

Two thousand
twenty two

|

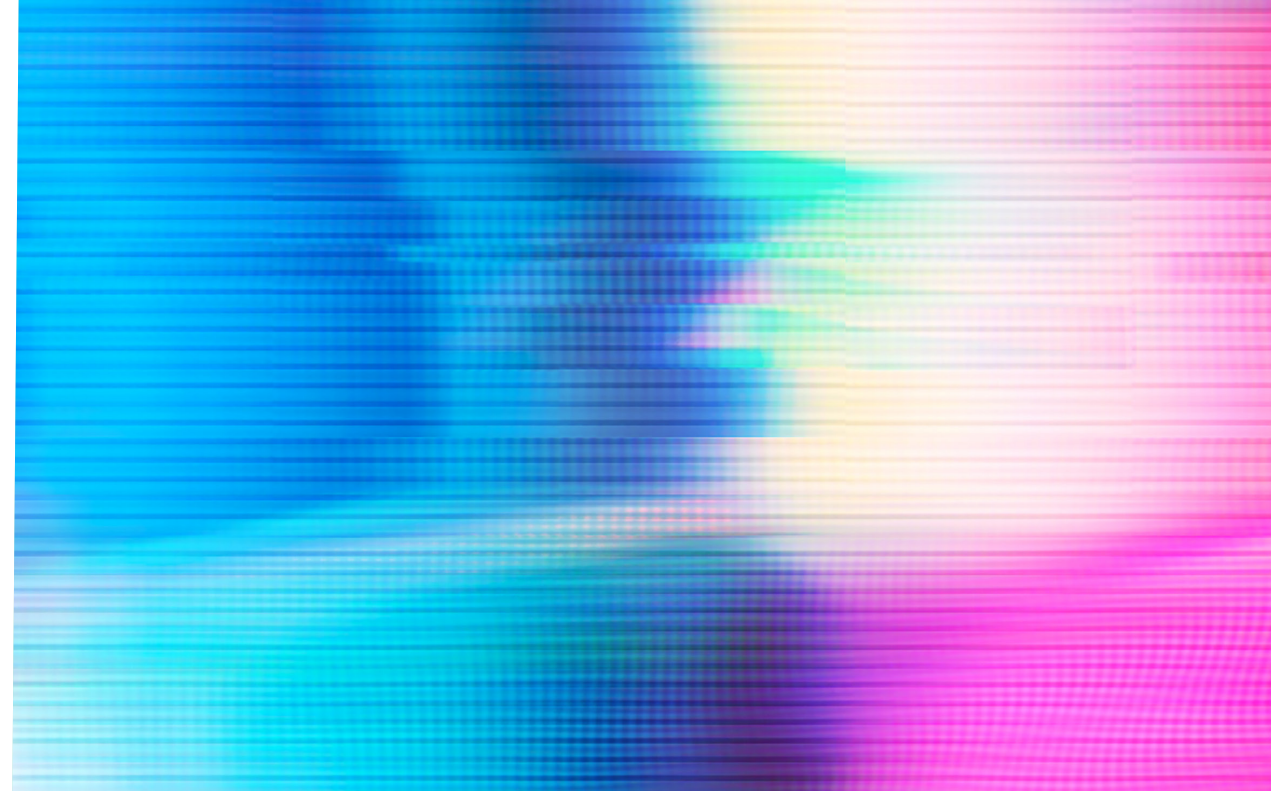
State *of* Crypto

An overview report

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|





What **is web3?**

01.

The first era of the modern internet — roughly 1990-2005 — was about open protocols that were decentralized and community-governed. Most of the value accrued to the edges of the network: users and builders.

02.

The second era of the internet — roughly 2005-2020 — was about siloed, centralized services. Most of the value accrued to a handful of large tech companies.

03.

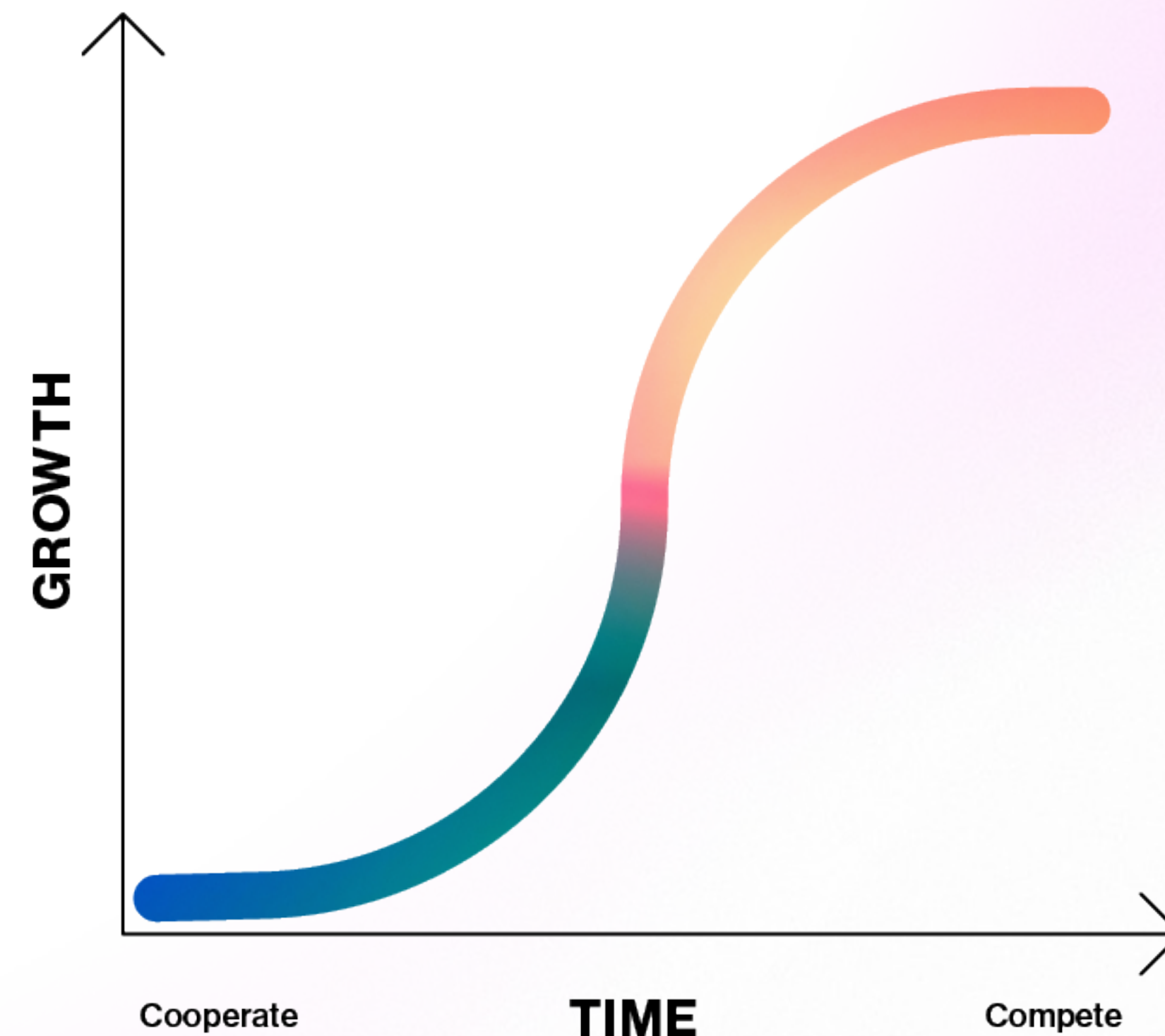
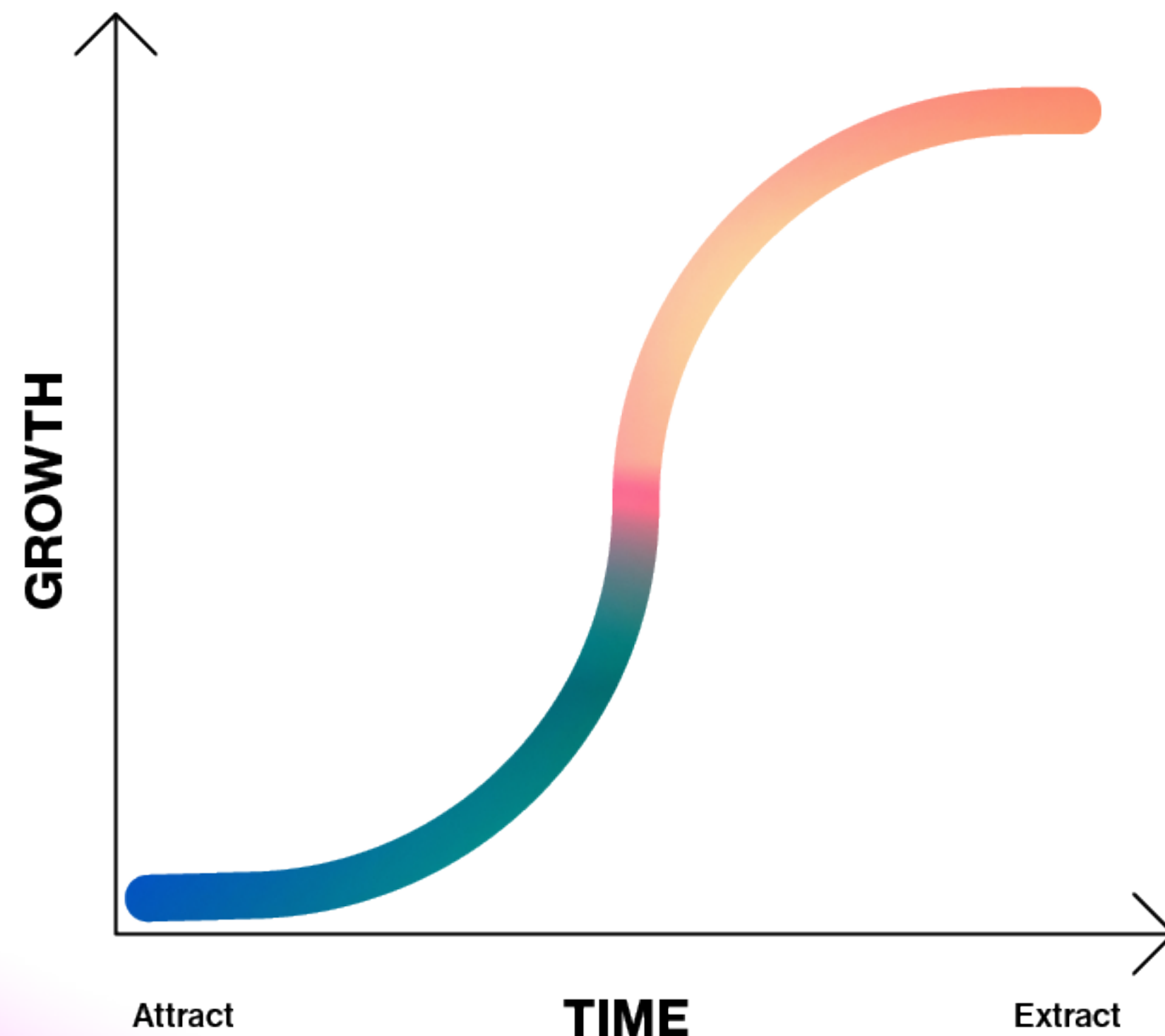
We are now beginning the third era of the internet — what many call web3 — which combines the decentralized, community-governed ethos of the first era with the advanced, modern functionality of the second era. This will unlock a new wave of creativity and entrepreneurship.

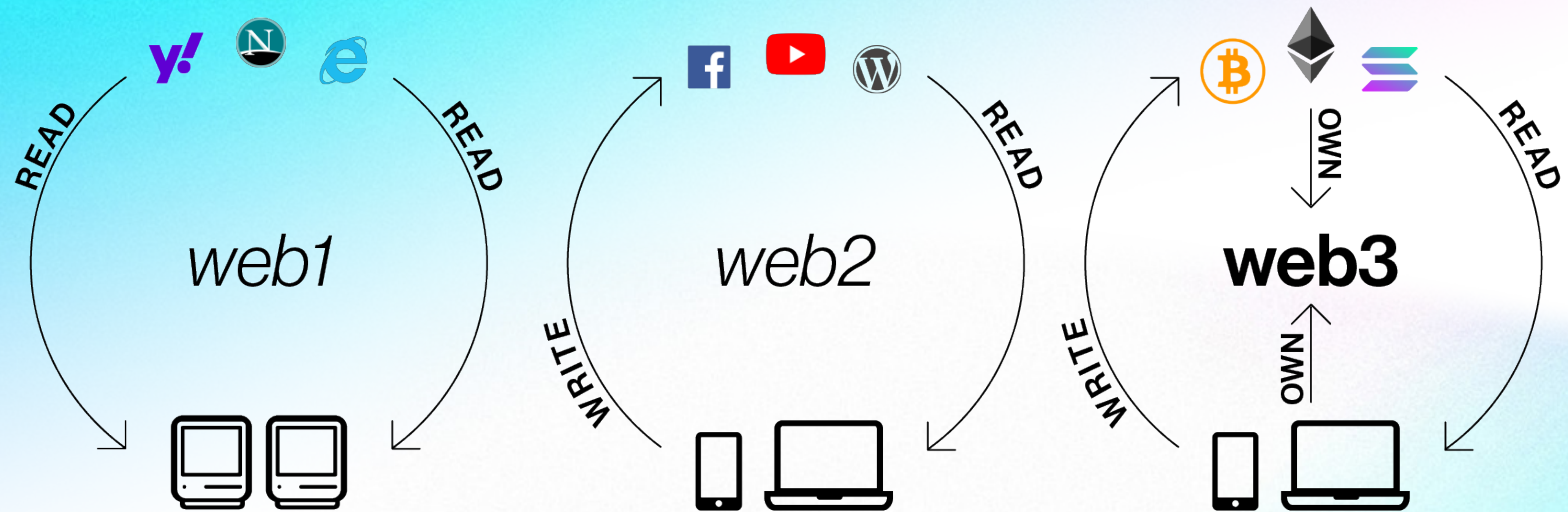
Why Web3 *Matters*



**The internet as we
know it *is flawed***

After friendly beginnings, web2 companies have become *more extractive and less cooperative*

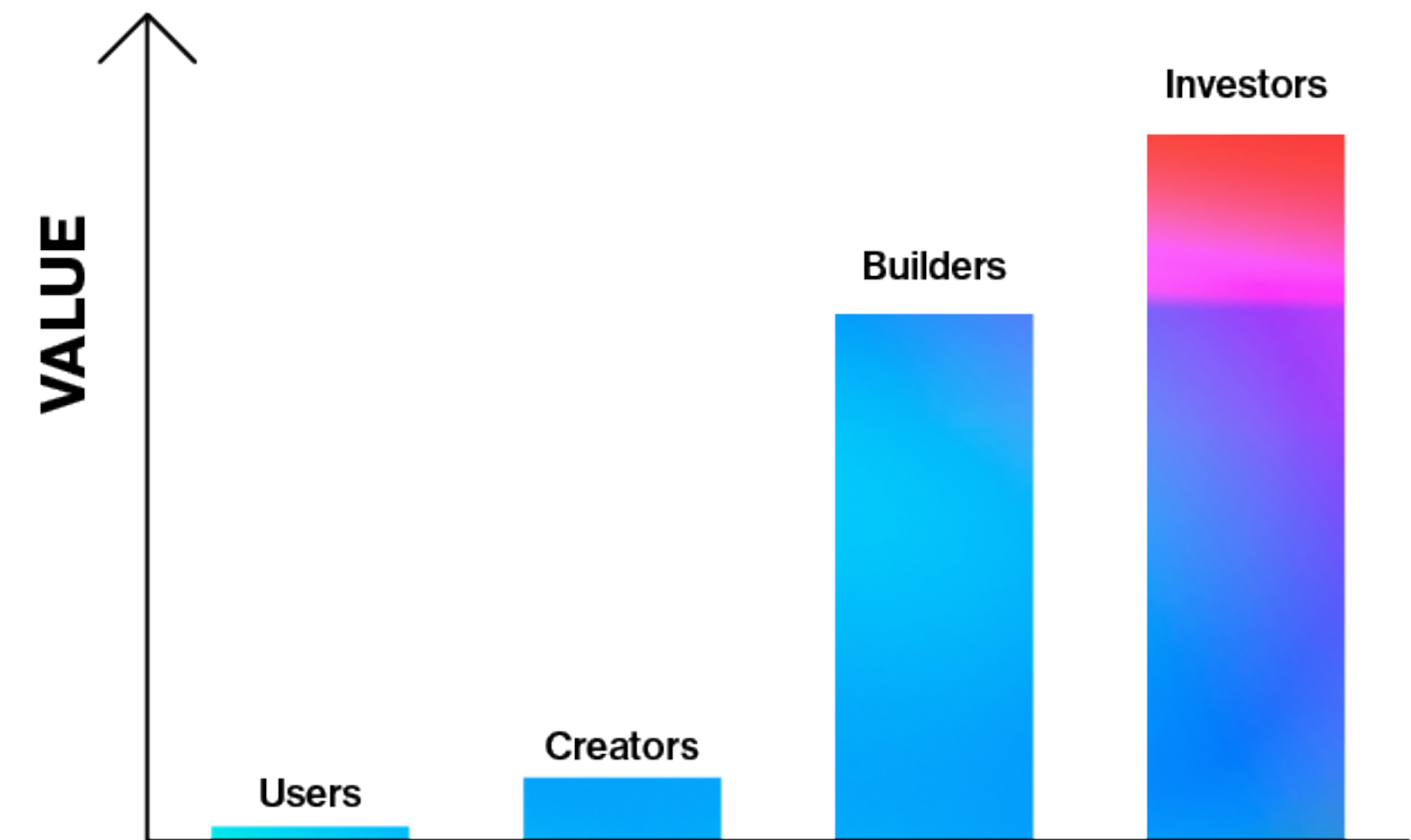




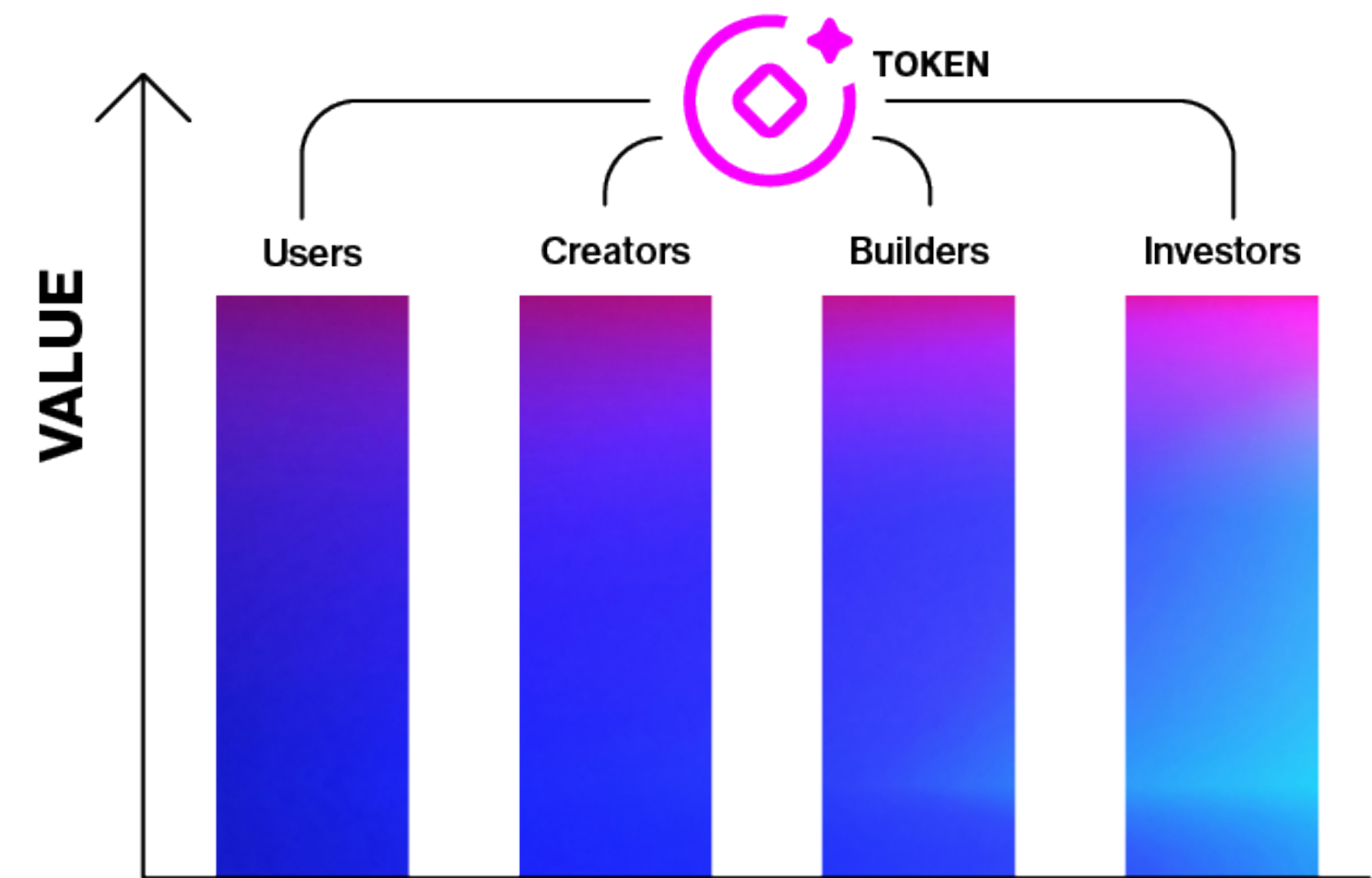
- Web3 gives people property rights: the *ability to own* a piece of the internet

Web3 aligns network participants to work together toward a common goal — *the growth of the network*

