estimates-and-risk>

Finance 2.0

- ✓ DeFi -
- ✓ Decentralized Exchanges -
- ✓ Asset Tokenization
- ✓ Institutional Adoption

How does DEFI work?



Blockchain

Cryptography ensures transaction security & the blockchain removes the need for an intermediary.



Smart Contracts

Historically, financial institutions have acted as “guarantors” in financial; smart contracts replace the need for financial institutions



dApps

“Decentralized apps” that are built on top of blockchains technology. dApps allow participants to lend, borrow, earn, exchange, etc.



Stablecoins

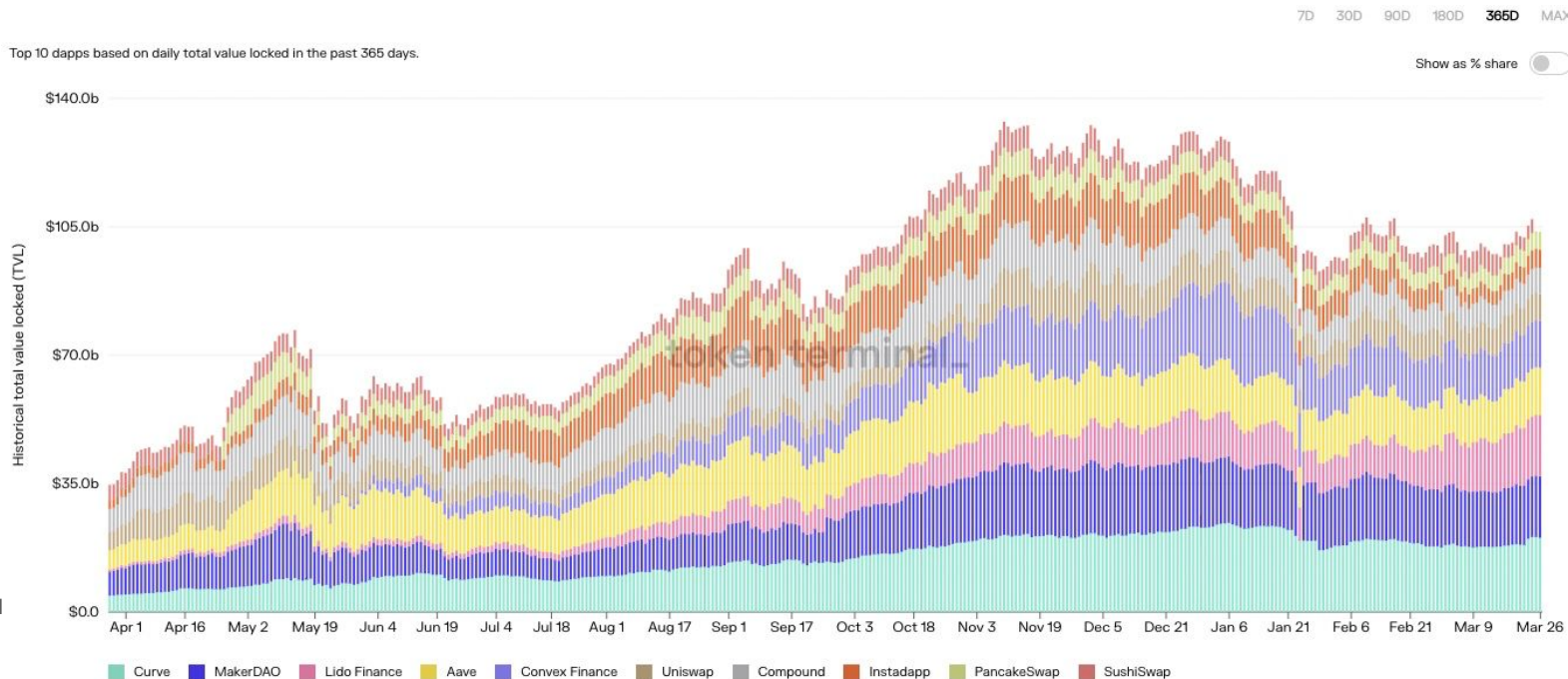
Cryptocurrency that remains “stable” by being pegged to a fiat currency

Use cases

- Lending platforms
- Decentralized exchanges
- Derivatives
- Asset Management
- Insurance
- Prediction markets
- Yield farming
- Liquidity mining

Category	Traditional Finance	Decentralized Finance
Borrowing	 CHASE  	
Lending	  	 
Trading	   	 

DEFI currently has \$120bn in Total Value Locked “TVL” across more than 4 million wallets.



