

Web3 Development Report

Q4 2022: Ethereum ecosystem and beyond

Overview

The state of web3 development



Consumer trust falters, but web3 development **reaches new heights**

Developer momentum continues to diverge from crypto volatility and the CEX crunch



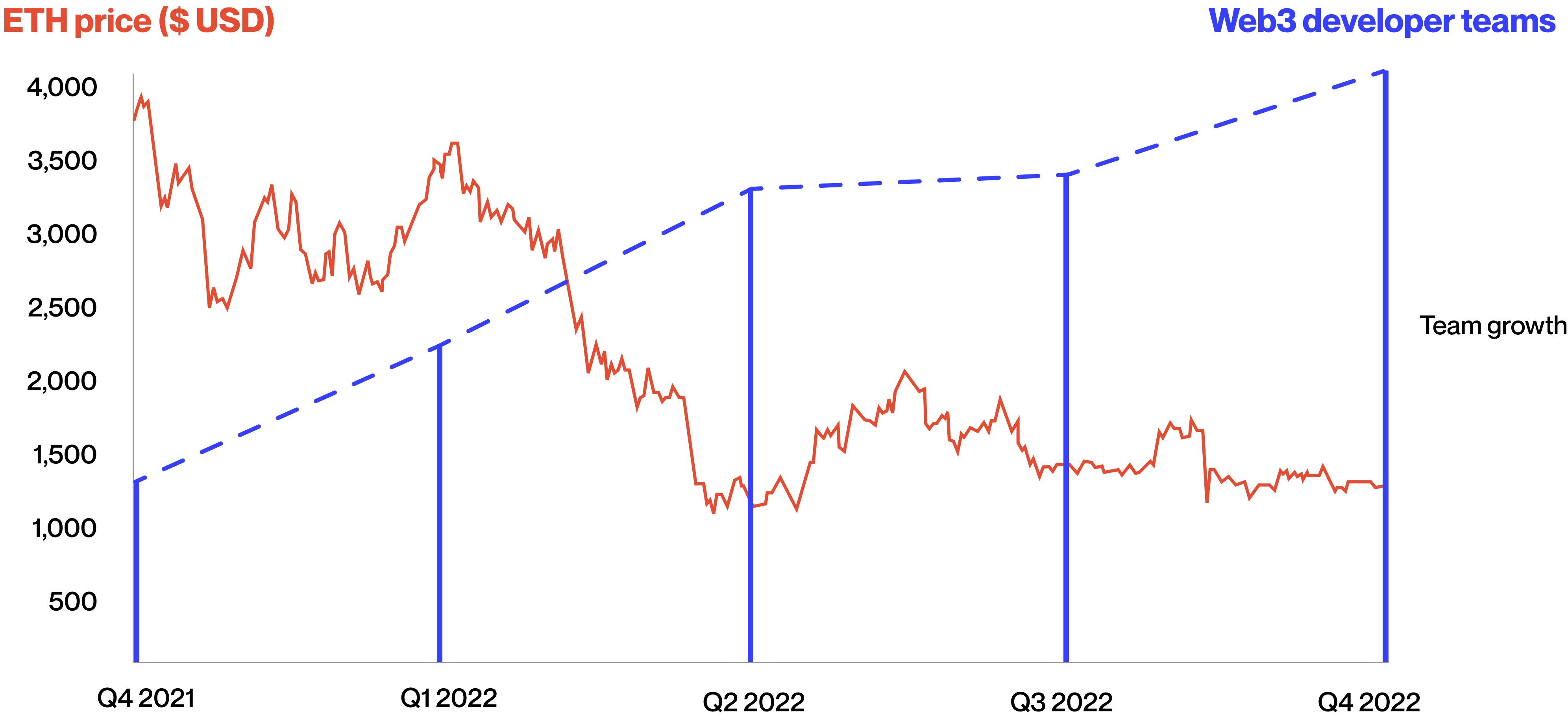
- ETH price **-10% in Q4**
- CEX outflows of **\$3.7B**
- **ETH in Q4 (-29% in ETH holdings)**