Charts for illustrative purposes only

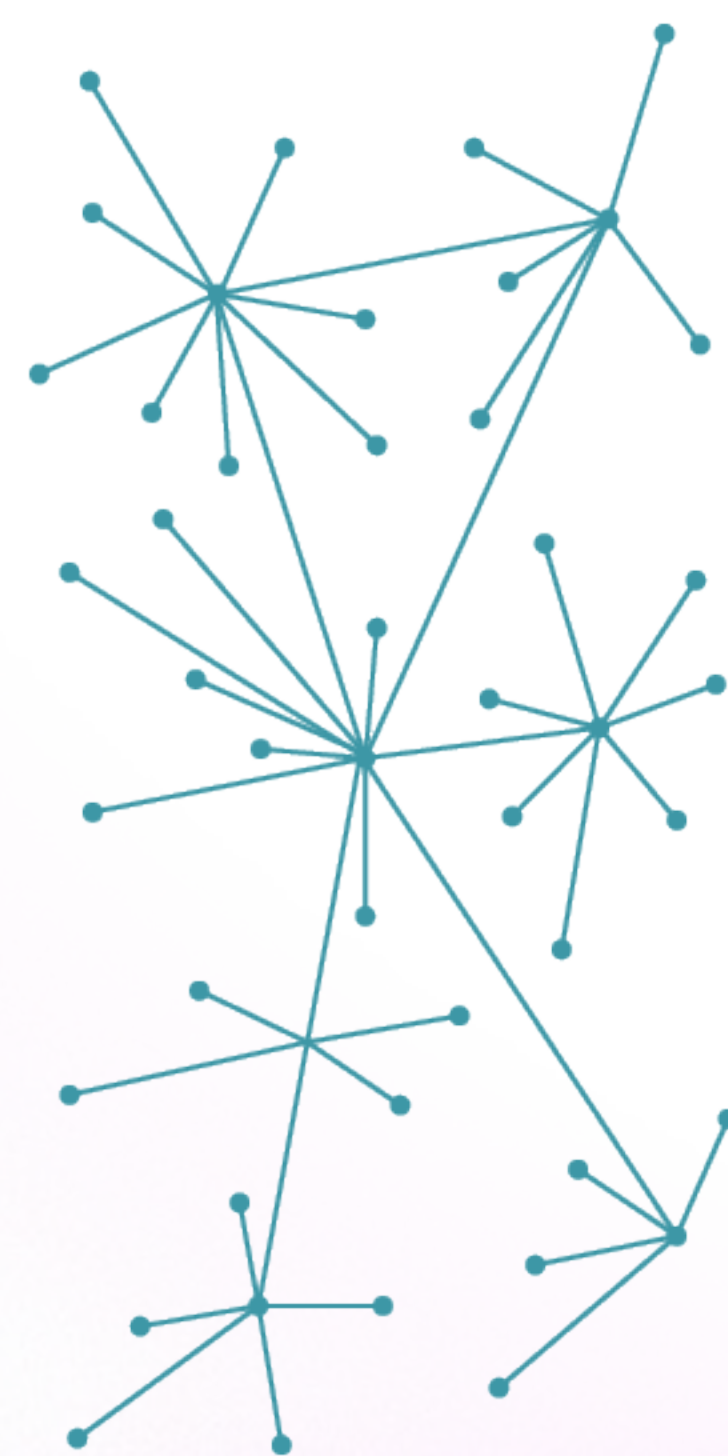
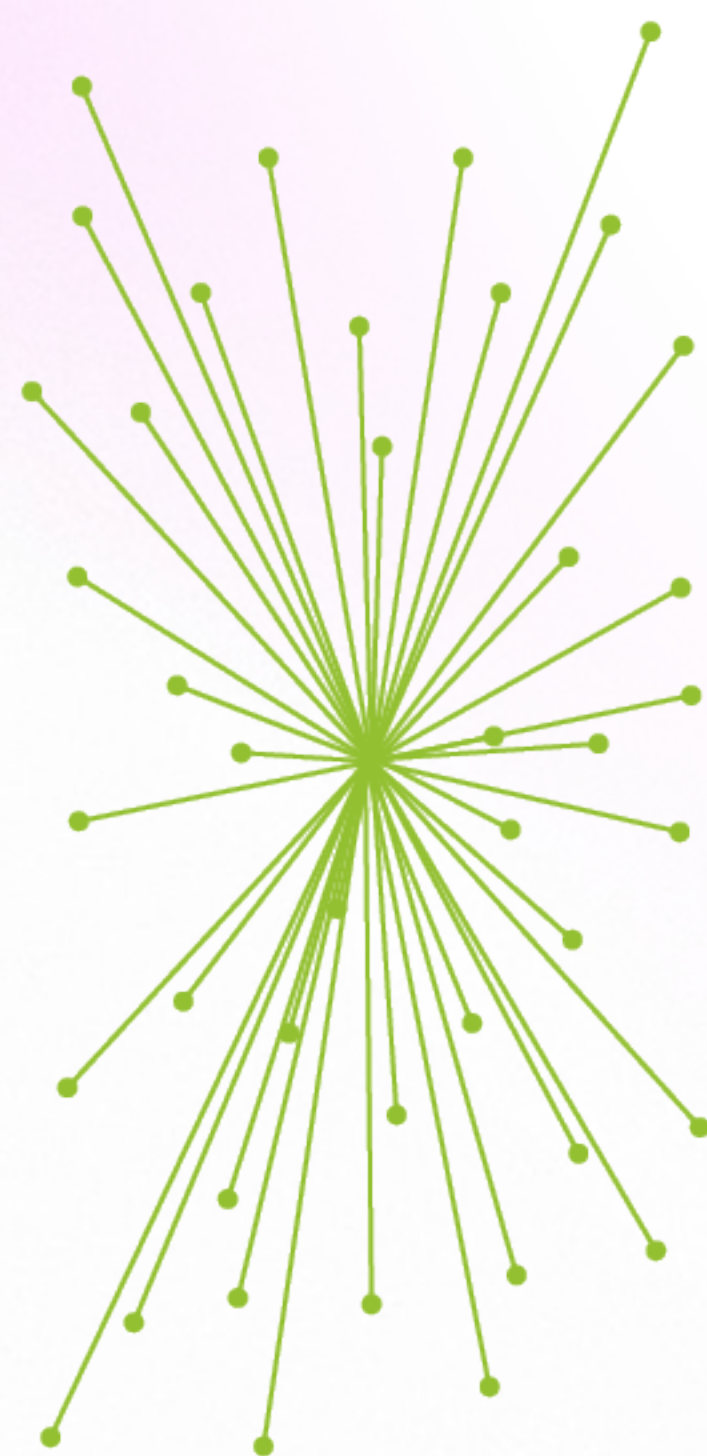


Web2's VALUE SHARE



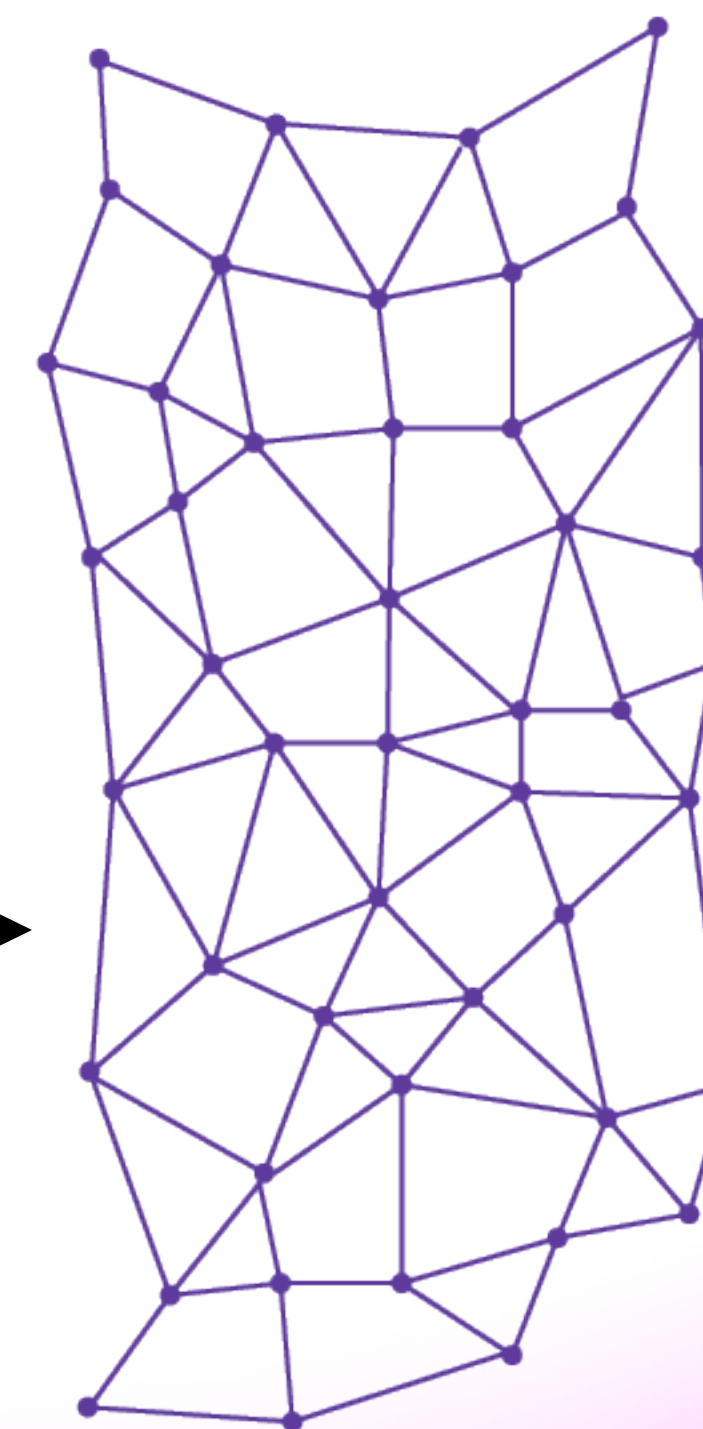
Web3's VALUE SHARE

Web3 empowers a collective owned future over a corporate or government owned future



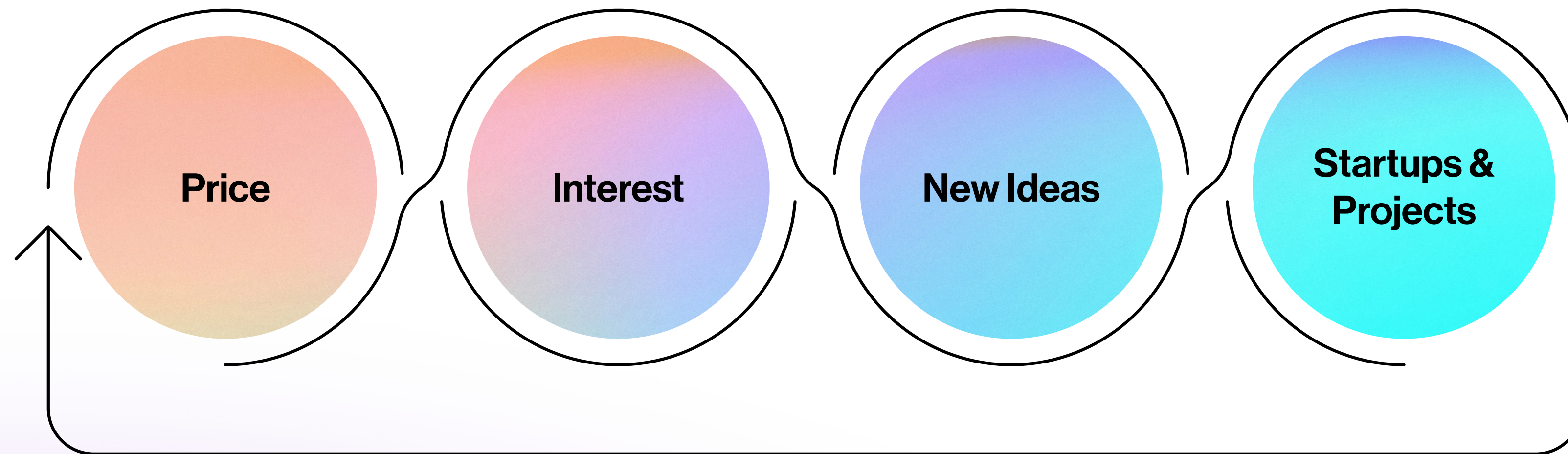
Single points of failure & control

Resilient, equitable & participatory

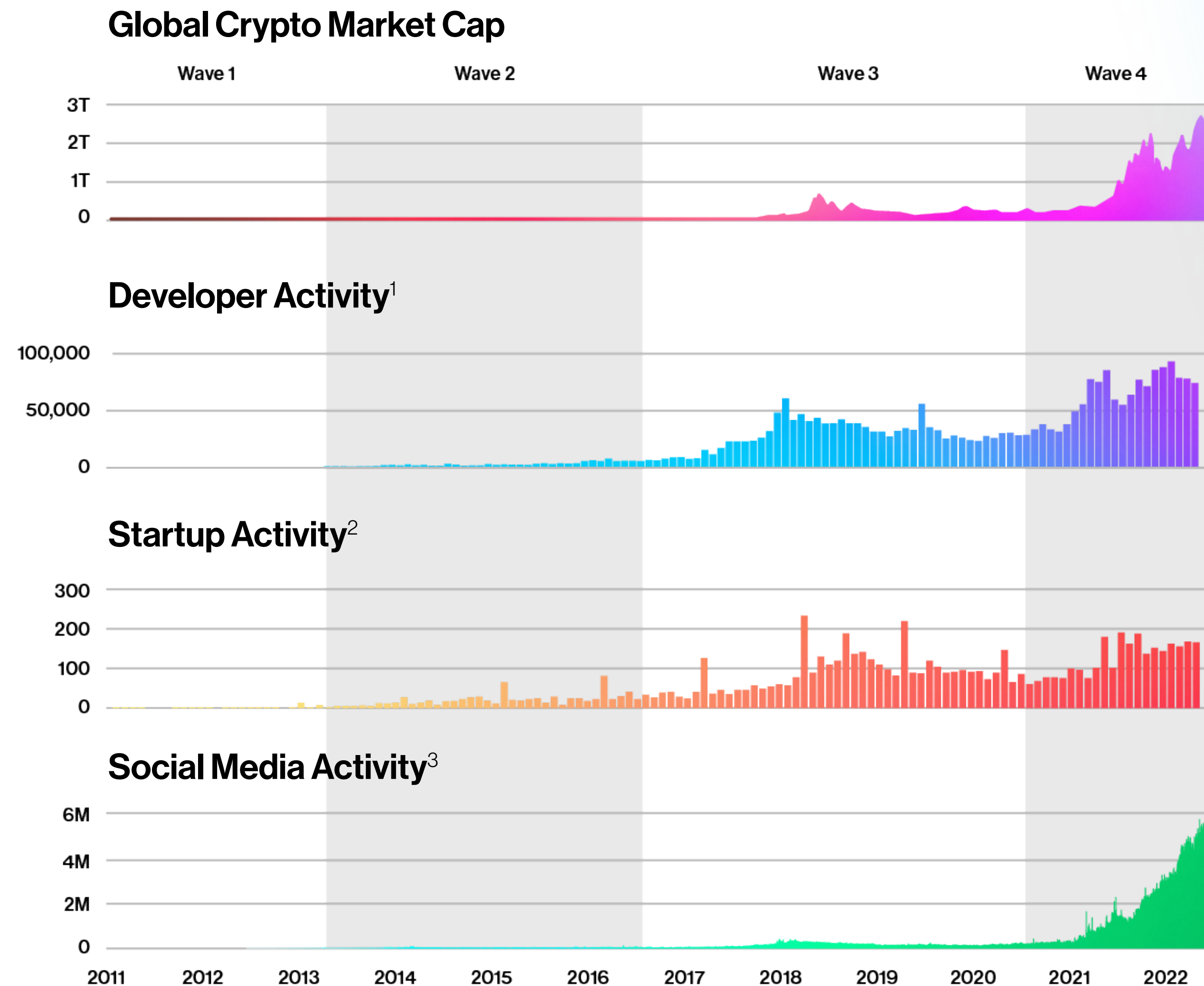


Cycles *of*
Innovation

The crypto market *develops in cycles*



These
cycles
appear
chaotic
from the
outside
but *have an
underlying
order*



Source: CoinMarketCap, GitHub, Pitchbook, Twitter

Data is as of 5/12/2022

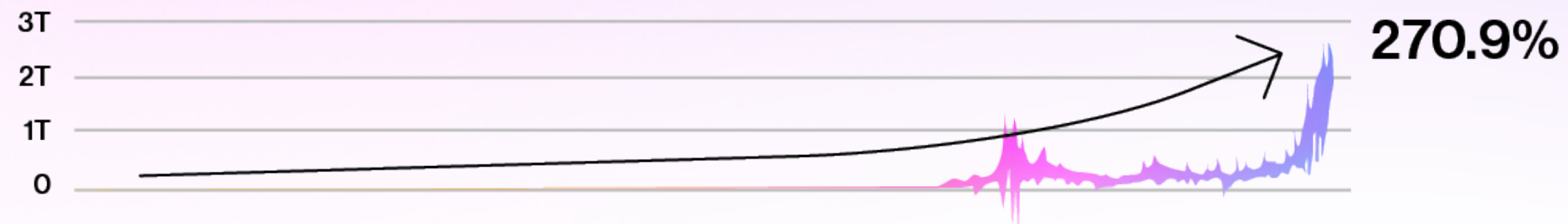
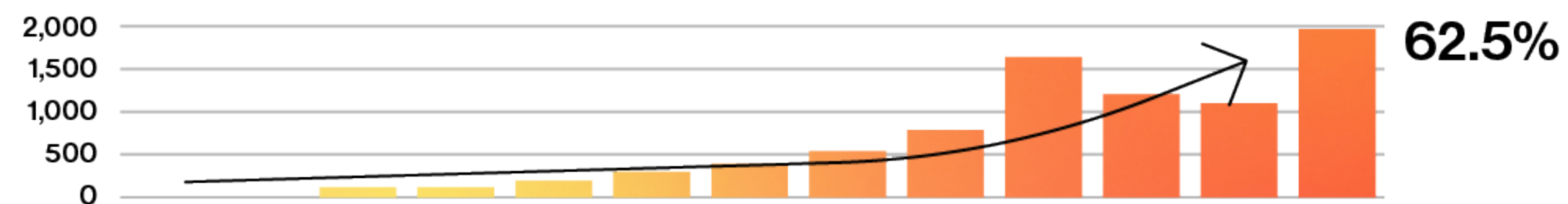
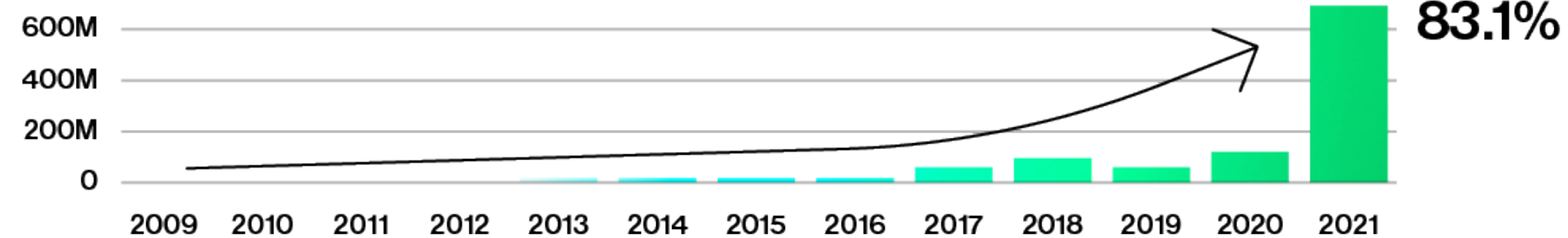
1 Developer activity based on stars of crypto-related repositories on Github.