Source: Token Terminal

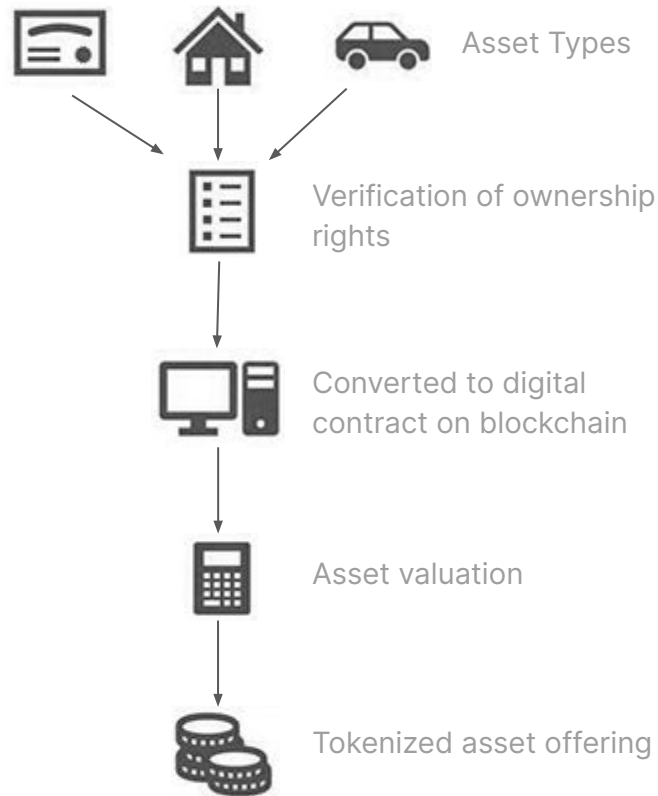
Asset Tokenization

Converting ownership rights in particular assets into a digital token on a blockchain

Asset tokenization utilises the blockchain's distributed ledger technology, immutability and transparency.

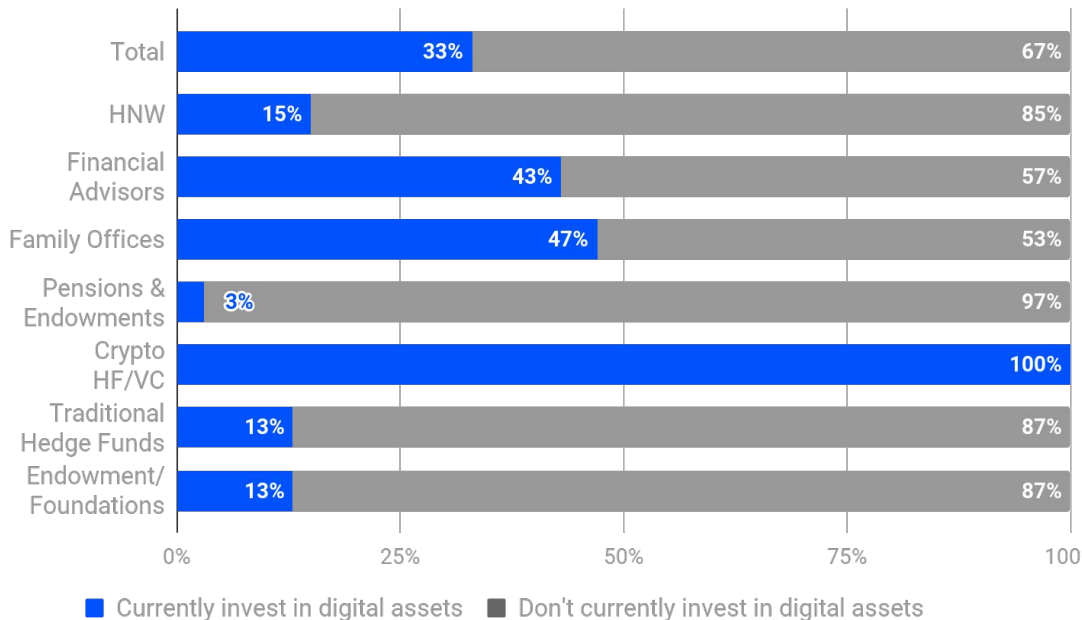
Capital mobility enables new markets and improves liquidity by decreasing barriers and frictions.

Improved financial inclusion as this enables fractional ownership of traditionally high-barrier investments like real estate.



Institutional Adoption

- **Investment mandate** with fiduciary duty as lynchpin
- **Asymmetric downside risk** as trustees are not compensated to take risk to generate outsized returns
- **Investment consultant gatekeepers** perceive the asset class as too small to deploy capital meaningfully



Who we are

Coinbase is your gateway to the crypto economy

We are a leading provider of end-to-end financial infrastructure and technology for retail, institutions, businesses, and developers

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Individuals

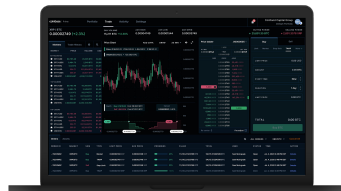
The world's leading retail crypto platform for trading and personal finance

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coinbase WALLET
coinbase CARD
coinbase PRIVATE CLIENT

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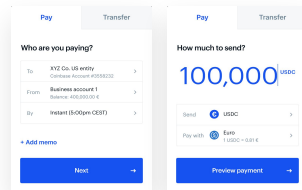


Institutions

The financial institution for a digital asset future

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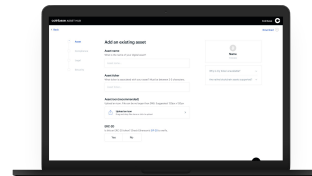
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coinbase ANALYTICS
skew.



Businesses

Crypto payment solutions supporting global commerce

coinbase COMMERCE



Developers

Best in class tools and cloud solutions for asset issuers and network developers

coinbase ASSET HUB
 **Bison Trails**

9+ years building the crypto economy

\$278B+

Assets on platform

\$137B

Assets on platform from
Institutions

172+

Asset for Custody

139+

Asset for Trading

89M+

Verified users

3K+

Employees

\$320M

Insurance Protection

10K+

Institutional Clients

Data provided as of February 24th, 2021