- Ethereum mainnet smart contract deployments **+453% in Q4**

Prices down, devs up

- ETH price (\$ USD)
- Web3 developer teams



Building for the future

Leading indicators for mainnet dev activity and future dapps

1.8M

Ethereum core developer tool
downloads/week
+87% Y/Y, 16% Q/Q

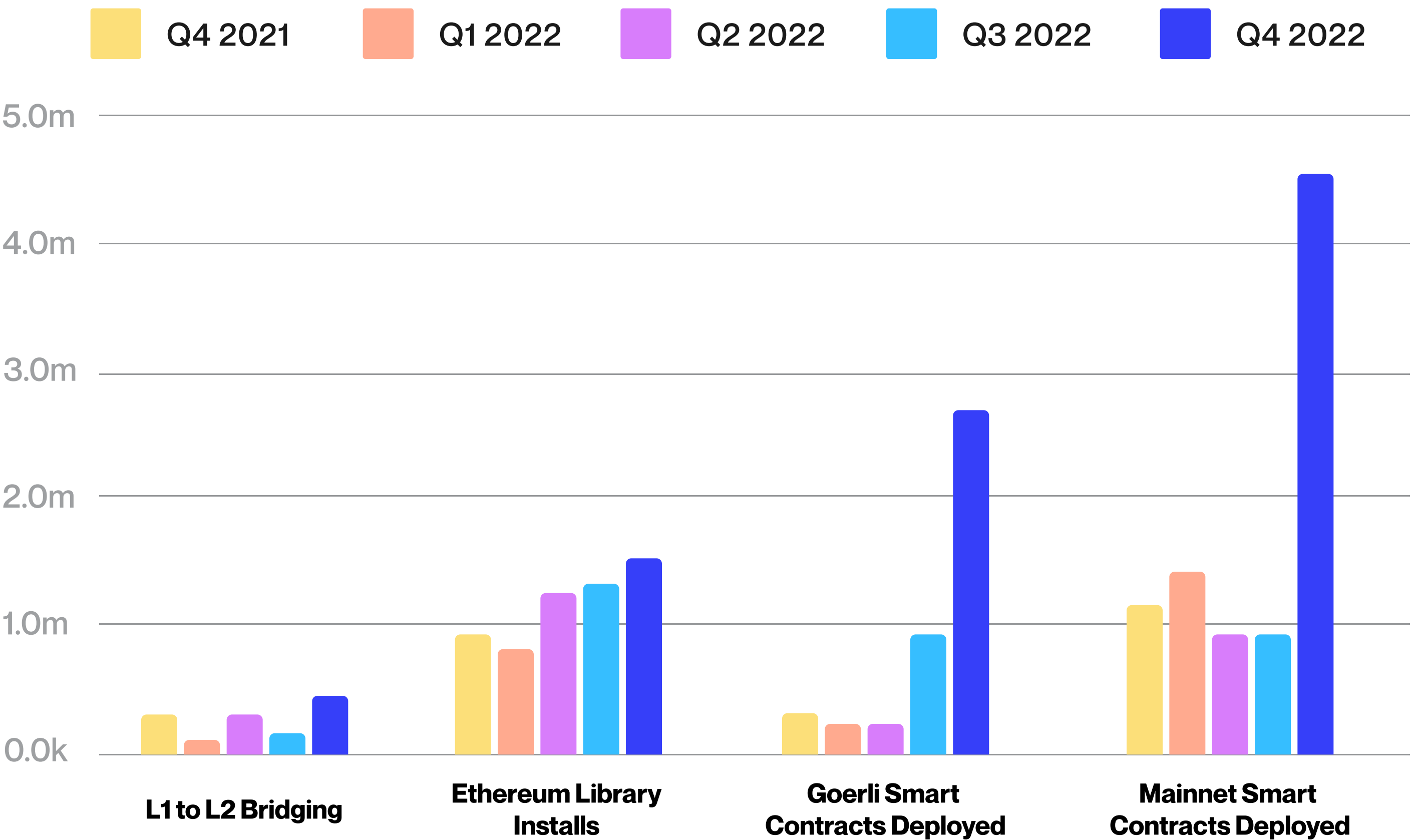
2.7M

Goerli testnet smart contracts/quarter
are at an all-time high
+721% Y/Y, +187% Q/Q