2 Startup activity based on crypto-related initial funding rounds via Pitchbook

3 Social media activity based on crypto-related comments on Twitter

The result is
consistent long-
term growth,
driven by
a feedback
loop between
interest
and innovation

Global Crypto Market Cap

Developer Activity¹Startup Activity²Social Media Activity³

Compound annual growth rate

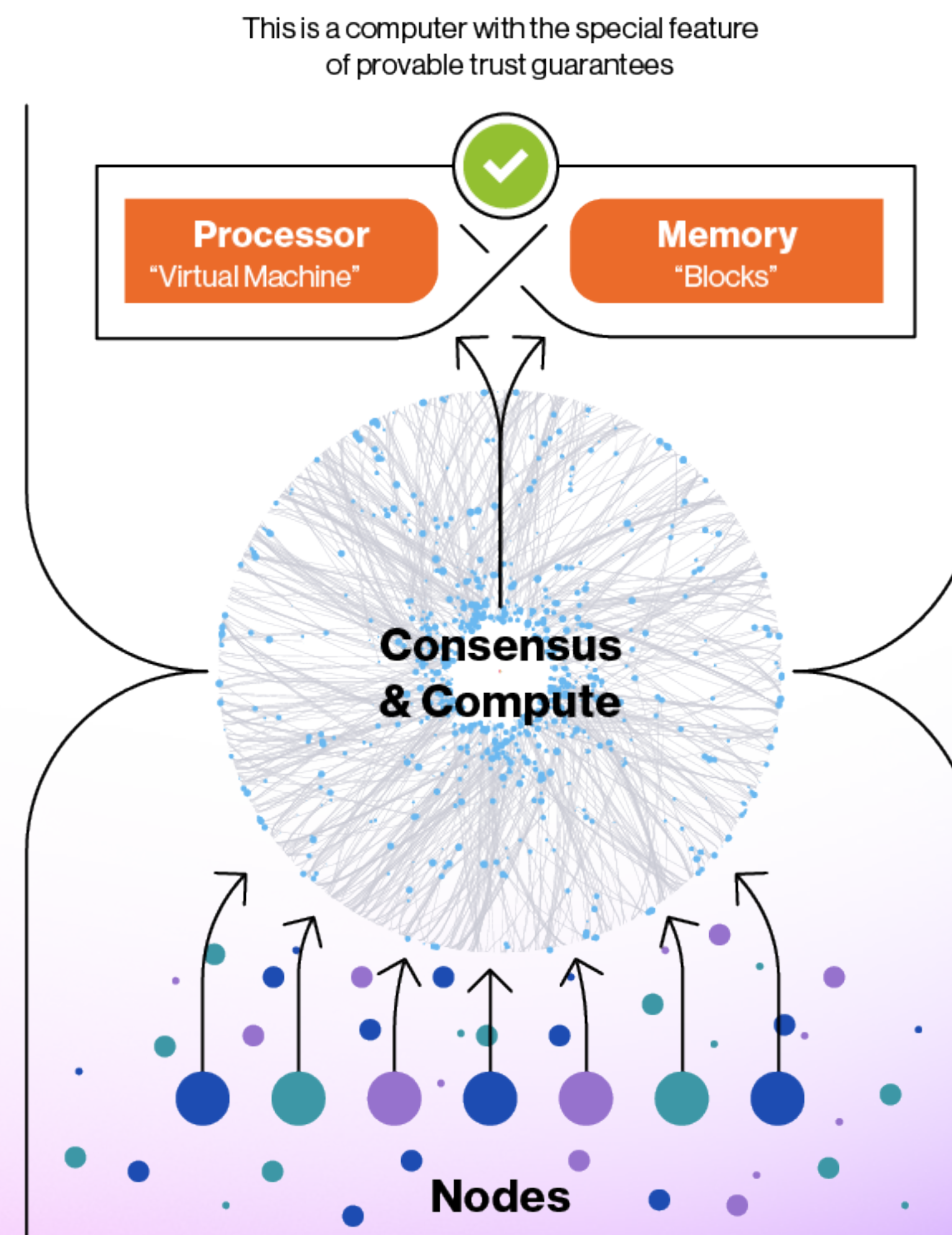
Source: CoinMarketCap, GitHub,
Pitchbook, Twitter

Data is as of 12/31/2021

¹ Developer activity based on stars
of crypto-related repositories on
Github.² Startup activity based on crypto-
related initial funding rounds via
Pitchbook³ Social media activity based
on crypto-related comments
on Twitter

Layer 1 Blockchains

Blockchain computers are composed of nodes: physical computers, like PCs, joined together via a consensus mechanism



Web3 is multi-chain; developers have many options when it comes to building on blockchains



Ethereum

5.5M

Active Addresses

1.1M

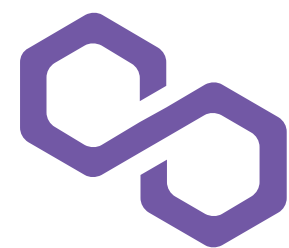
Daily Transactions



Solana

15.4M

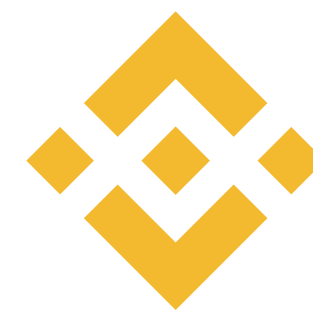
15.3M



Polygon

2.6M

3.4M



BNB Chain

9.4M

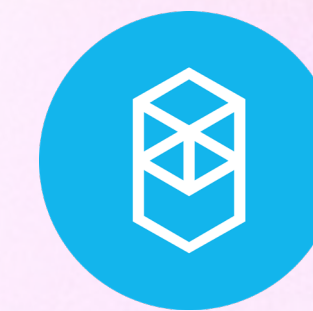
5.0M



Avalanche

609K

832K

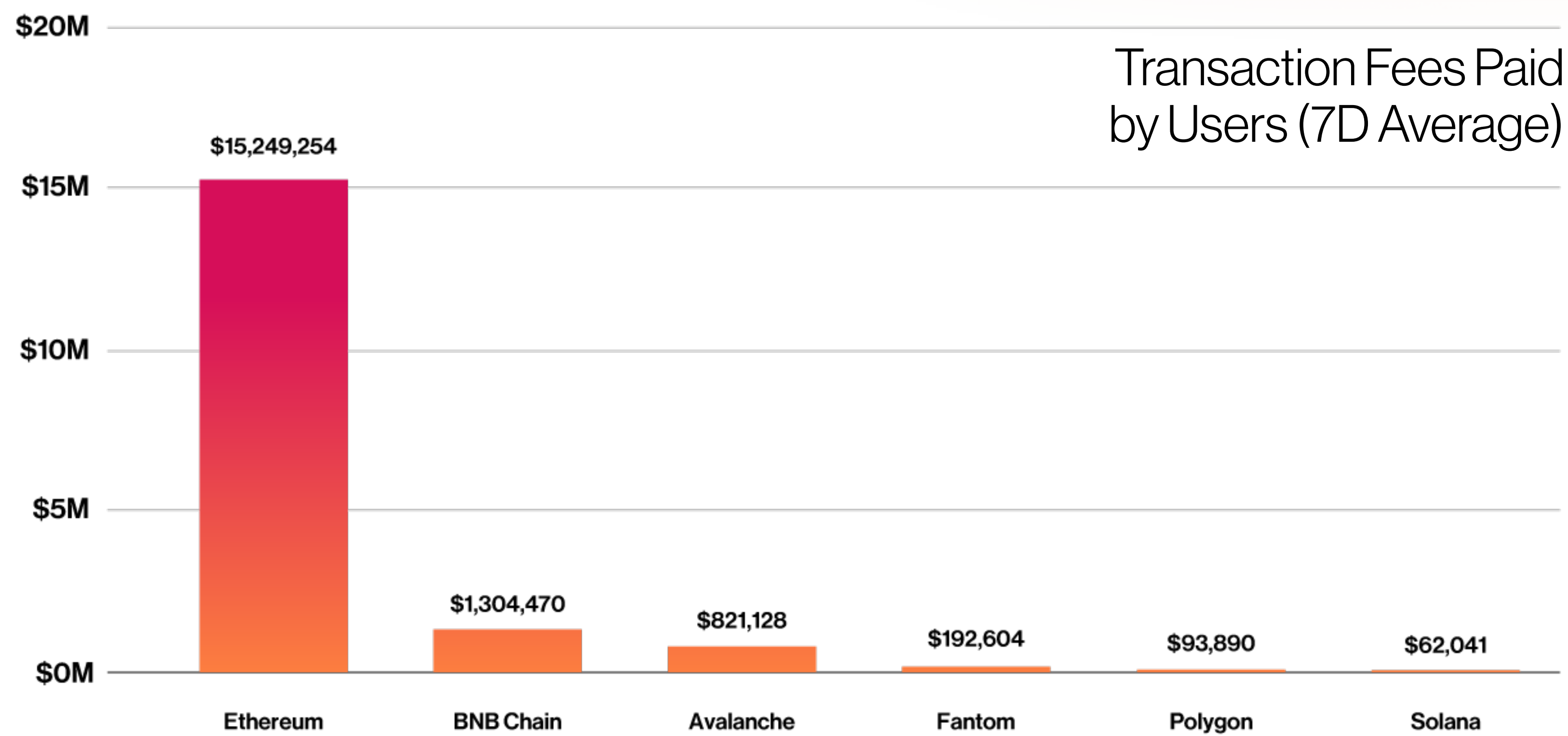


Fantom

308K

743K

While other smart contract platforms rival Ethereum in users and usage, *the demand for block space is unmatched*

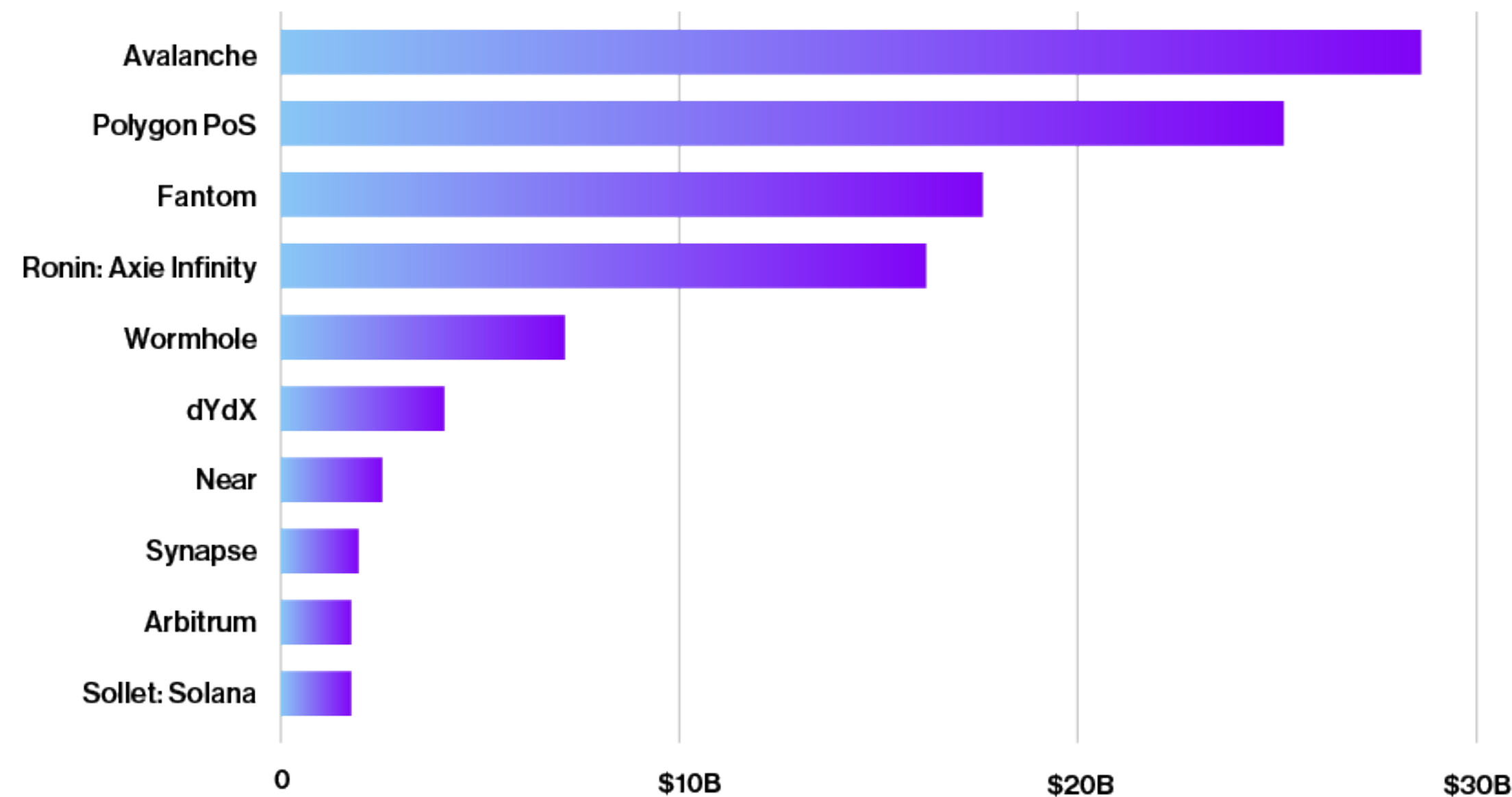


Source: <https://cryptofores.info>; Data is as of 5/12/2022.

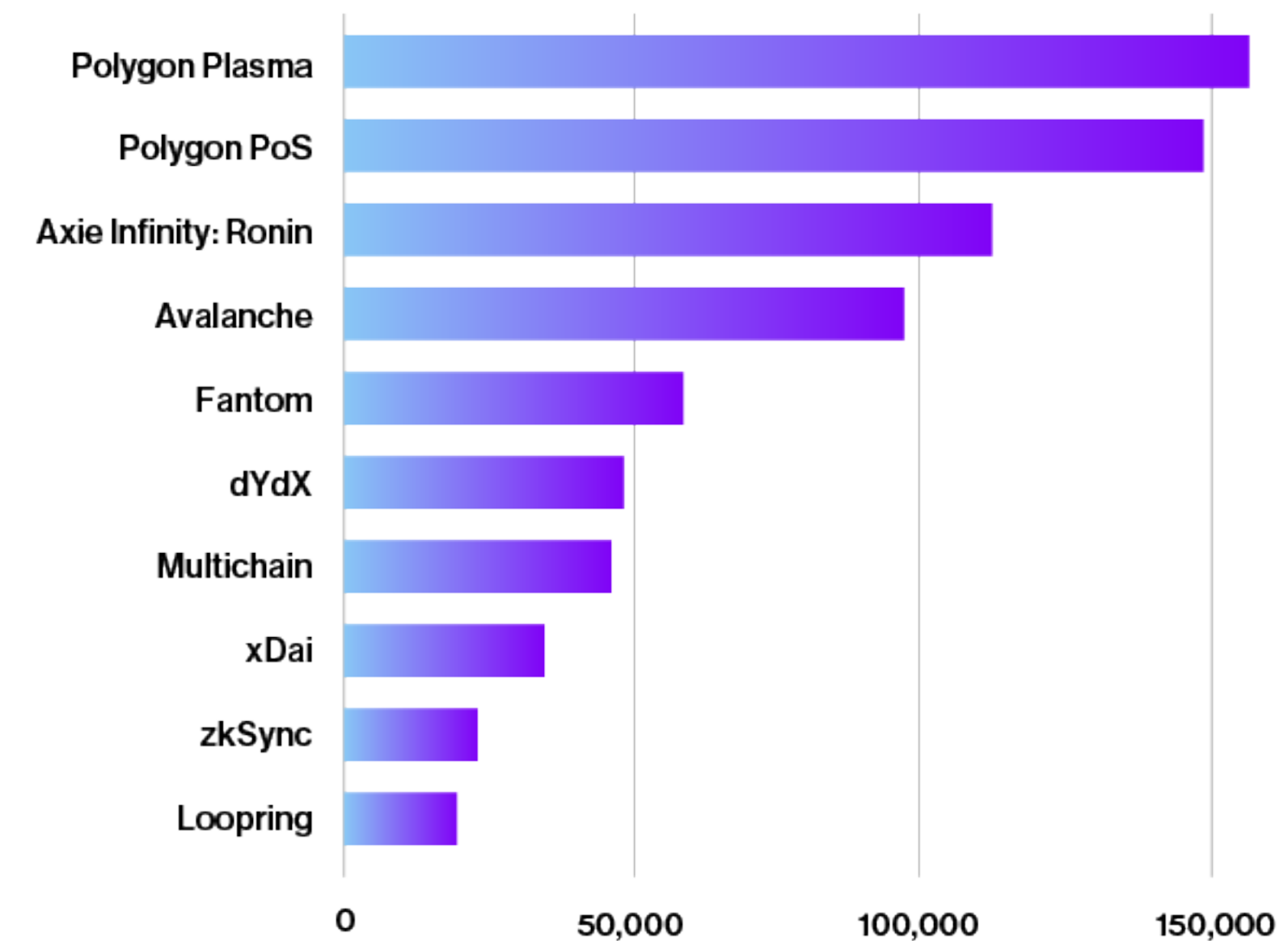
With Ethereum L1 as the hub, a significant amount of value is being *deposited into bridges*

17

Top Ethereum Bridges by Total Volume In

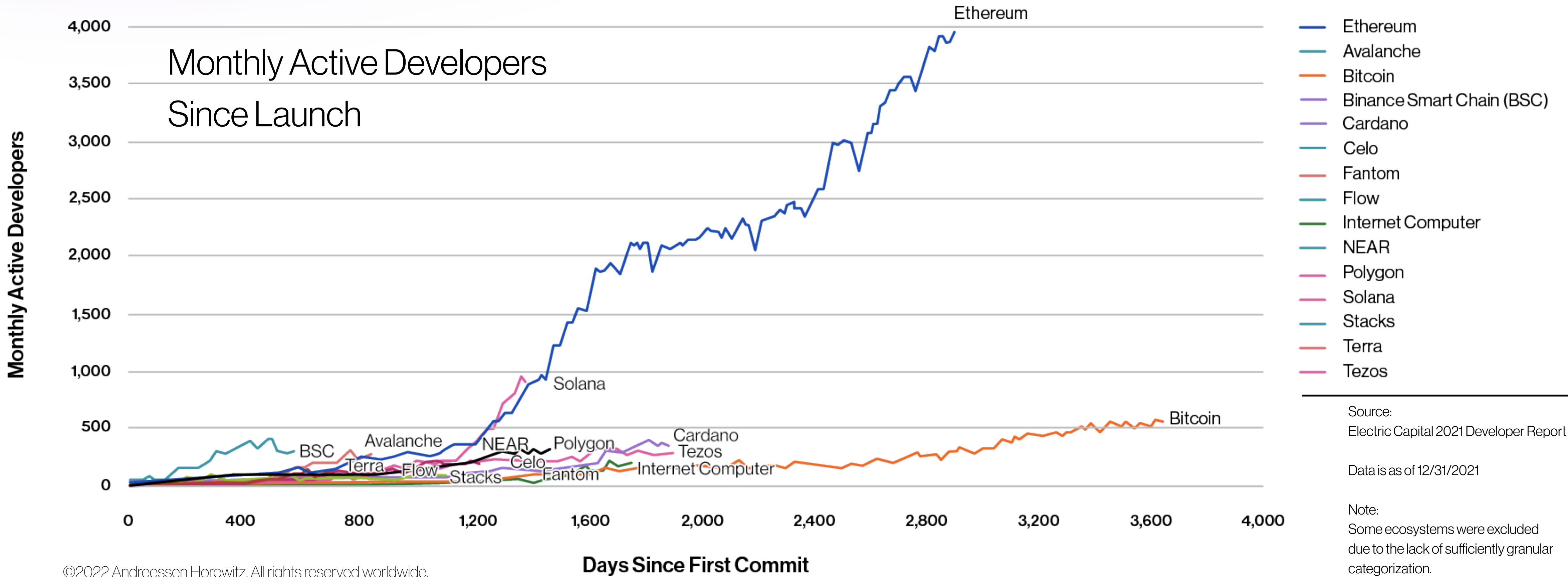


Top Ethereum Bridges by Total Depositors



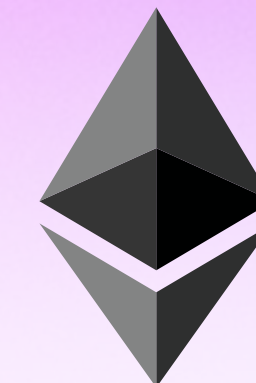
Layer / Blockchains

Ethereum continues to attract the most developers, but several emerging ecosystems are on a similar trajectory



Layer 2 Scaling

A layer 2 is a separate blockchain that extends the base layer and *inherits* *its security* *guarantees*



Optimistic Rollups

Transactions are assumed to be valid, but can be challenged if necessary

- More production-ready
- Correctness relies on game-theoretical incentives
- Finality on L1 depends on a 1-week challenge period
- Easier to program
- EIP-4844 (proto-danksharding) can make these rollups very cheap for users



Zero-Knowledge Rollups

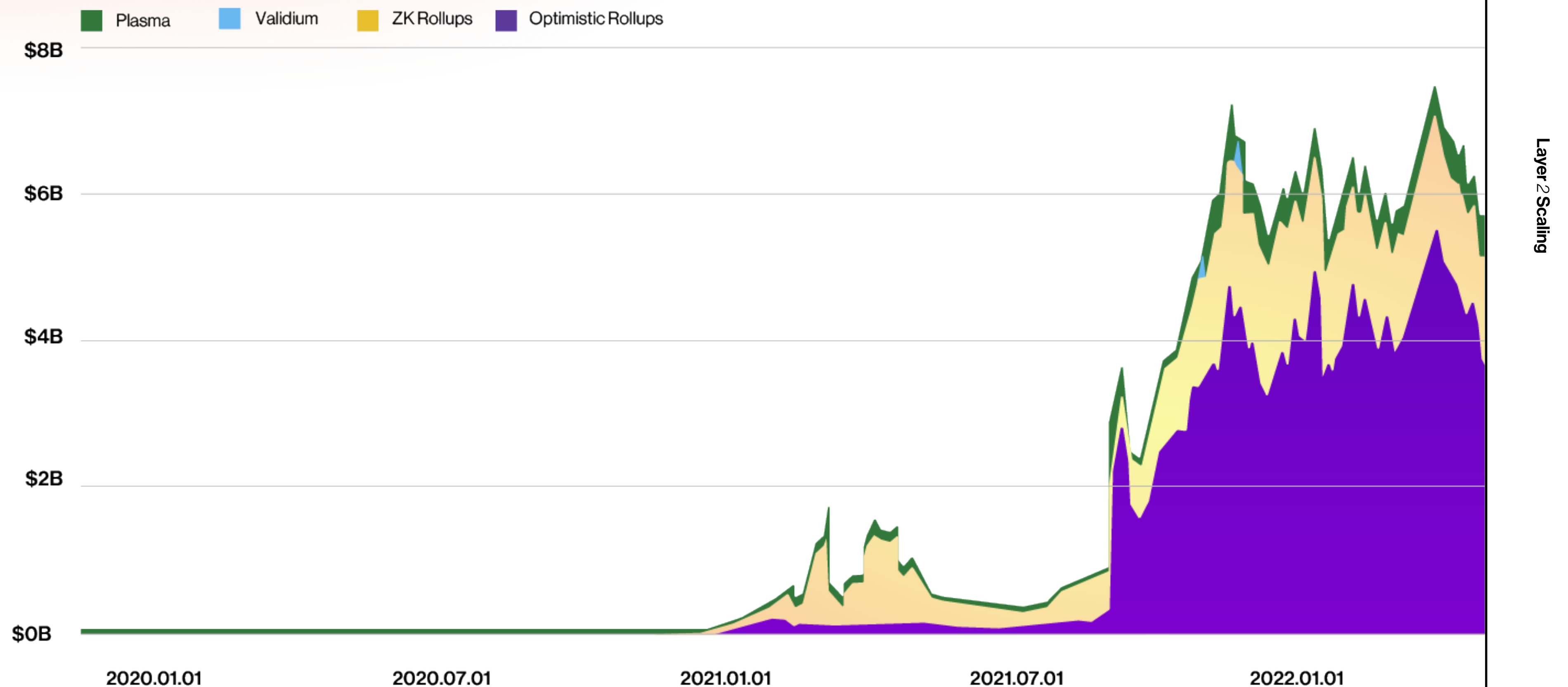
State transitions are computationally verified off-chain using validity proofs

- Less production-ready
- Correctness is mathematically guaranteed
- Finality on L1 is instant
- Harder to program
- Proofs can be computationally expensive, though this is rapidly improving



Optimistic rollups are the most popular L2 tech today, but *ZK rollups* are just beginning to come online

Total Value Locked on Ethereum Layer 2s

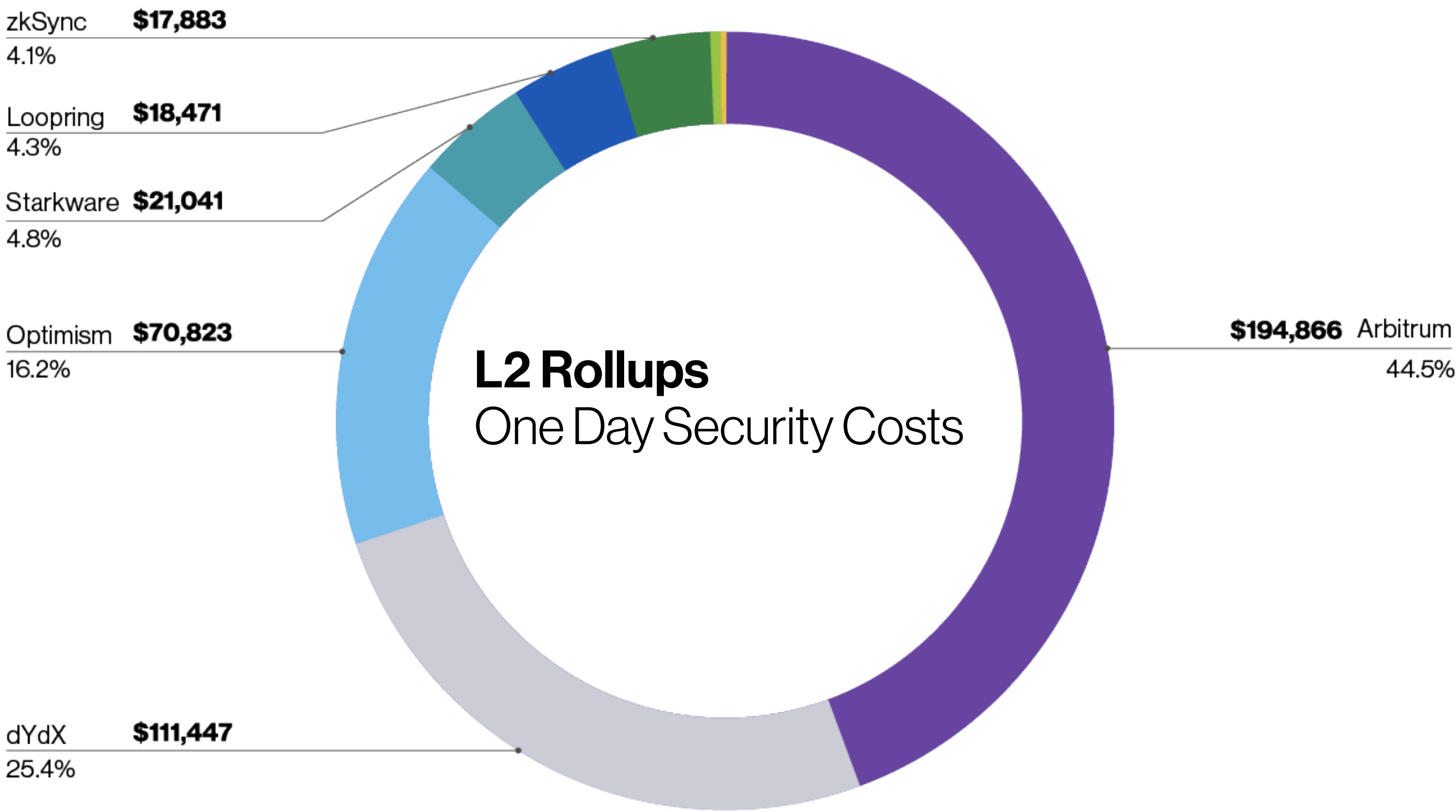


Source: <https://l2beat.com/>
Data is as of 5/12/2022.

L2 rollups pay for *Ethereum's* security

Today, L2 rollups contribute to
~1.5%
of all fees paid
on Ethereum

Source: <https://l2fees.info/>; Data is as of 5/12/2022.












L2 rollups are competing hard against each other to bring transaction fees down

Source: <https://l2fees.info/>
Data is as of 5/12/2022.

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Layer 2 Scaling

Name		Send ETH	Swap Tokens
	Metis Network	\$0.01	\$0.07
	Loopring	\$0.20	\$0.48
	zkSync	\$0.22	\$0.54
	Polygon Hermez	\$0.25	-
	Boba Network	\$0.72	\$0.94
	Optimism	\$0.88	\$1.30
	Arbitrum One	\$2.27	\$3.15
	Aztec Network	\$3.09	-
	Ethereum	\$4.48	\$22.41

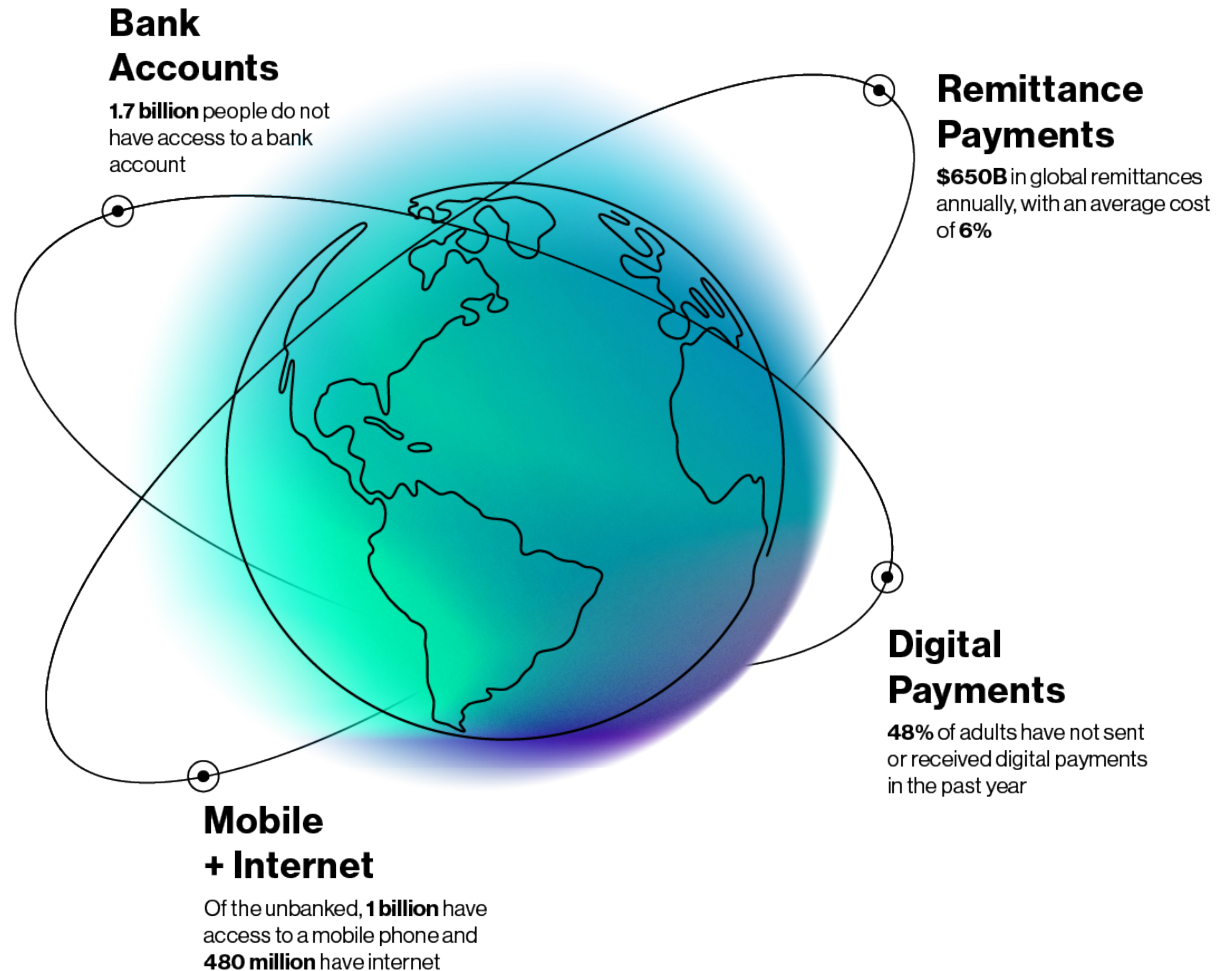
DeFi

A huge part of the world is *underserved* by existing financial institutions

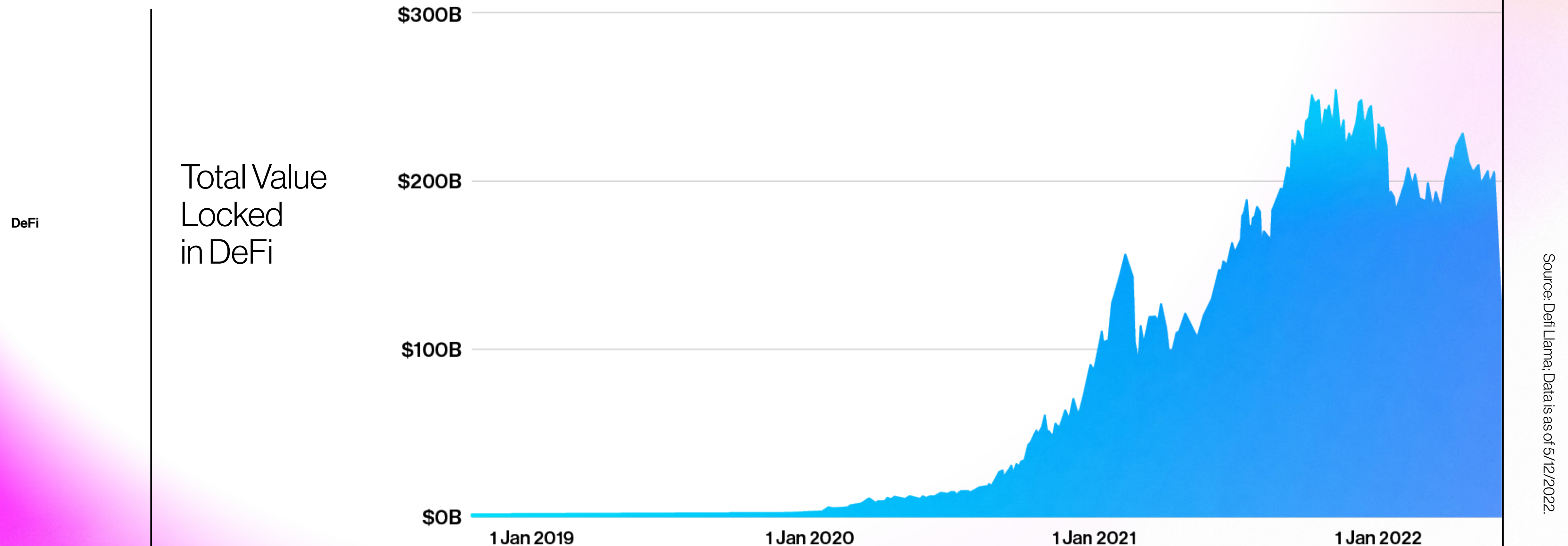
Sources:

The Global Findex Database, 2017 Report;
The World Bank (2020 and 2021 data)

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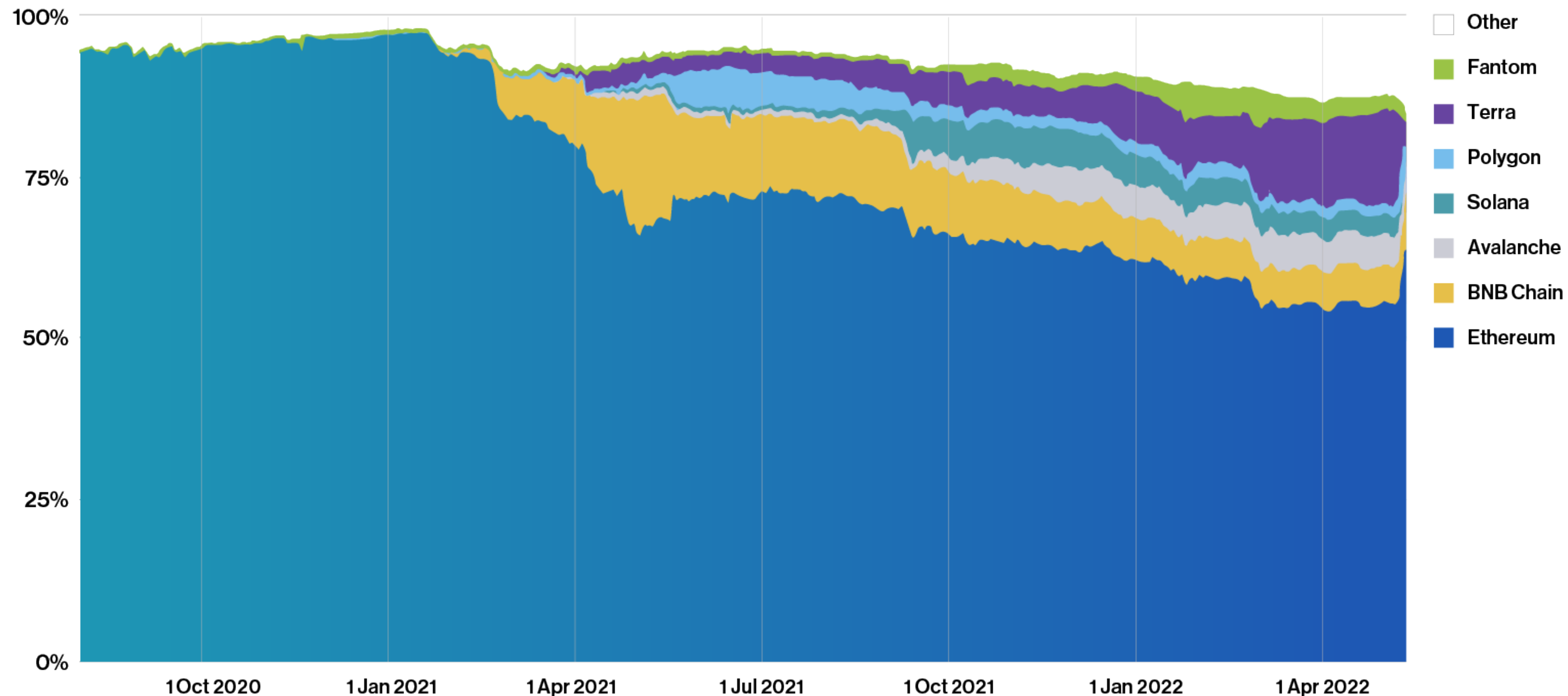


DeFi has grown from nearly zero to over \$100 billion in *less than two years*



Newer blockchains are trying to replicate the *success of DeFi* on Ethereum

27



DeFi

DeFi
Market
Share
(TVL) by
Blockchain

Source: Defi Llama;
Data is as of 5/12/2022.

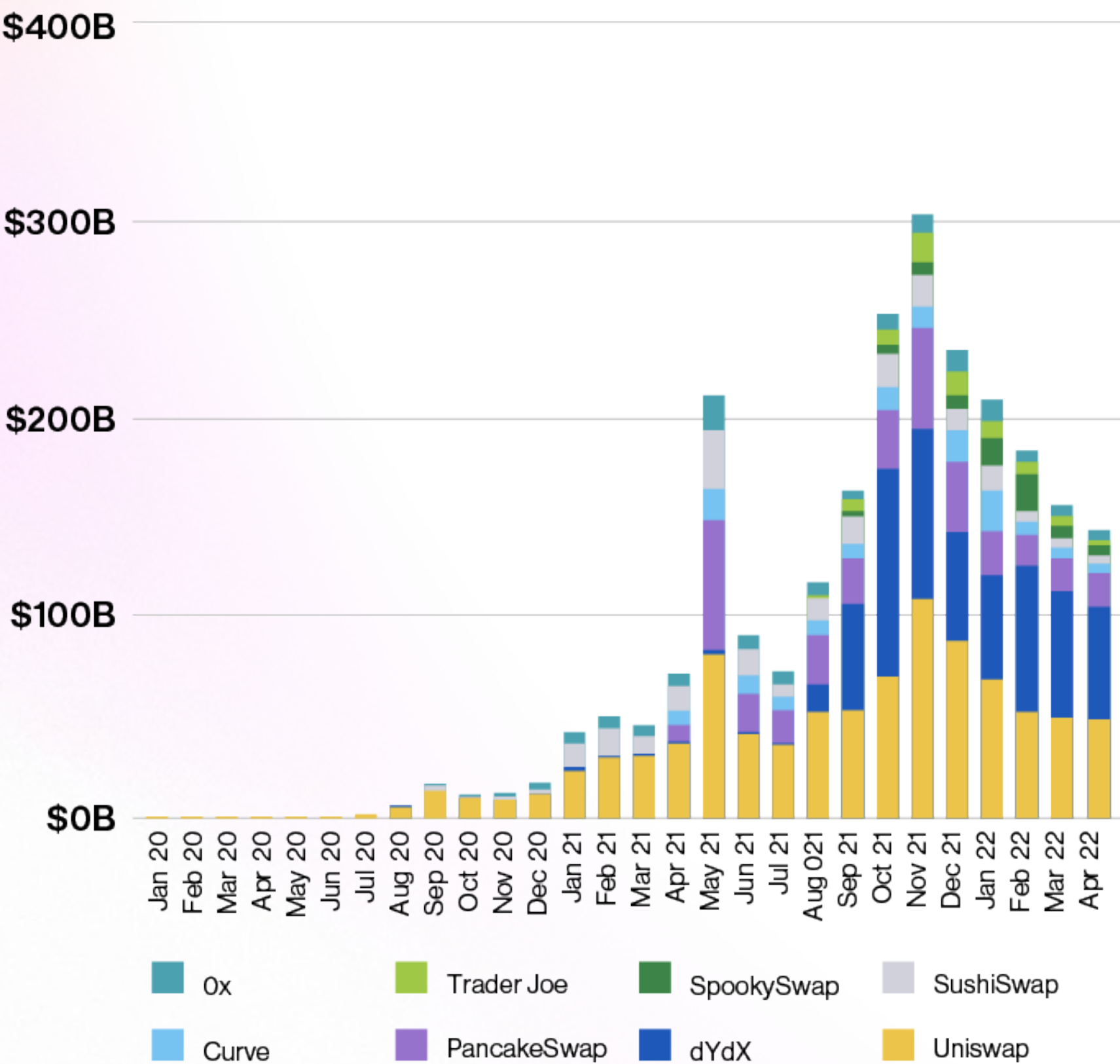
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Token exchange and lending protocols are the *most popular DeFi use cases today*

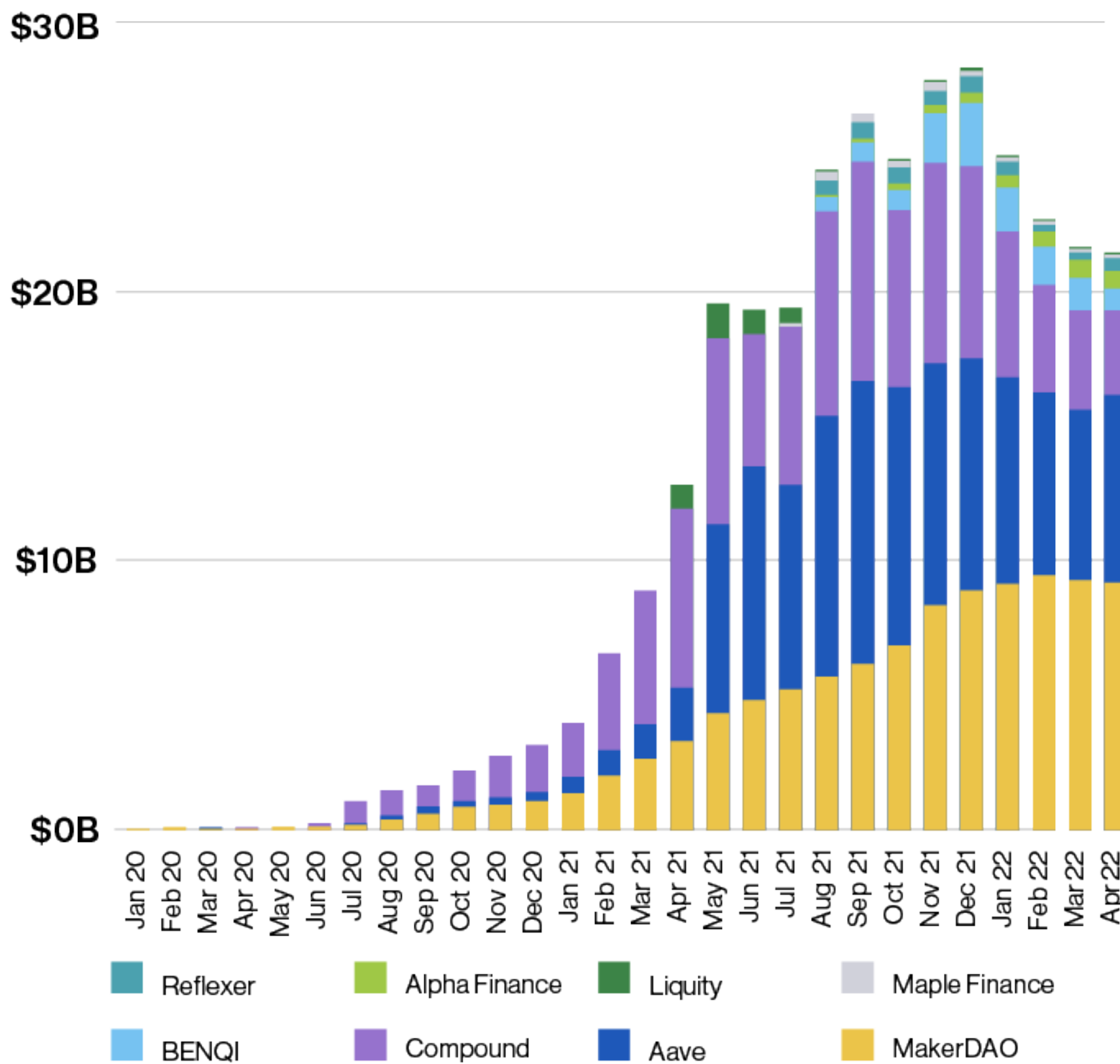
28

Source: Token Terminal
Data is through April 2022.