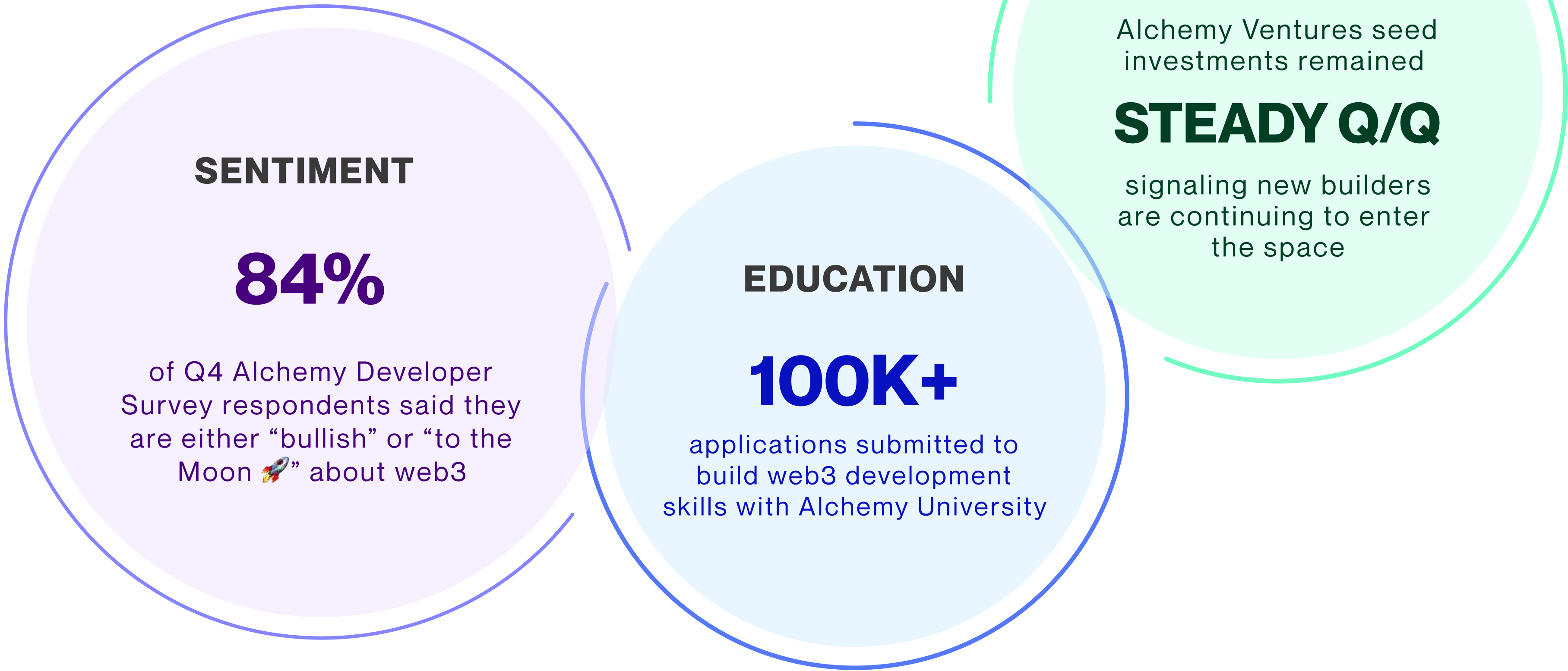
4.6M

Ethereum mainnet
smart contracts/quarter
+293% Y/Y, +453% Q/Q

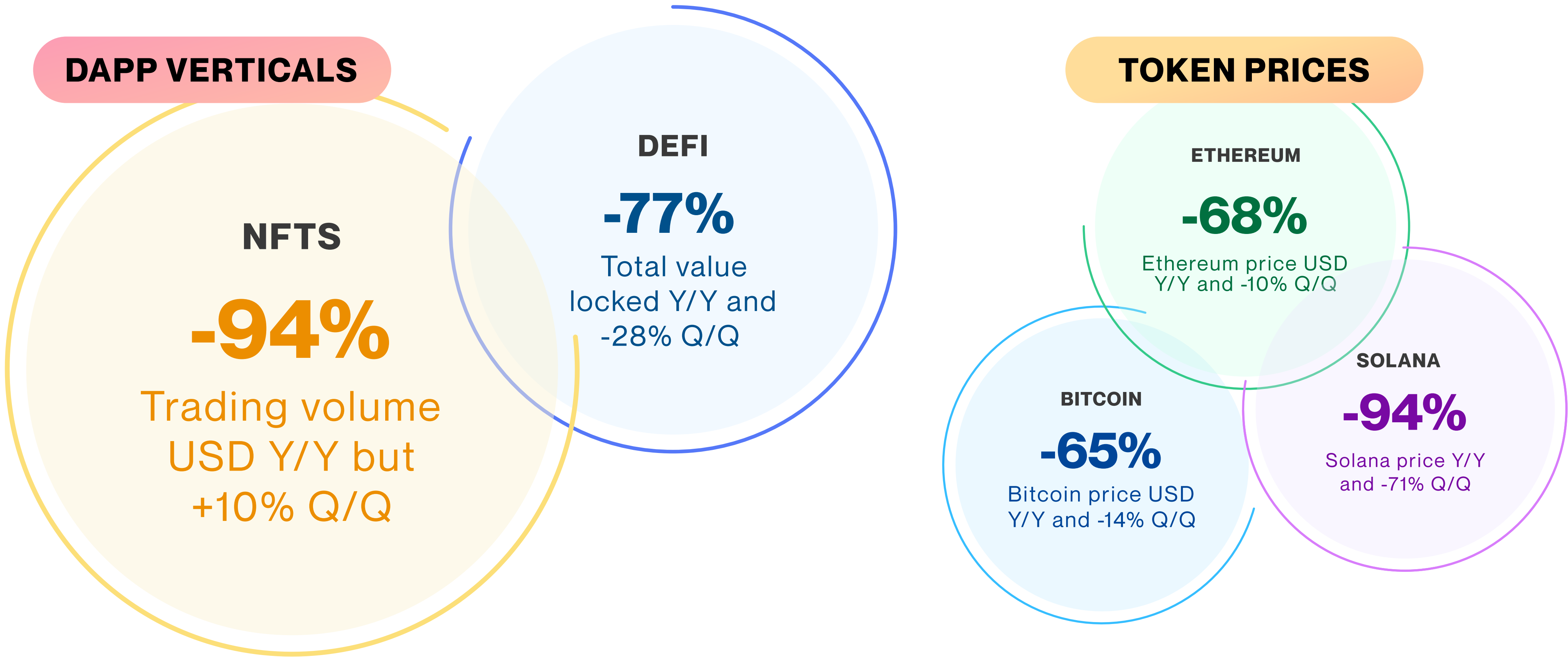
Q4 activity strong across the board



All signs point to... probably nothing 🤔



But it's not all roses



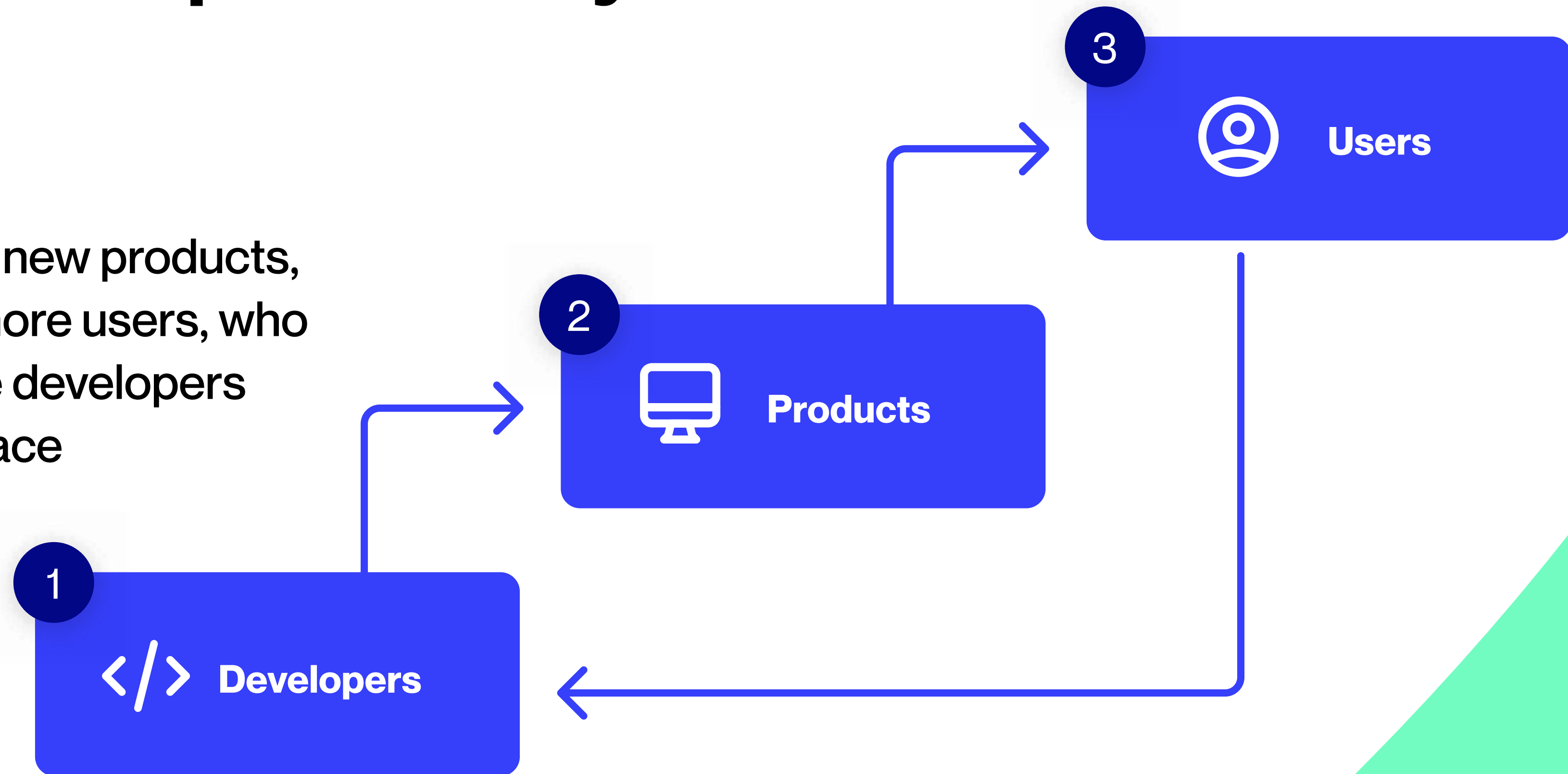
Approach

Understanding the builder ecosystem



The development cycle

Developers build new products, which onboard more users, who then attract more developers into the web3 space

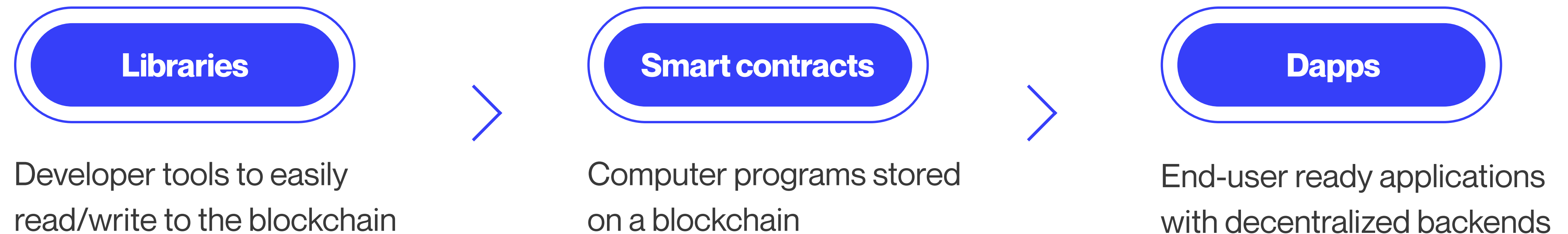


5 stages of developer activity

Development stage	1. Ideation & interest	2. Local testing	3. Testnet deploy	4. Mainnet deploy	5. Scaling dapp usage
Action	Developer becomes interested in web3 and forms idea of what to build	Developer installs libraries for web3 application building and local deployment	Developer connects to a testnet through node offering, gets testnet ETH and deploys on testnet	Developer connects to Mainnet, funds their wallet with ETH and deploys to production	Developer maintains, improves and scales existing codebase for growth
Measurement	Alchemy Developer Survey Alchemy University	Library downloads	Goerlifaucet.com Testnet contracts	Mainnet contracts	Dapp usage DappRadar Alchemy Dapp Store

Measuring **builder momentum**

These 3 indicators show us how devs are **building**, **deploying**, and **scaling**



1 Ideation and interest

2 Local development

3 Testnet deploy

4 Mainnet deploy

5 Scaling usage

Developer sentiment and increasing desires to learn about blockchain development signals growing interest in building web3 products