Trading Volume on Decentralized Exchanges



Borrowing Volume on Decentralized Lending Protocols



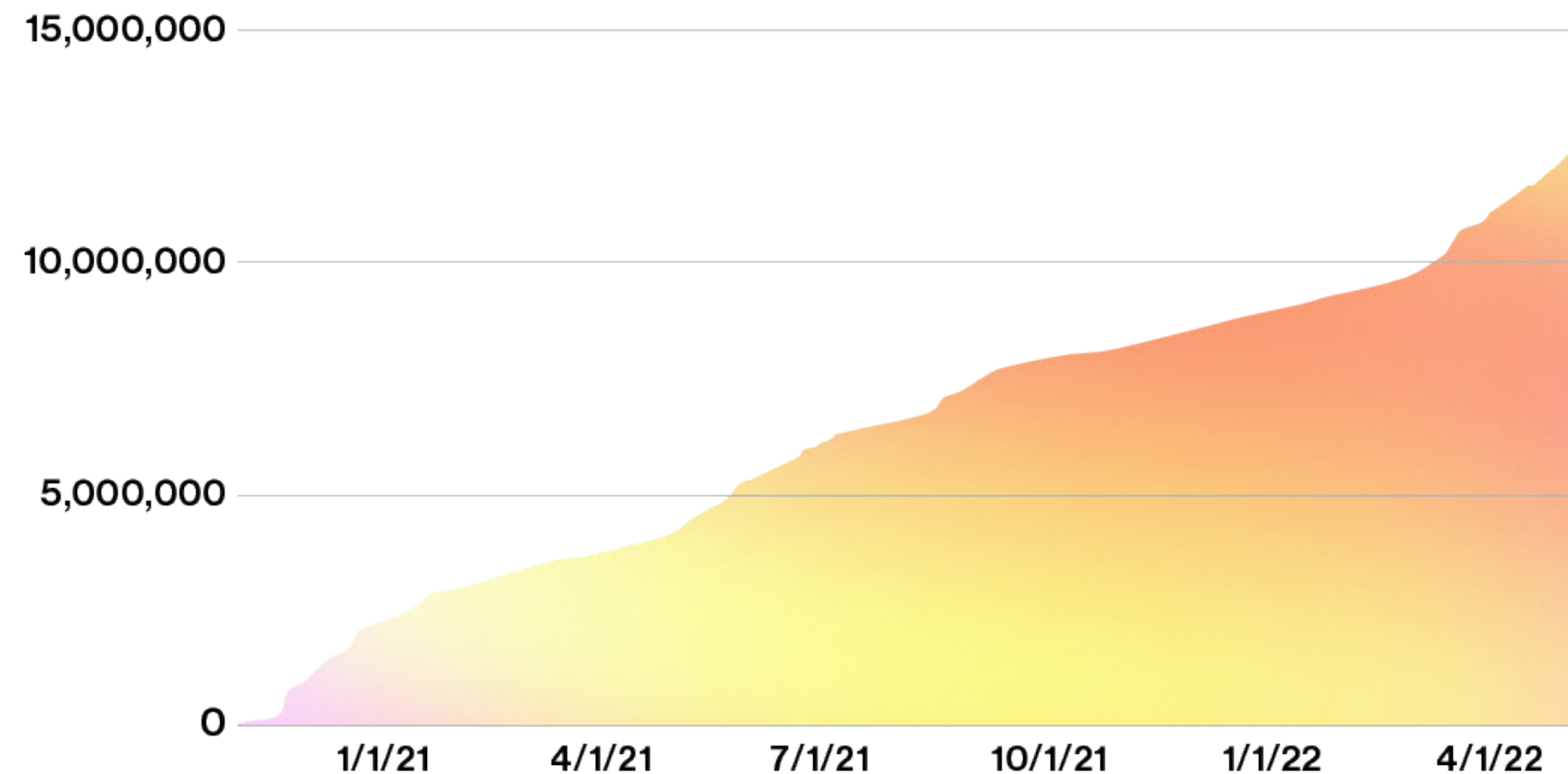
Proof-of-stake is coming to Ethereum

Source: Nansen
Data is as of 5/12/2022.

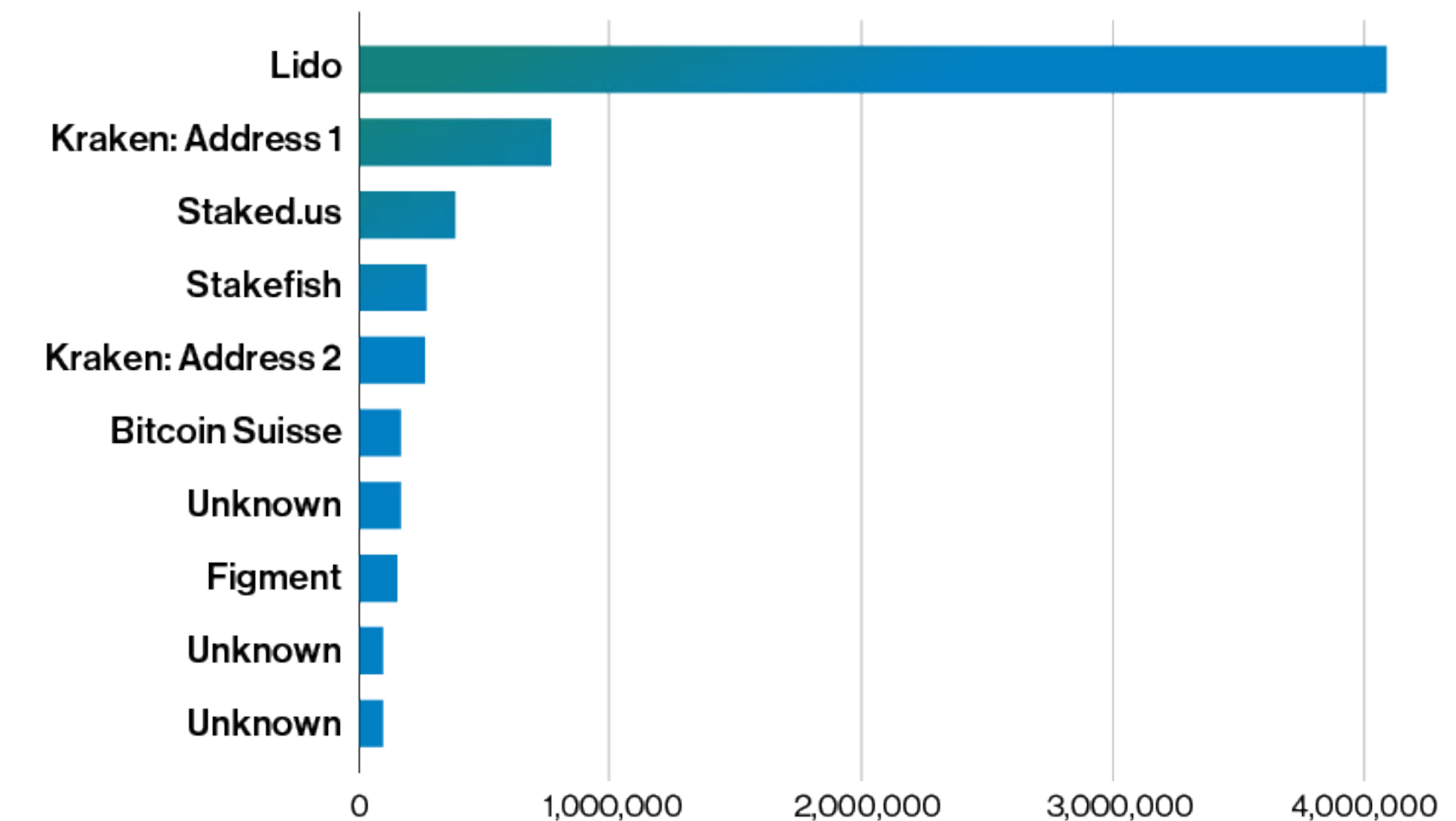
DeFi



Total ETH Staked to Beacon Chain

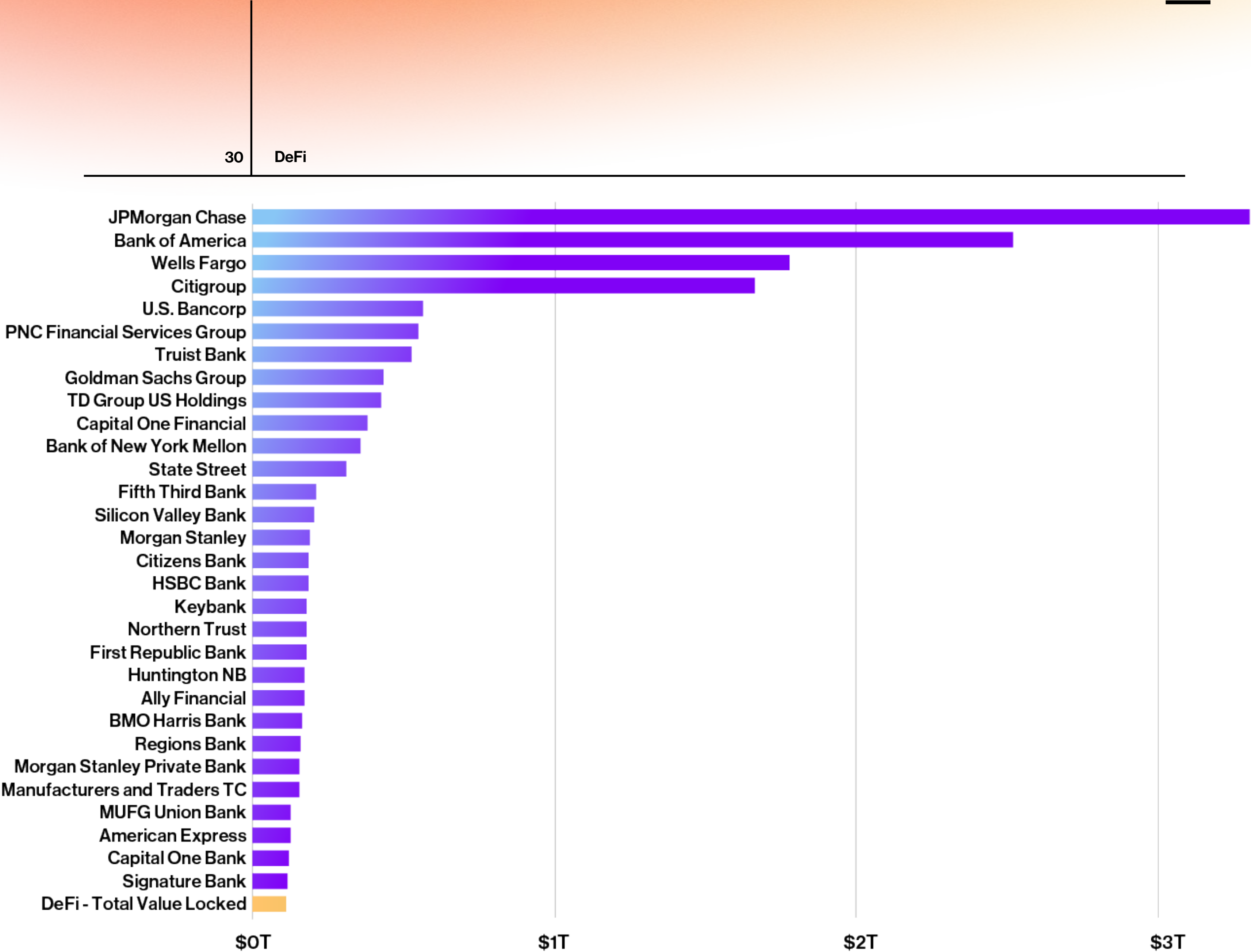


Top ETH 2 Deposit Addresses



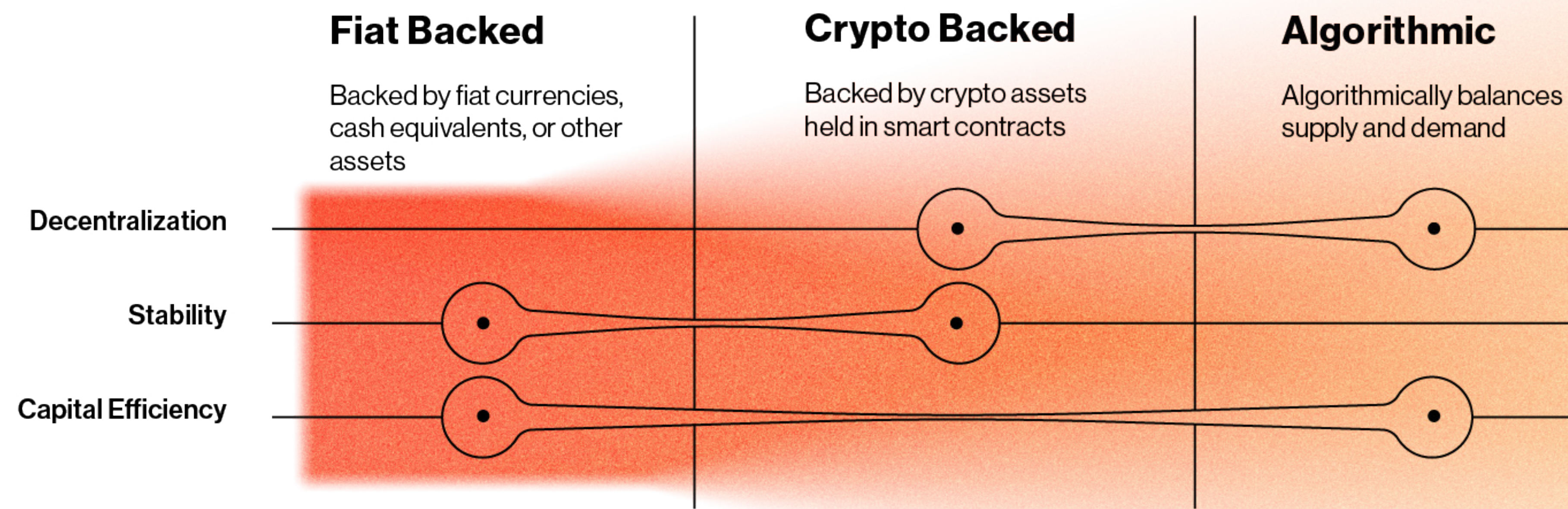
DeFi would represent the 31st largest US bank by total assets under management

Source:
DeFi Llama, <https://www.federalreserve.gov/releases/lbr/current/>;
Bank AUM data is as of 12/31/2022
DeFi TVL data is as of 5/12/2022.

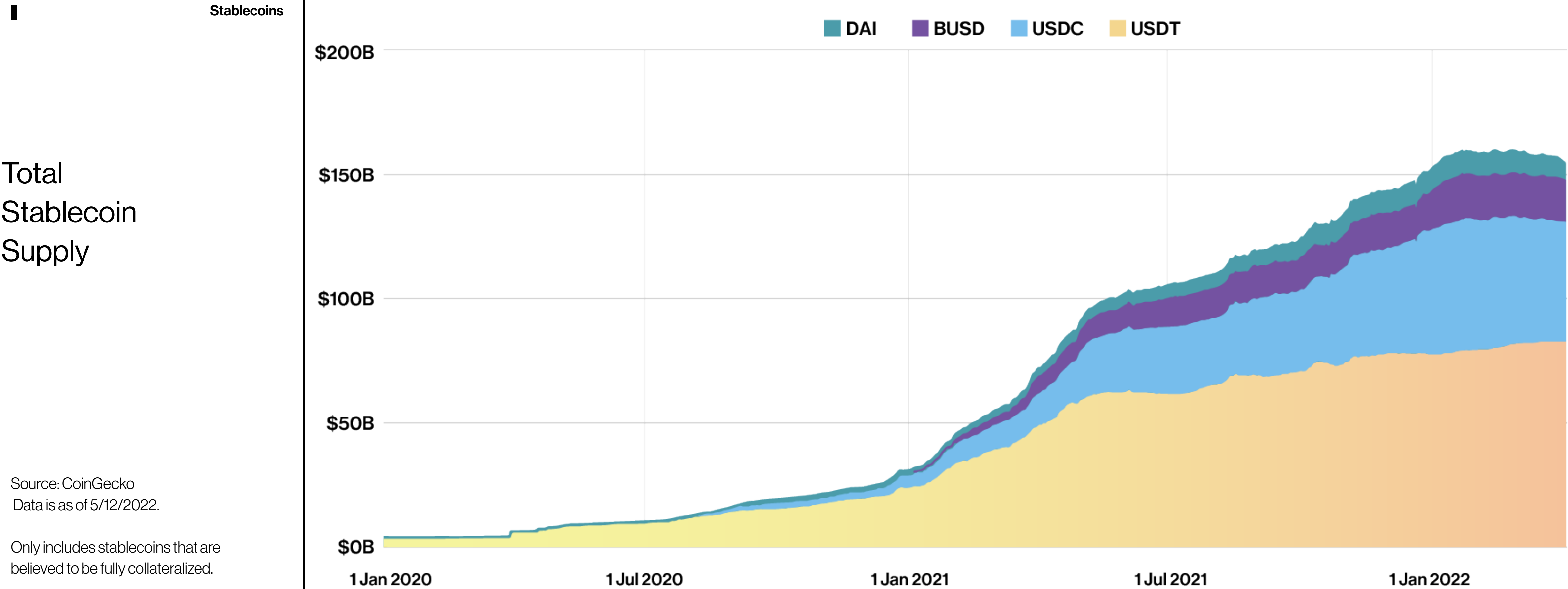


Stablecoins

There are *three primary categories* of stablecoins, though the lines between them are blurry



Increasing use of stablecoins demonstrates demand for a digital dollar

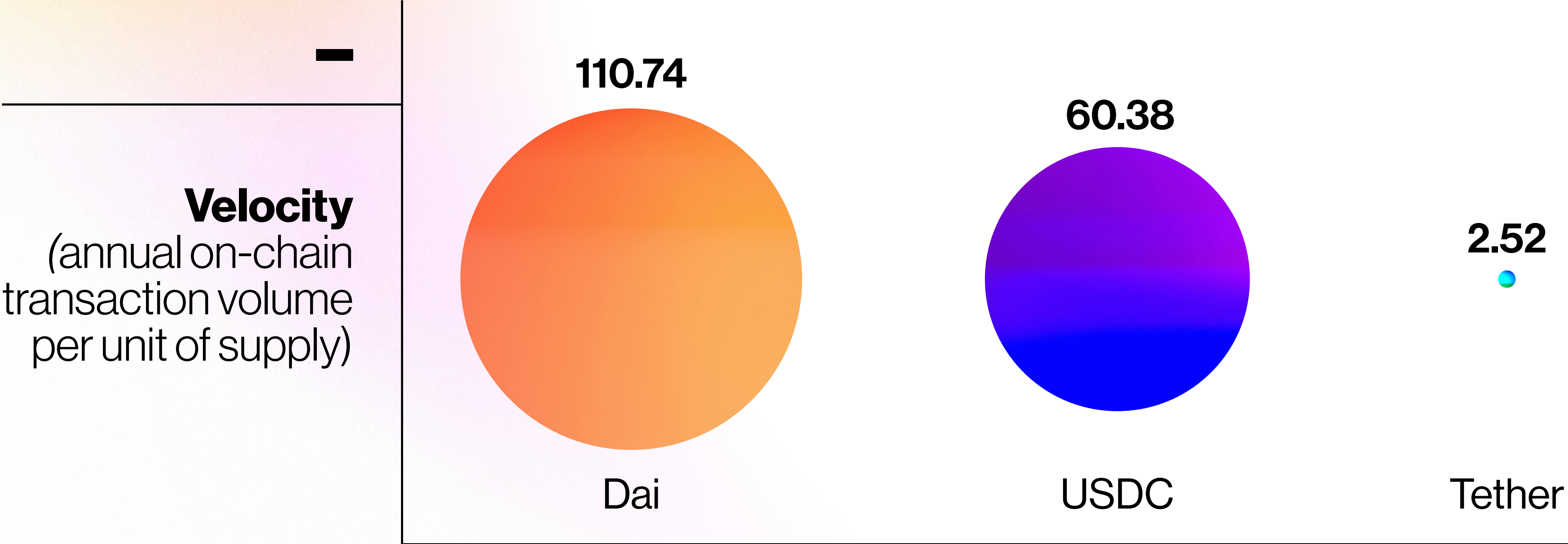


Source: CoinGecko
Data is as of 5/12/2022.

Only includes stablecoins that are believed to be fully collateralized.

The on-chain velocity (i.e., rate of turnover) for today's top stablecoins varies drastically

34

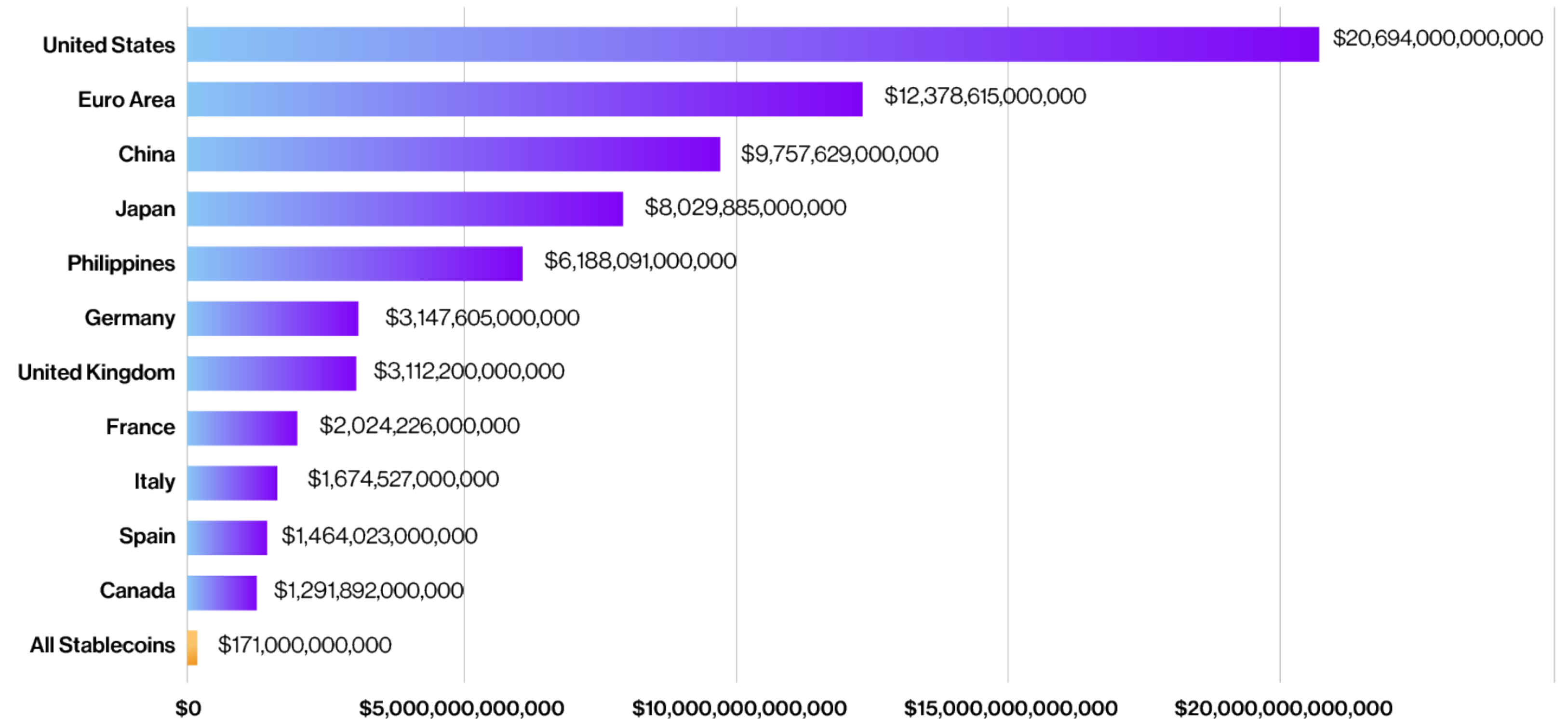


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Source; Coin Metrics; Data is as of 5/12/2022.

**Stablecoins
represent
just a *tiny*
fraction of
the world's
money
supply**

Total Money Supply (M1) by Country



Source: Messari, <https://take-profit.org/en/statistics/money-supply-m1/>
Data is as of 5/12/2022.

NFTs

We've seen several categories of NFTs emerge, *but it's still very early days*

01.

Profile Pictures

Images displayed on social media that represent an online identity

02.

Art & Music

A more efficient and transparent way for artists to monetize their work

03.

Gaming

Unique assets designed to be used within a game

04.

Utility

Items that grant special access, benefits, rewards, or memberships

05.

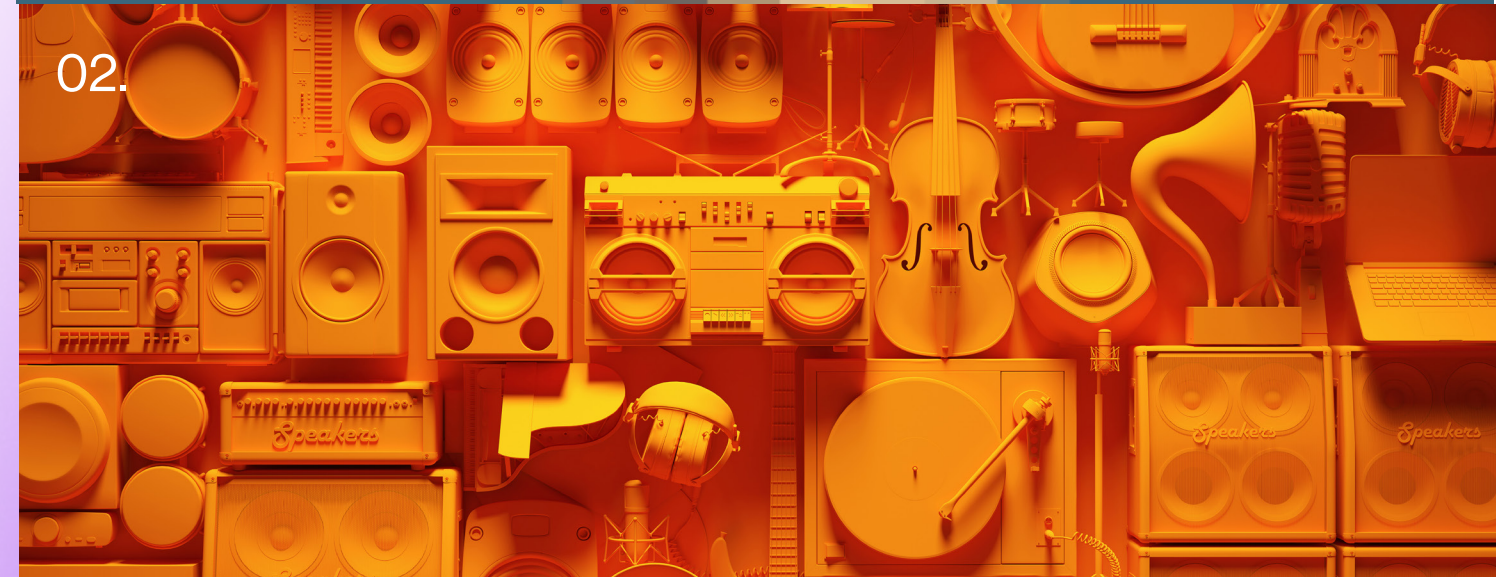
Virtual Worlds

Ownable properties that exist in new virtual worlds

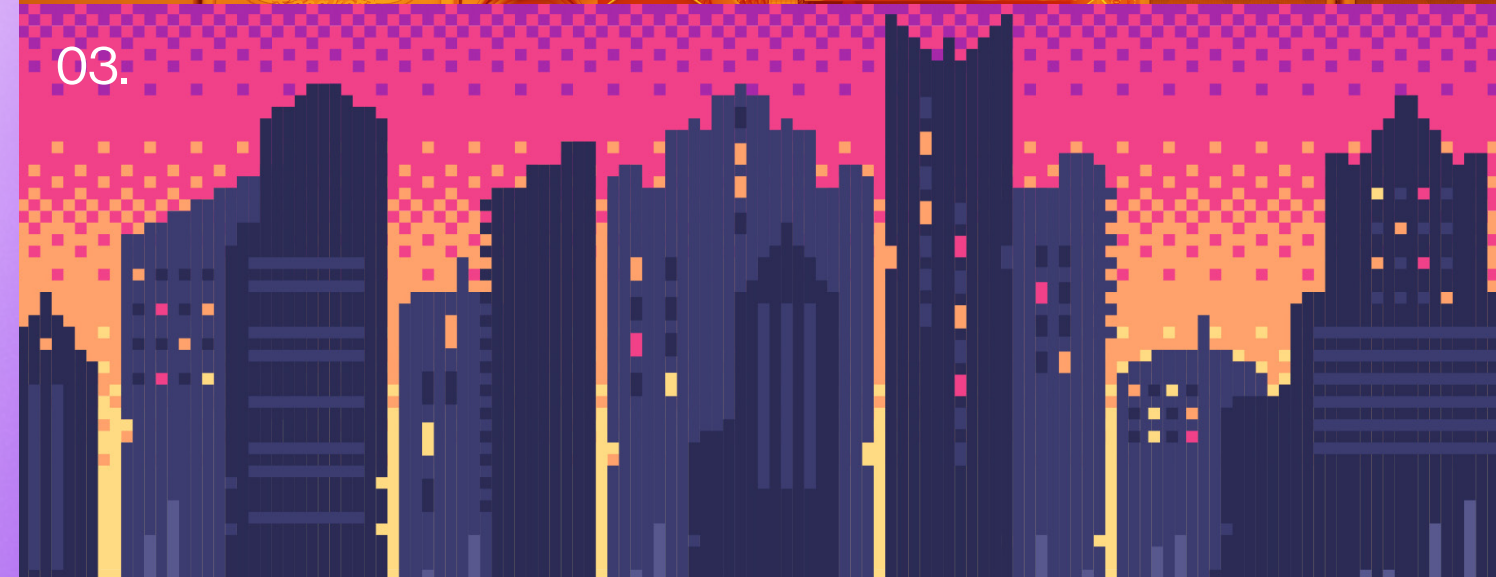
01.



02.



03.



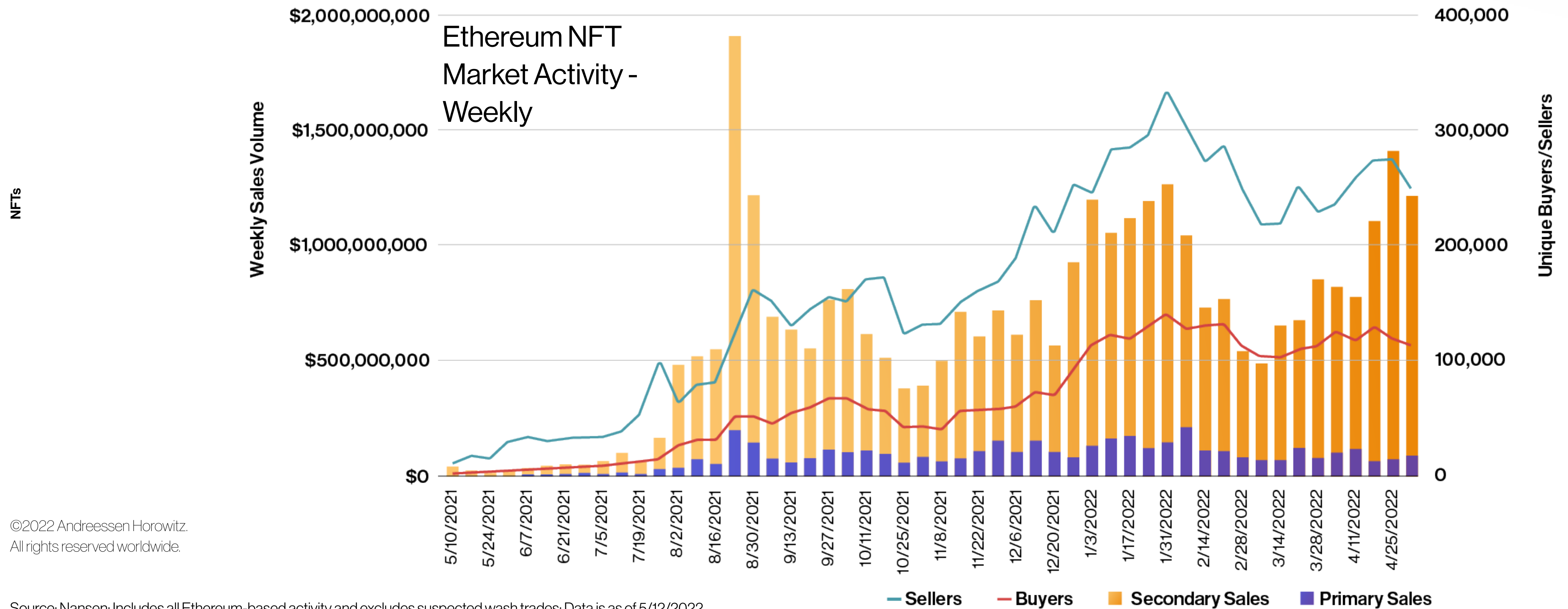
04.



05.



The NFT market *remains hot*, and we are beginning to see mainstream adoption



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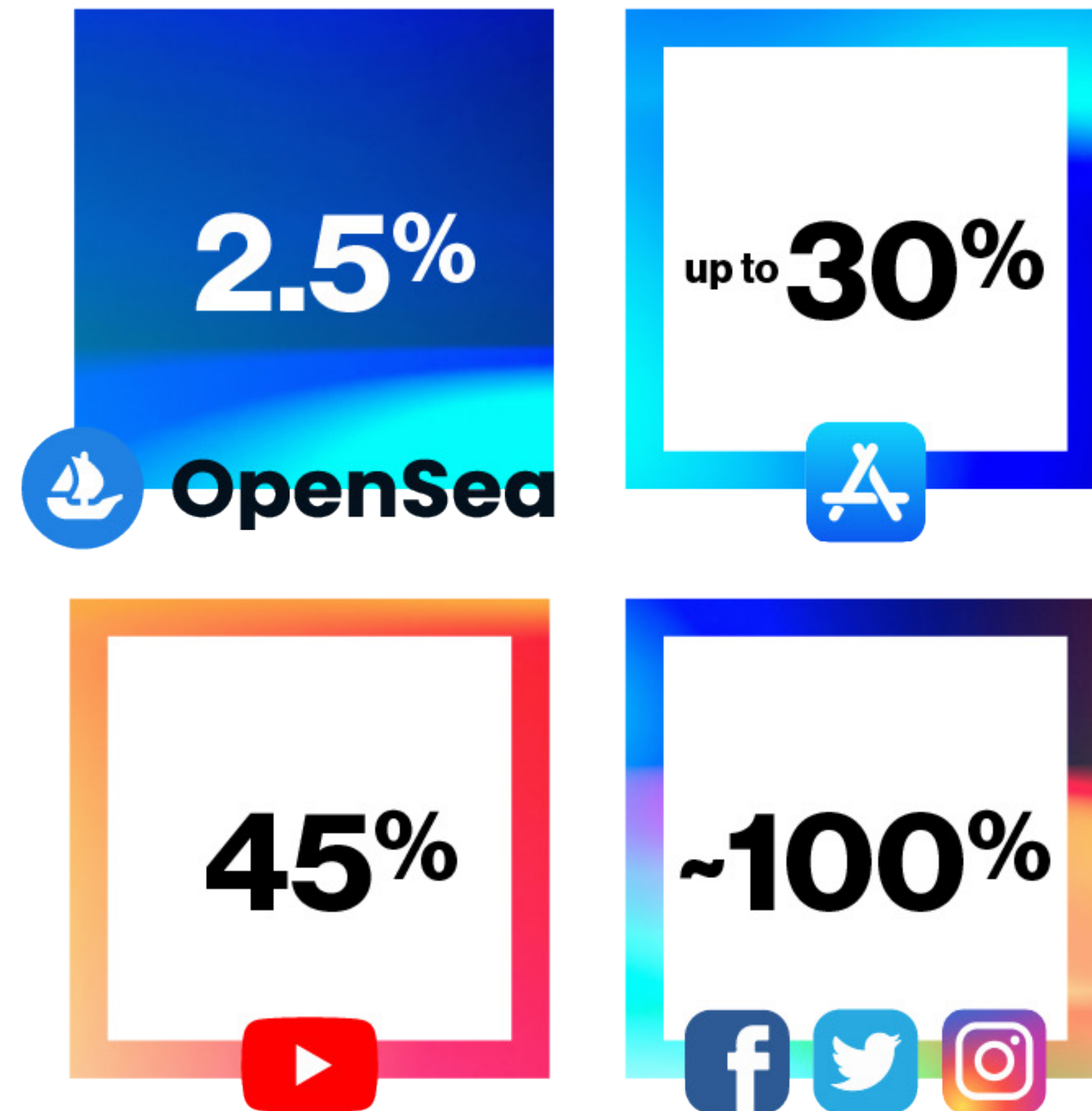
Source: Nansen; Includes all Ethereum-based activity and excludes suspected wash trades; Data is as of 5/12/2022.

Web3 platforms have *drastically* *lower take rates* than the internet giants today

“You know something is profoundly wrong with our economy when Big Tech has a higher take rate than the mafia.”

– Ritchie Torres, U.S. Congressman representing the South Bronx

Take Rates of Popular Creator Platforms



Estimated Creator Revenues by Source (2021):

NFTs

\$3.9 billion¹

22,400 creators

\$174K Avg Per Creator

*Includes ETH denominated primary sales of ERC-721 and ERC-1155 NFTs, plus creator royalties from secondary sales on OpenSea



\$7 billion²

11 million artists

\$636 Avg Per Artist

*Amount paid to rights holders (e.g, record labels, distributors, etc.)



\$15 billion³

37 million channels

\$2.47 Avg Per Channel

*Estimated based on YouTube's reported 55% of ad revenue distributed to creators



\$300 million⁴

2.91 billion users

\$0.10 Avg Per User

*Estimated based on Mark Zuckerberg's pledge to pay creators \$1 billion through 2022

**NFTs offer
creators *a whole new way*
to monetize
directly with
their fans**

Sources:

- ¹ a16z analysis of public data on the Ethereum blockchain,
- ² <https://www.forbes.com/sites/marisadellatto/2022/03/24/spotify-says-it-paid-7-billion-in-royalties-in-2021-amid-claims-of-low-pay-from-artists/>
- ³ <https://www.socialmediatoday.com/news/youtube-generated-288-billion-in-ad-revenue-in-2021-fueling-the-creator/>
- ⁴ <https://www.facebook.com/zuck/posts/10113607549897721>

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NFTs

There is
incredible
innovation
happening
in the NFT
space

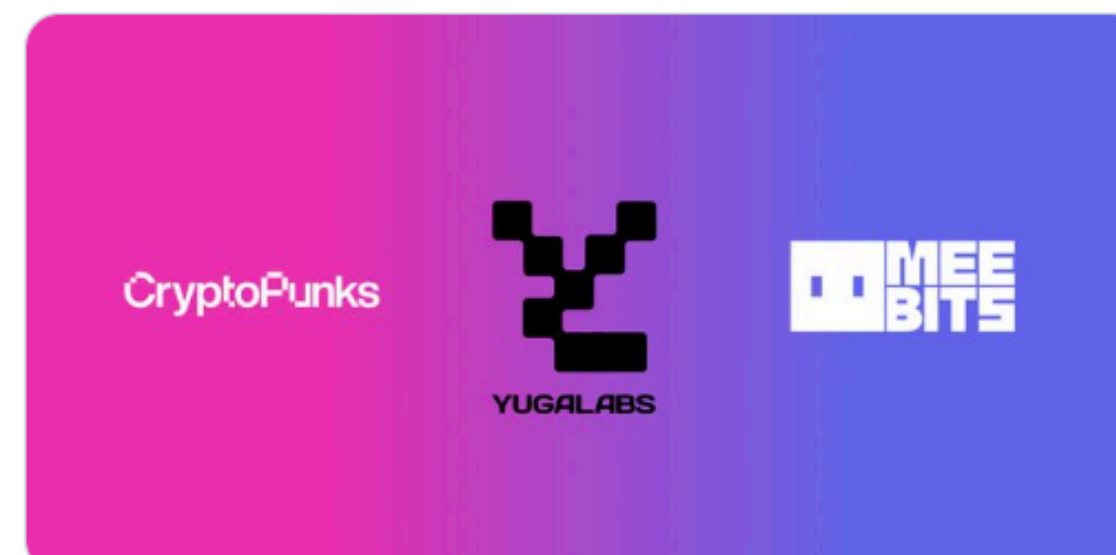
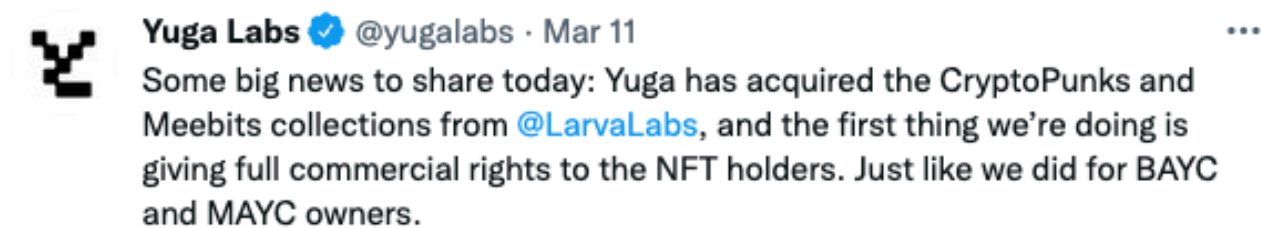
Airdrops