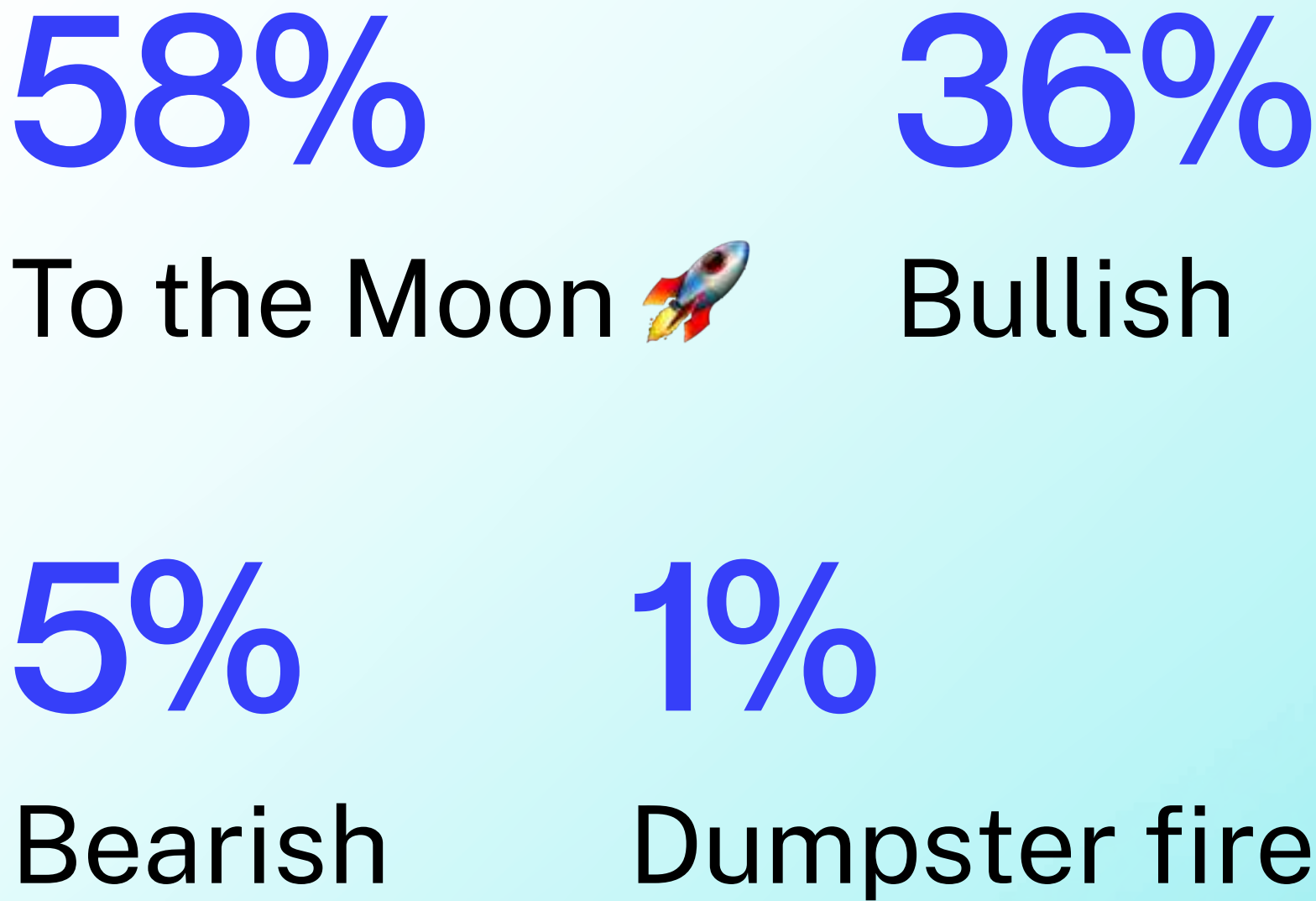
Alchemy Q4 Developer Survey

- In Q4 2022, Alchemy surveyed developers to gather insights into platform usage and web3 market outlook
- In total, 985 respondents provided feedback and insights during an unpredictable time in the industry

DEVS MAINTAIN A POSITIVE OUTLOOK

Alchemy Q4 Developer Survey

“How are you feeling about the future of web3?”



DEVS NEED RESOURCES TO BUILD

Alchemy Q4 Developer Survey

“What are you concerned about currently?”

58%

Funding

31%

Developer tools

25%

Staffing

8%

Other

Devs want **skills to shine**



Alchemy University's free web3 degrees for developers launched in October 2022

100K

applications received since launch,
indicating strong interest in the
fundamentals of web3 development

20K+

of those applicants enrolled in
early access programming

Steady flow of seed-stage startups



Despite macro headwinds, Alchemy Ventures' seed investment velocity was even Q/Q. Of those investments, Alchemy Ventures' portfolio companies are building:

Startups include:

Spindl



Tres Finance



Blocktorch



Developer tools

35%

Infrastructure

15%

Gaming

15%

Security

15%

DeFi

15%

Wallet

5%

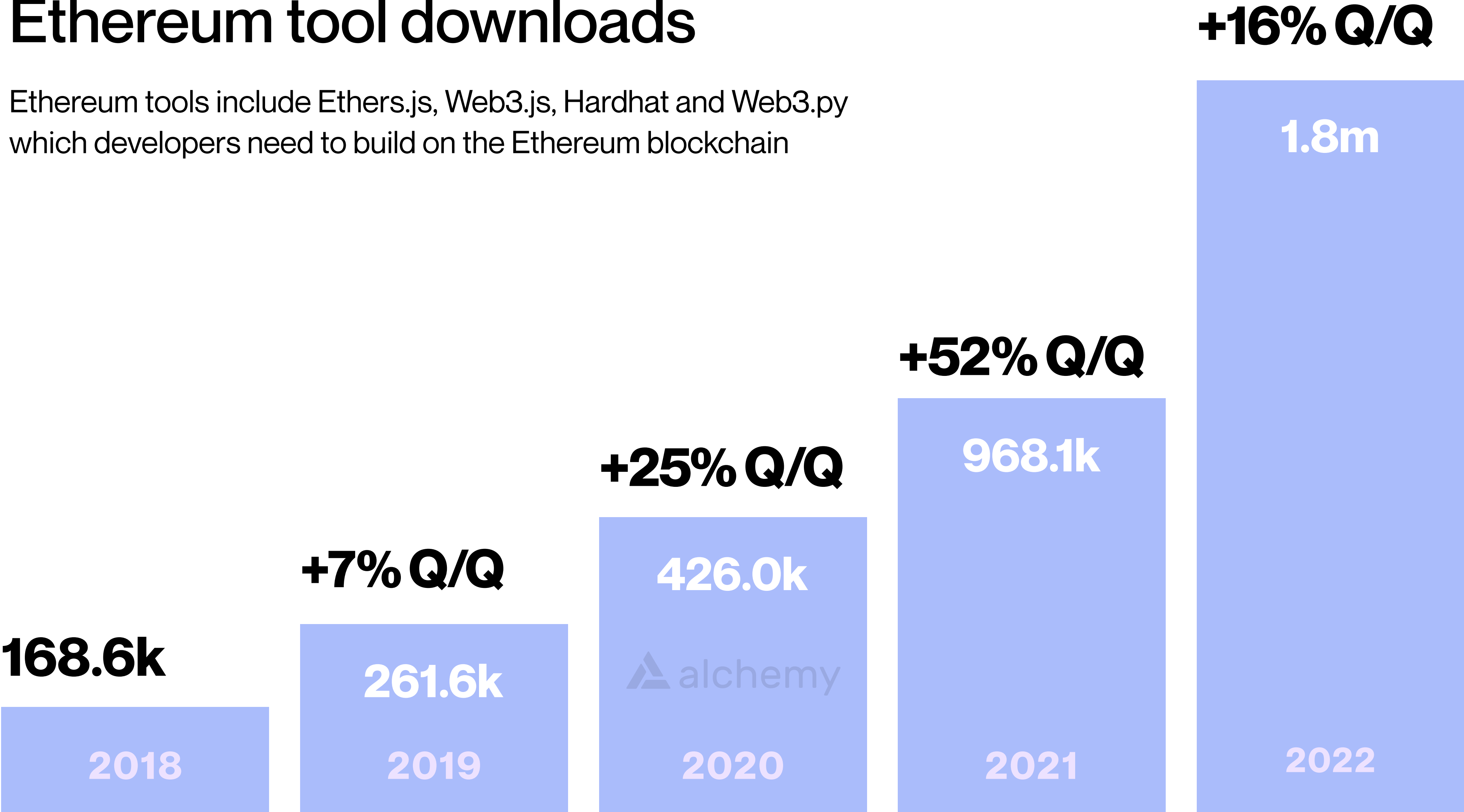
- 1 Ideation and interest
- 2 Local development**
- 3 Testnet deploy
- 4 Mainnet deploy
- 5 Scaling usage

Before launching projects on testnets or mainnet blockchains, devs build on their personal computers (i.e. locally) to test and learn before shipping



+16% growth in weekly core Ethereum tool downloads

Ethereum tools include Ethers.js, Web3.js, Hardhat and Web3.py which developers need to build on the Ethereum blockchain



- 1 Ideation and interest
- 2 Local development
- 3 Testnet deploy**
- 4 Mainnet deploy
- 5 Scaling usage

Developers deploy local applications to testnets to refine their product on a blockchain that mirrors the mainnet environment without spending real ETH