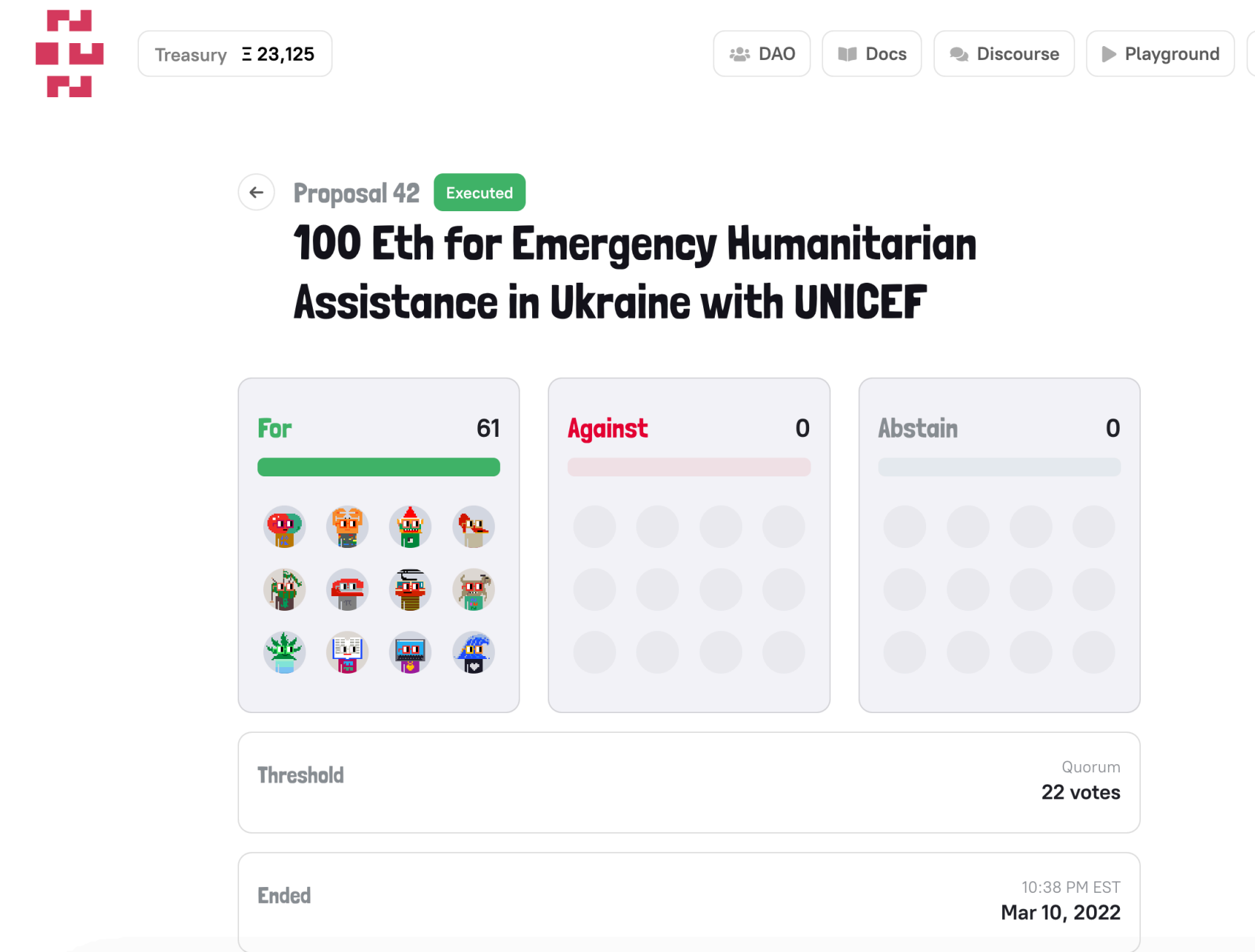
Music Royalties



IP/Commercial Rights



NFT DAO Governance



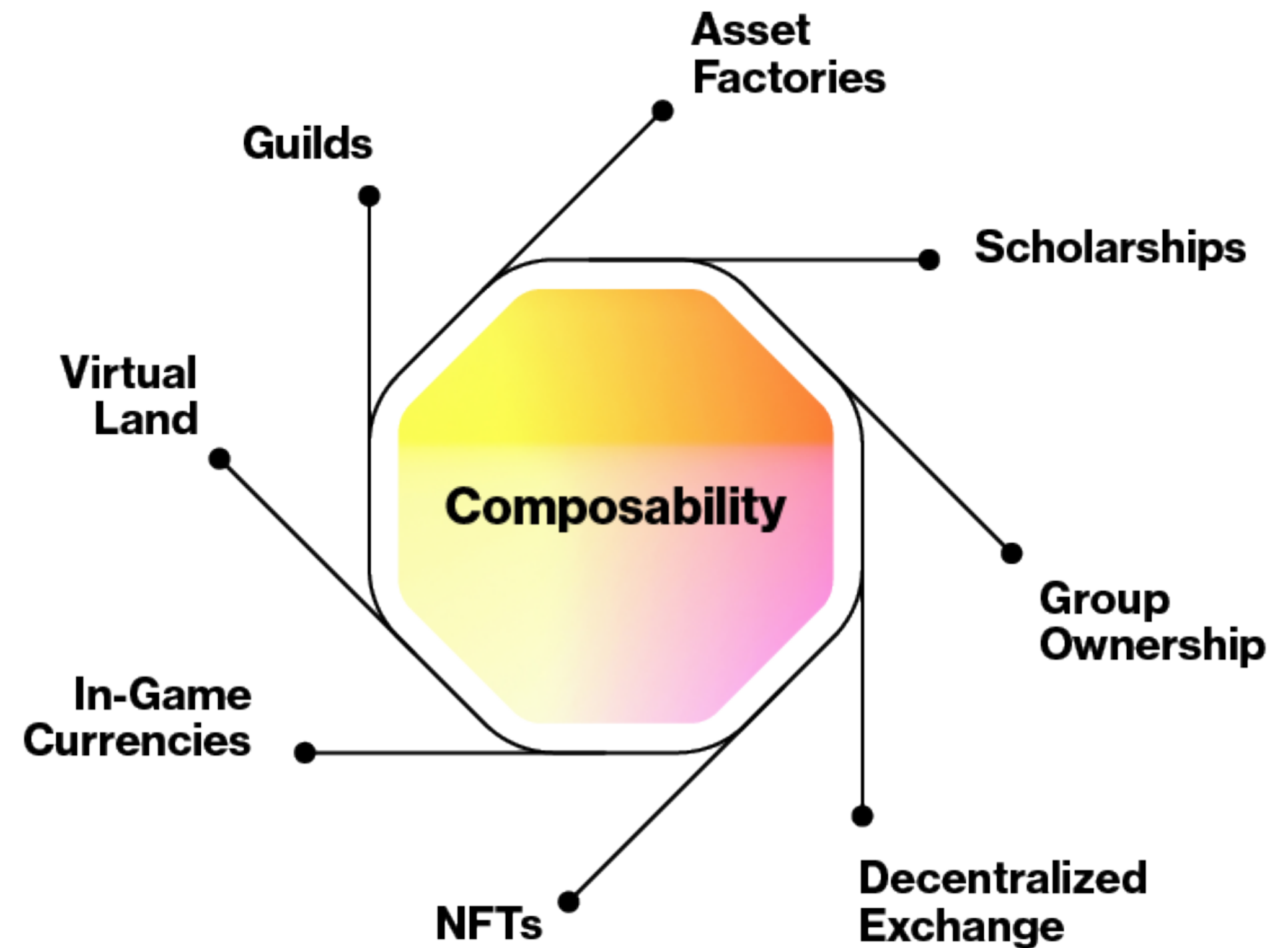
IRL Activation



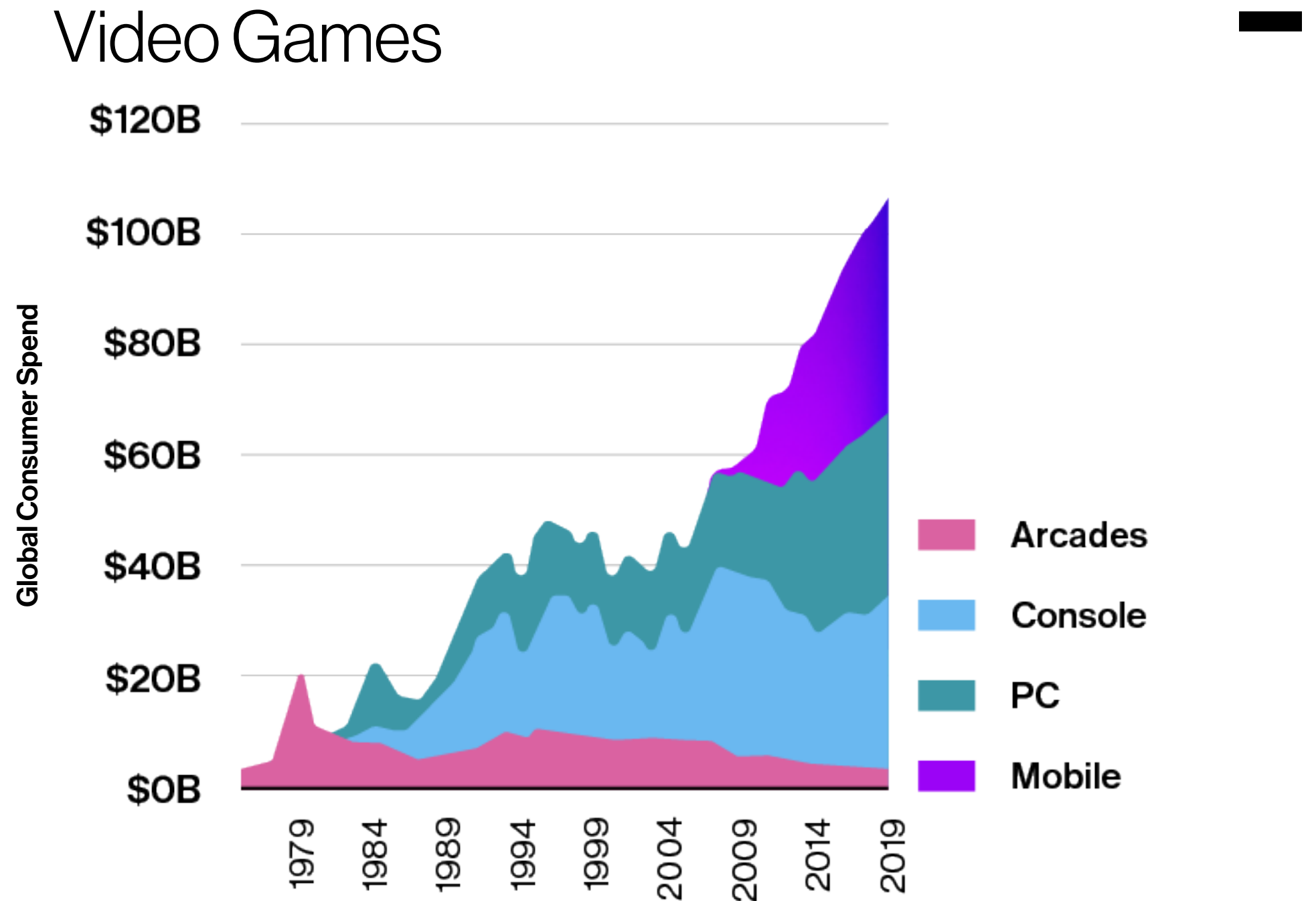
Web3 Gaming

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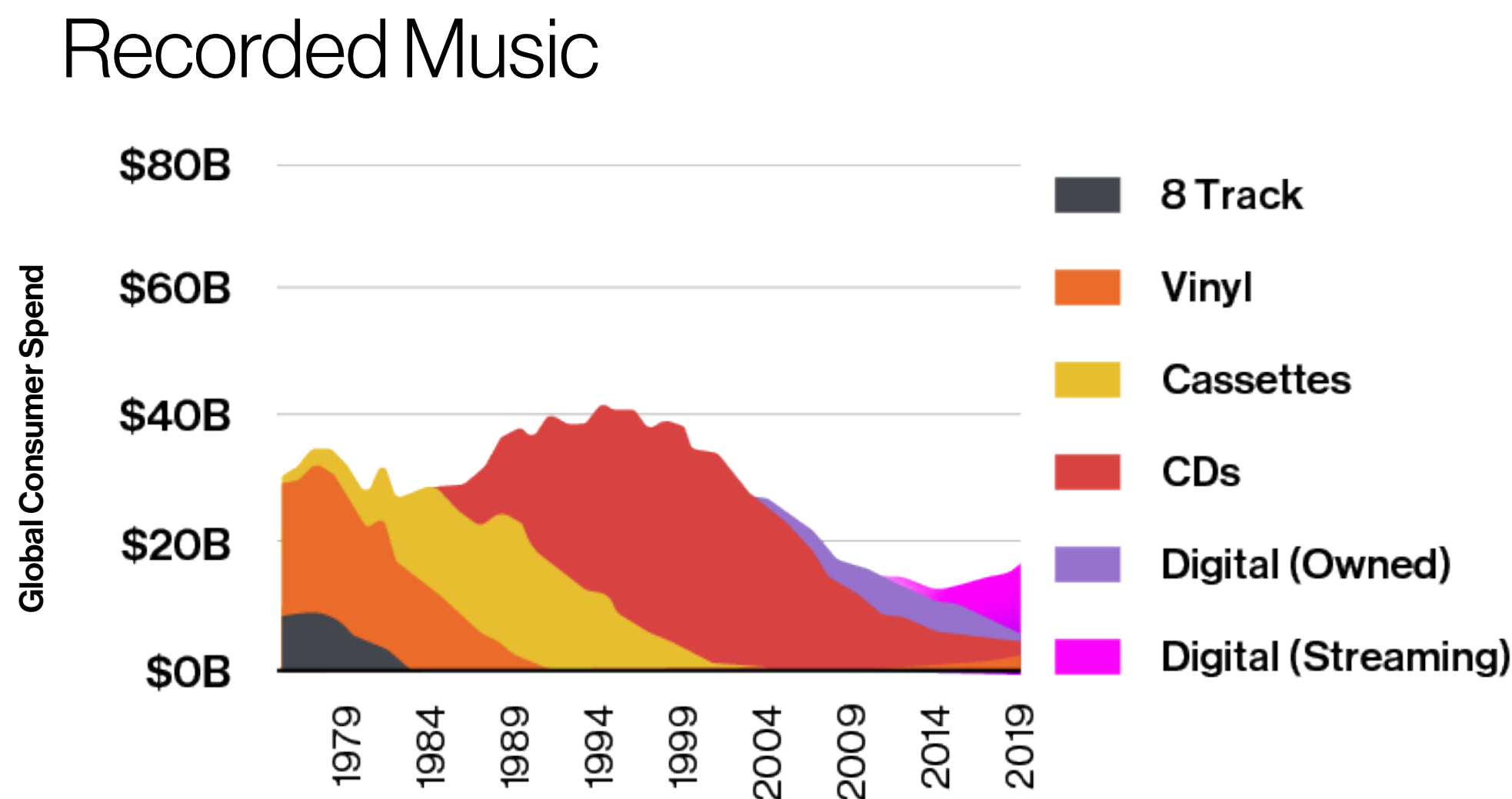
**We are just
beginning
to see the
*potential of
web3 gaming***



The video game industry has seen massive growth, driven by the *layering* of new platforms and business models

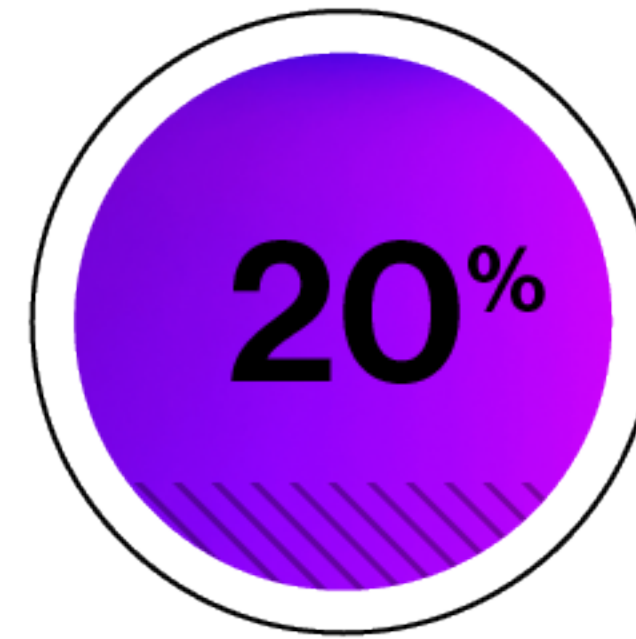


When the internet came along, video games responded by embracing new genres like MMOs and battle royale, new business models like free-to-play and virtual goods, and new complementary behaviors like streaming.

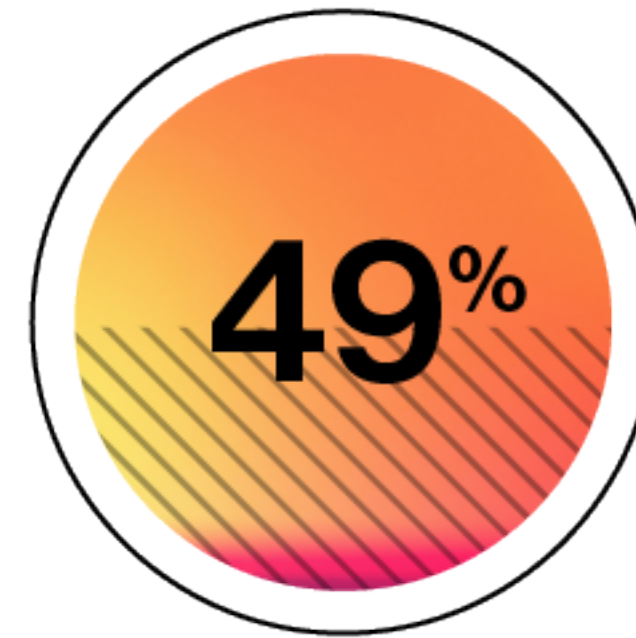


The music industry responded by spending decades filing lawsuits against innovators, and eventually accepting the incremental improvement of allowing users to subscribe to bundled content via streaming platforms.

There is a *huge market opportunity* at the intersection of web3 and gaming



of NFT sales volume in 2021
was gaming-related assets

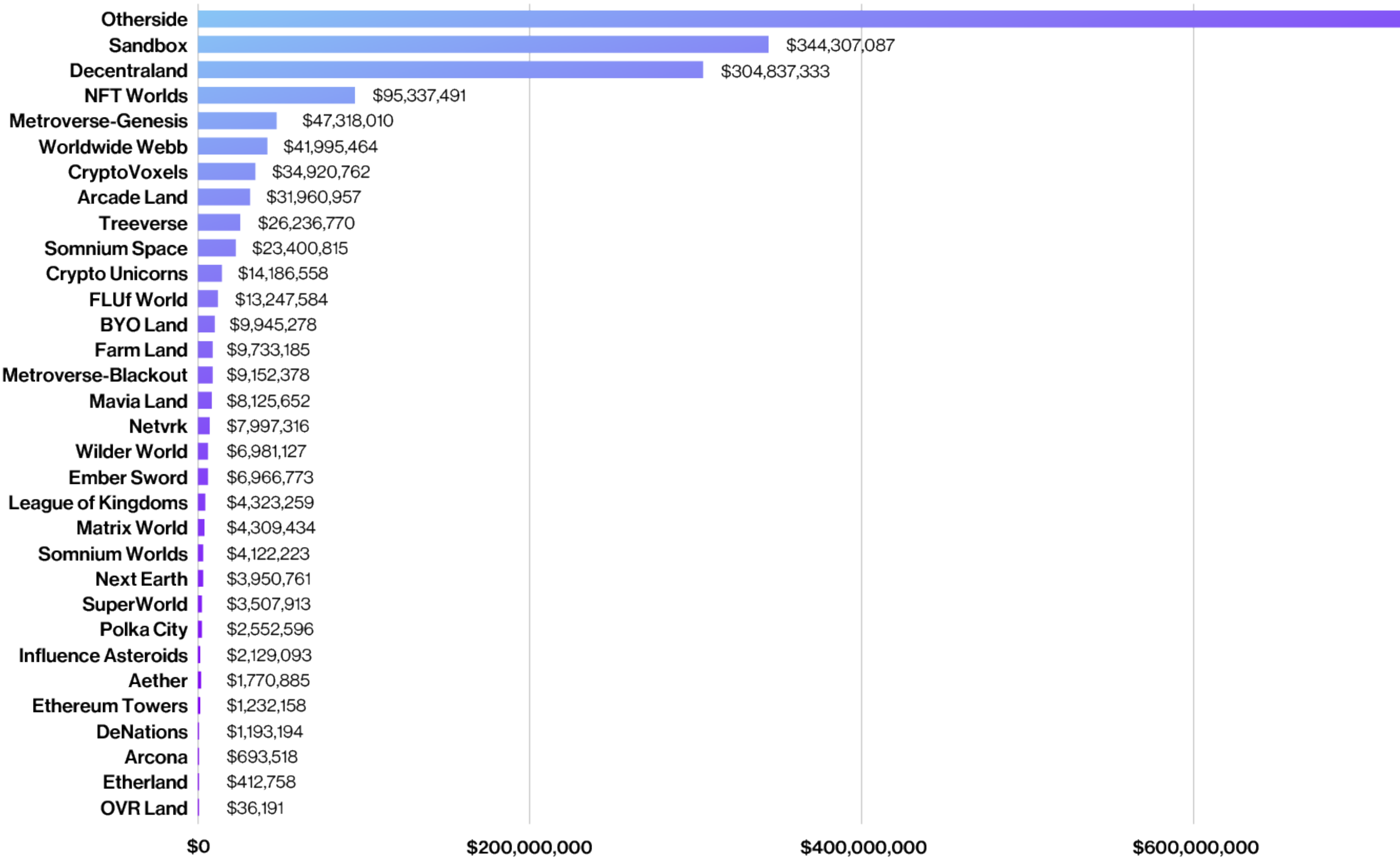


of crypto wallet activity
comes from games



live web3 games with more
than 1K unique on-chain users

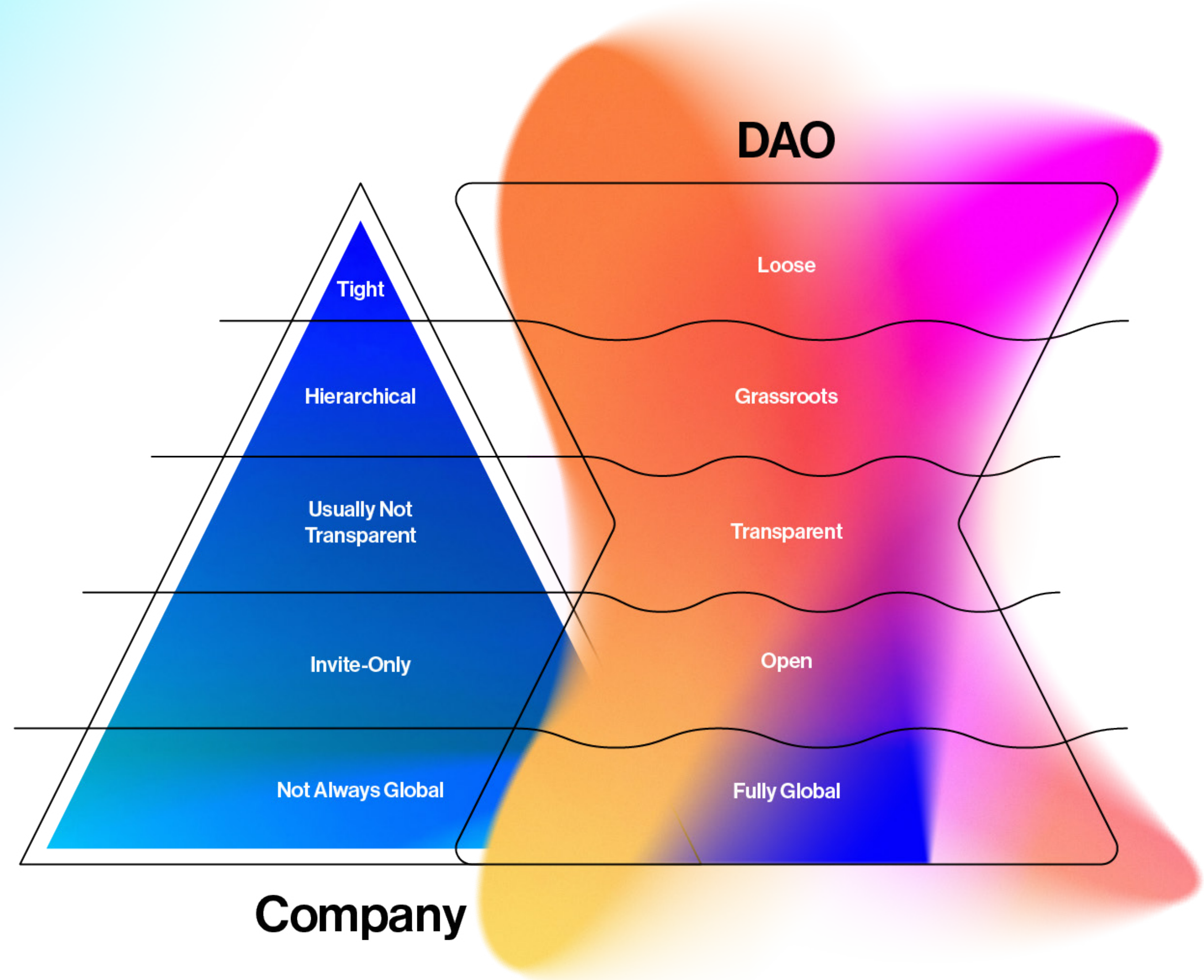
Metaverse Land—Secondary Sales



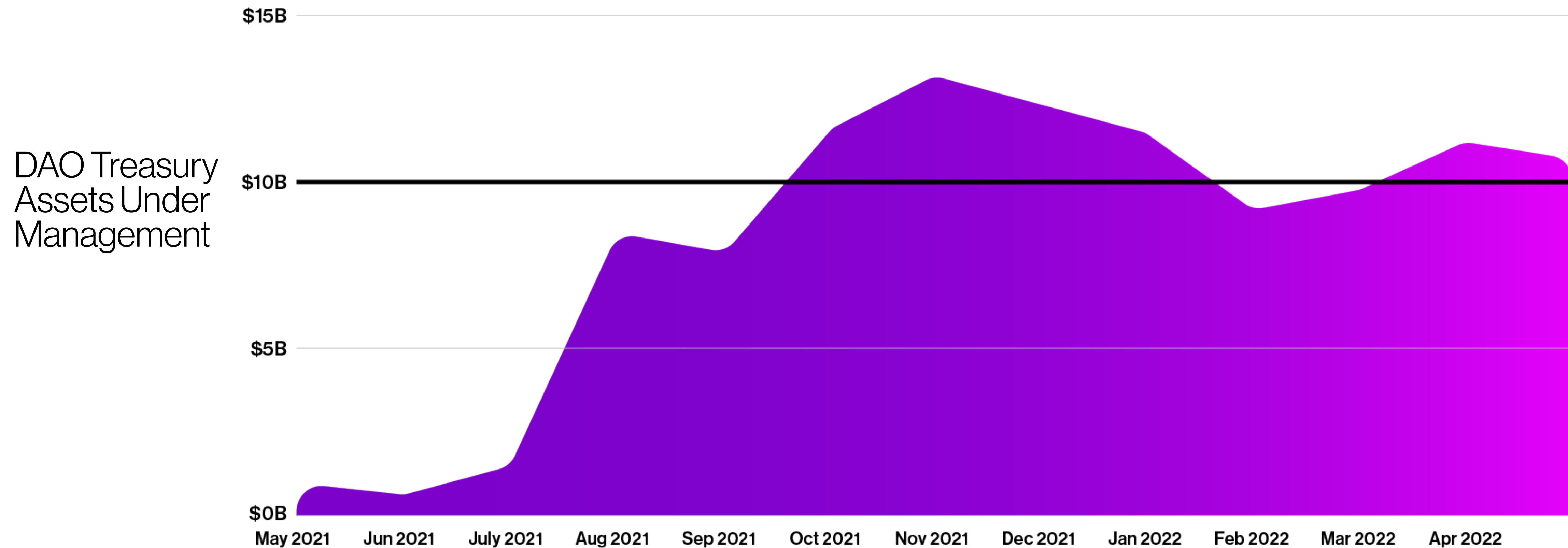
Interest in the metaverse has exploded, with land sales totaling nearly \$2 billion

DAOs

**DAOs are
providing a
path toward
*community
governance*
of any kind of
organization**

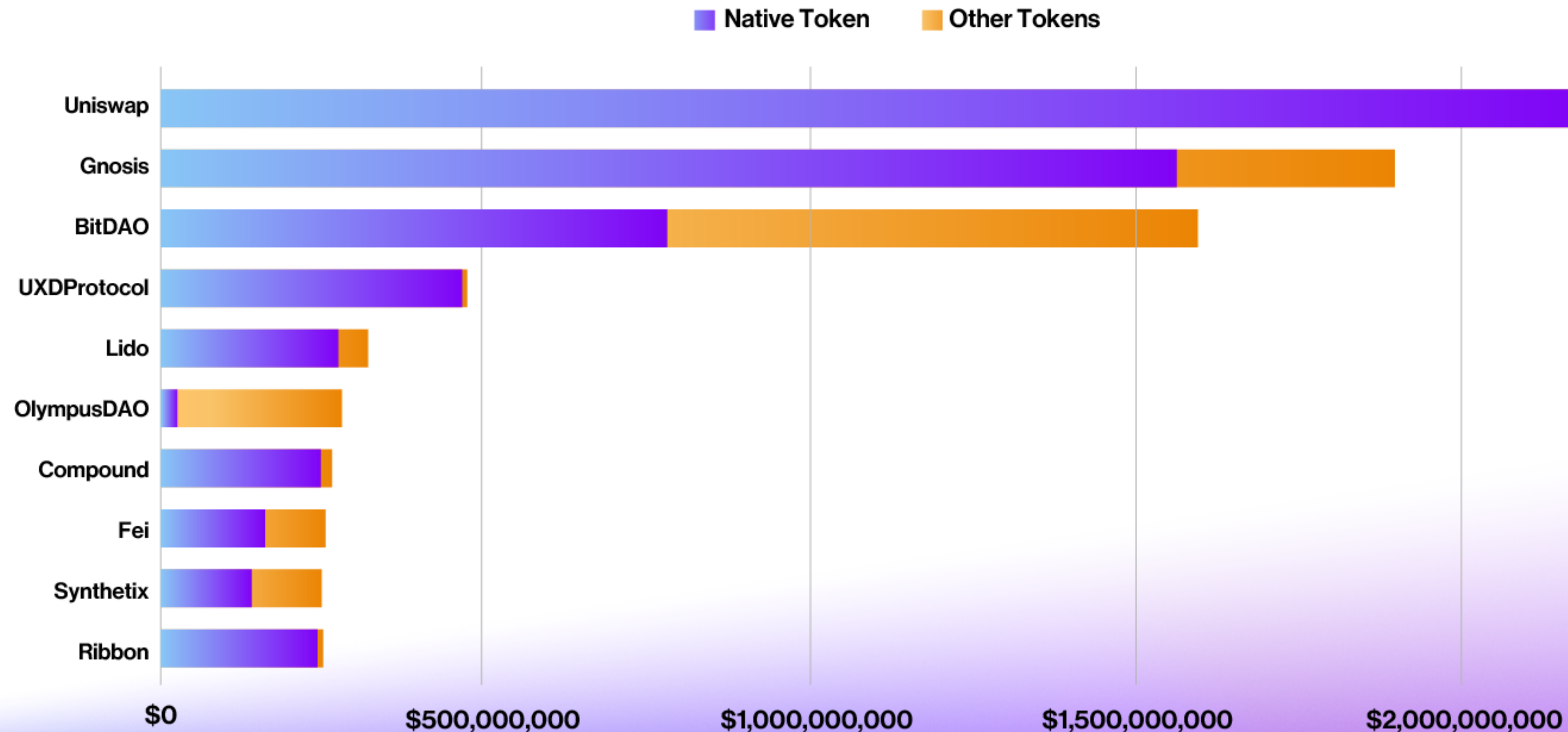


DAOs have accumulated *more than \$10 billion* in treasury assets under management



A large majority of value held by DAOs is in the form of the *protocol's native governance token*

Top 10 DAOs by Treasury Size



DAOs

50

Source: <https://deepdao.io/>;
Data is as of 5/12/2022.

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DAOs enable *a new, bottom-up way* for groups to make decisions

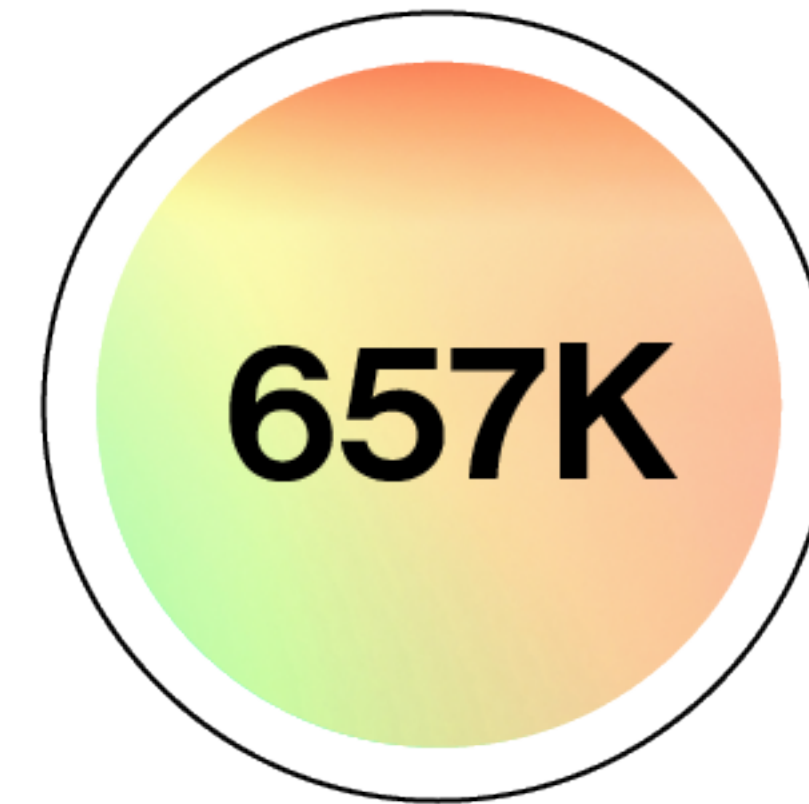
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Decisions Made



Total Votes



**Active Voters and
Proposal Makers**

Closing
Thoughts

Crypto is already making a *real world impact*



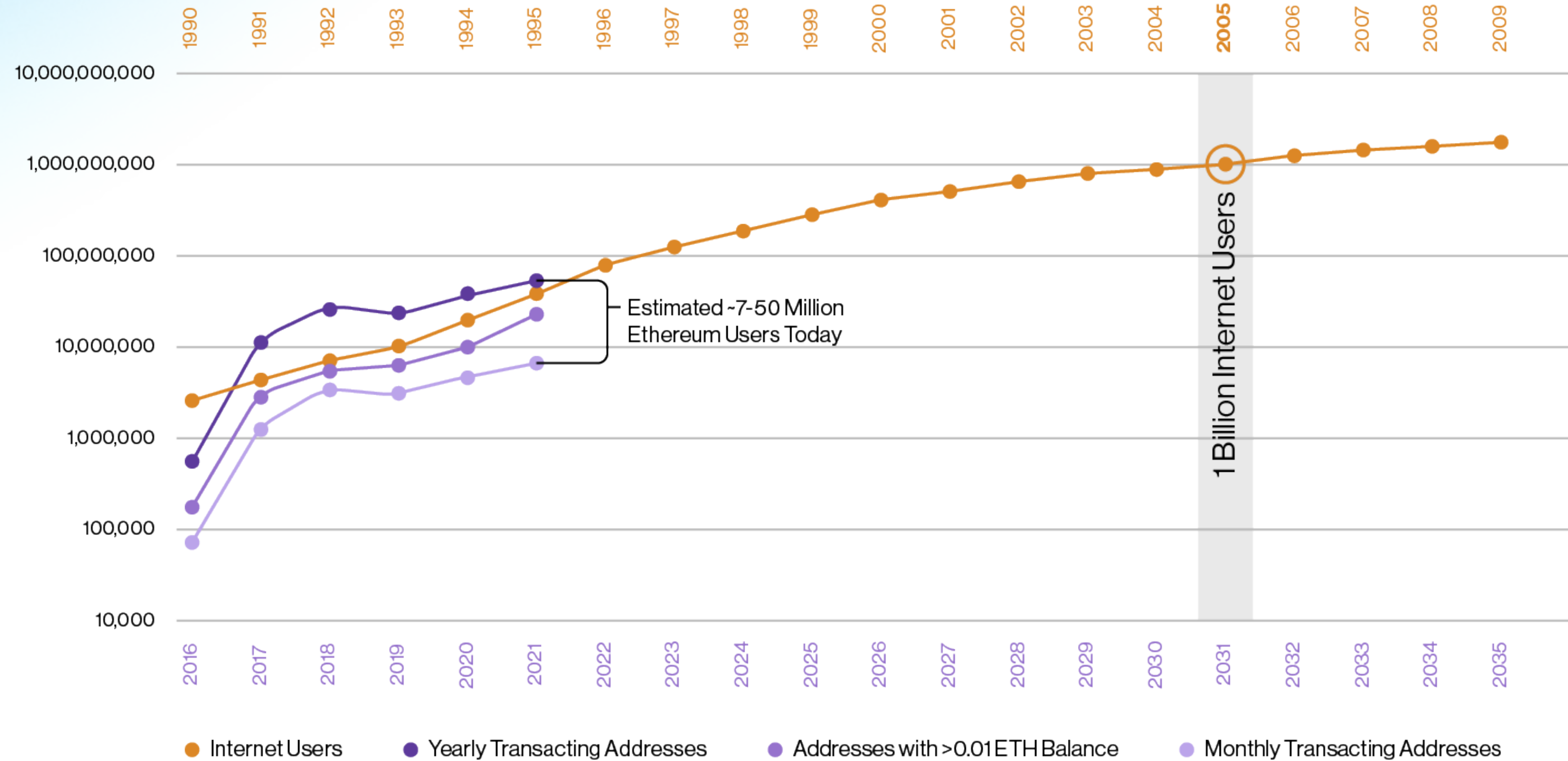
01. 02. 03. 04. 05.

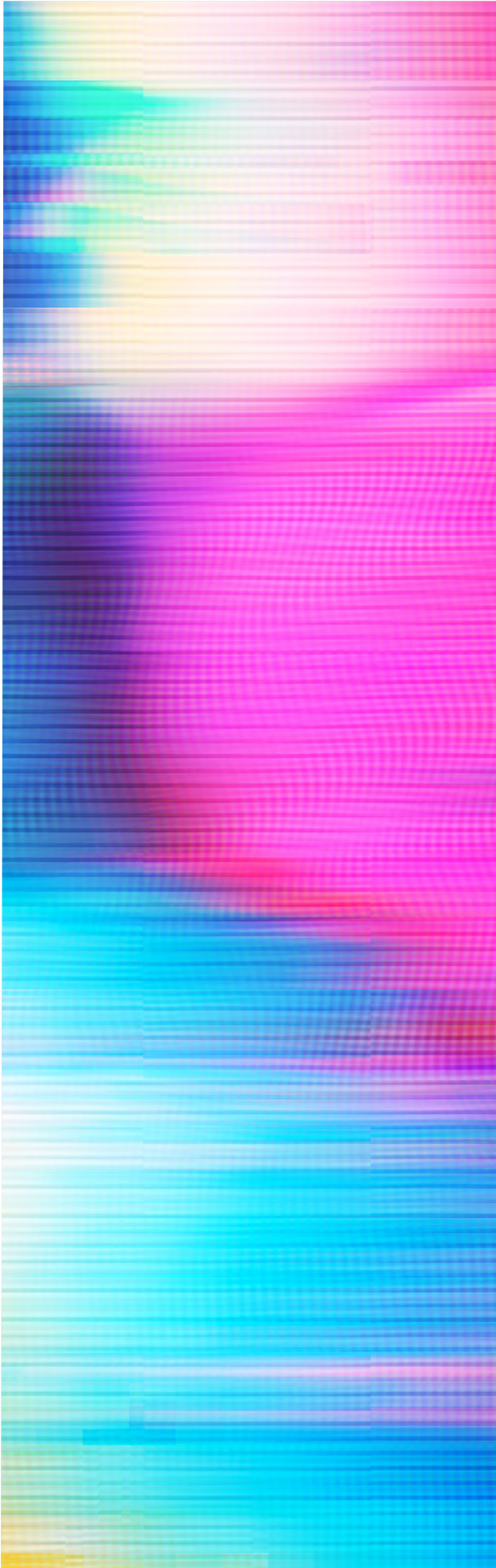
Today, there is vast untapped lending potential in emerging markets. Goldfinch expands access to capital using crypto to truly empower financial inclusion.	Traditional web services rely on trusted intermediaries (Facebook, Google) to manage their users' digital identities. With Spruce, users can control their own identity with an Ethereum account.	The telecom industry is currently controlled by monopolies. Helium is building towards a future where network coverage becomes a commodity, fueled by competition, available anywhere in the world, at a fraction of current costs.	Only 15,000 musicians on streaming services (less than 0.2%) make more than \$50K/year. Sound cuts out the middlemen, allowing artists to monetize directly from their fans.	The voluntary carbon market lacks liquidity, accessibility, and price transparency. Flowcarbon is leveraging blockchain tech to scale climate change solutions.
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It is still
early days
for web3

Source: World Bank, Coin Metrics, and a16z analysis of public data on the Ethereum blockchain
Data is through 12/31/2021.

Internet Users vs. Ethereum Addresses (Log Scale)





What’s next for web3?

01.	02.	03.	04.	05.
Web3 infrastructure will continue to improve, with the continued improvement and growth of non-Ethereum L1s and Ethereum L2s. The Ethereum merge will hopefully happen this year. This will improve performance and also remove the environmental objection to using Ethereum.	Expect many more creators to embrace NFTs in their own communities as they discover how much better they can monetize by selling digital goods directly to their fans vs banner ads and other web2 monetization methods.	Expect many web3 games to launch, developed by founders with backgrounds at top game studios. Some of these will launch in the coming months, others will take longer.	New web3 users who earn tokens through games and NFTs will likely choose to save those tokens in DeFi protocols vs tradfi banks given the better rates and user experience, growing the number of DeFi users.	Expect many more experiments with DAOs, social tokens, decentralized social networks, web3 media, and other emerging categories. Some of these might break out in the same way DeFi, NFTs and web3 games did.

Source: <https://cdixon.mirror.xyz/CGrfc6YezvzWXuOEShNvh46y4H4XTQvgYXNkFaZG510>

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