Testnets went **parabolic post-Merge**

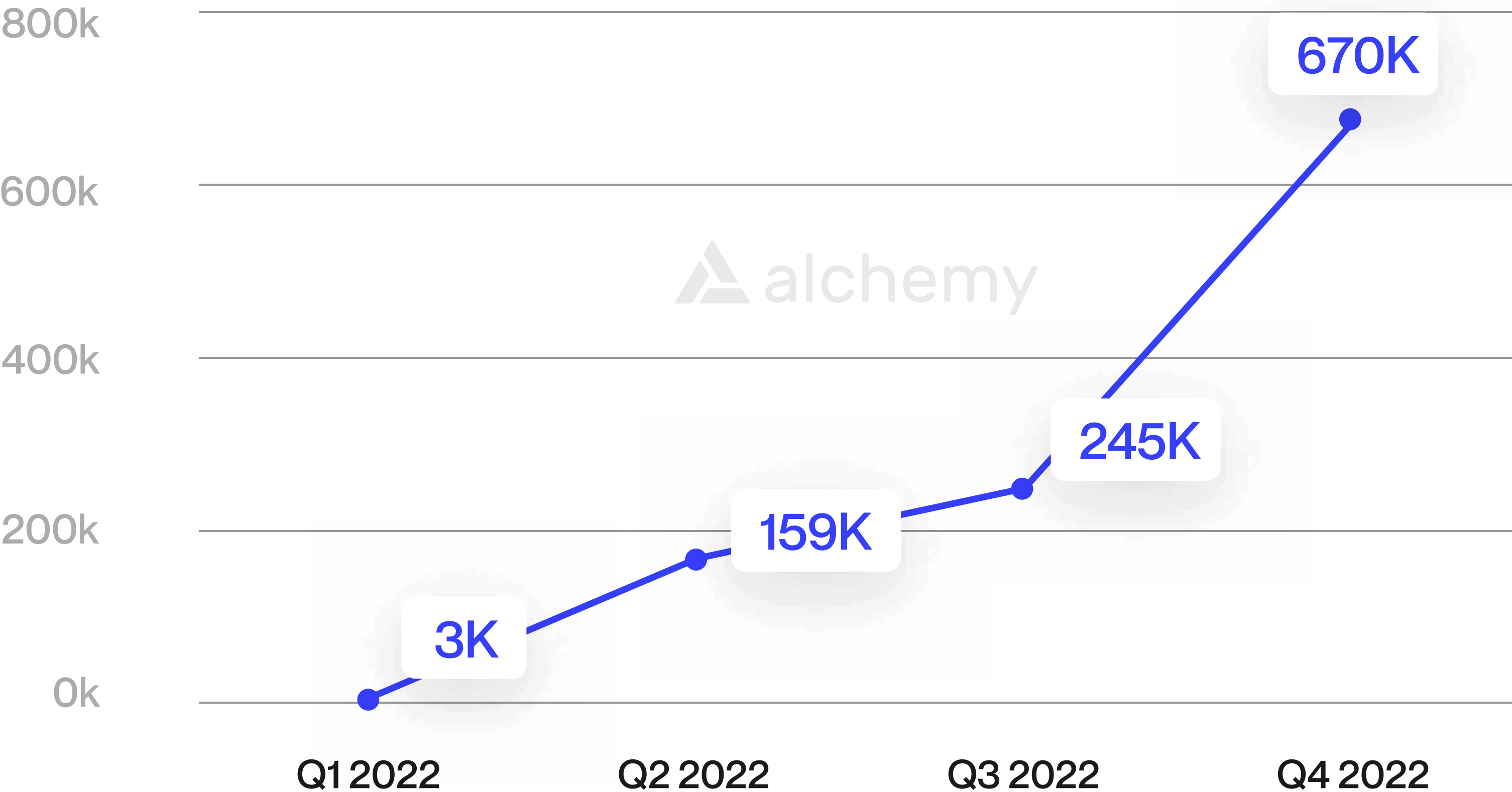
After the Ethereum Merge in 2022, Rinkeby, Ropsten and Kovan testnets were deprecated and Goerli became the primary testnet:

- Goerlifaucet.com saw an all-time high in visits **growing 154% Q/Q**
- Goerli saw an all-time high of 2.7M+ smart contracts deployed which was **+721% Q/Q and +1,160% Y/Y**

Builders got to know Goerli



In Q4 2022, **goerlifaucet.com** visits were up **154%** as a result of increased developer interest post the Ethereum Merge



Goerli ETH was in hot demand

7.6M

Requests for Goerli ETH

2.9M

Unique wallet addresses

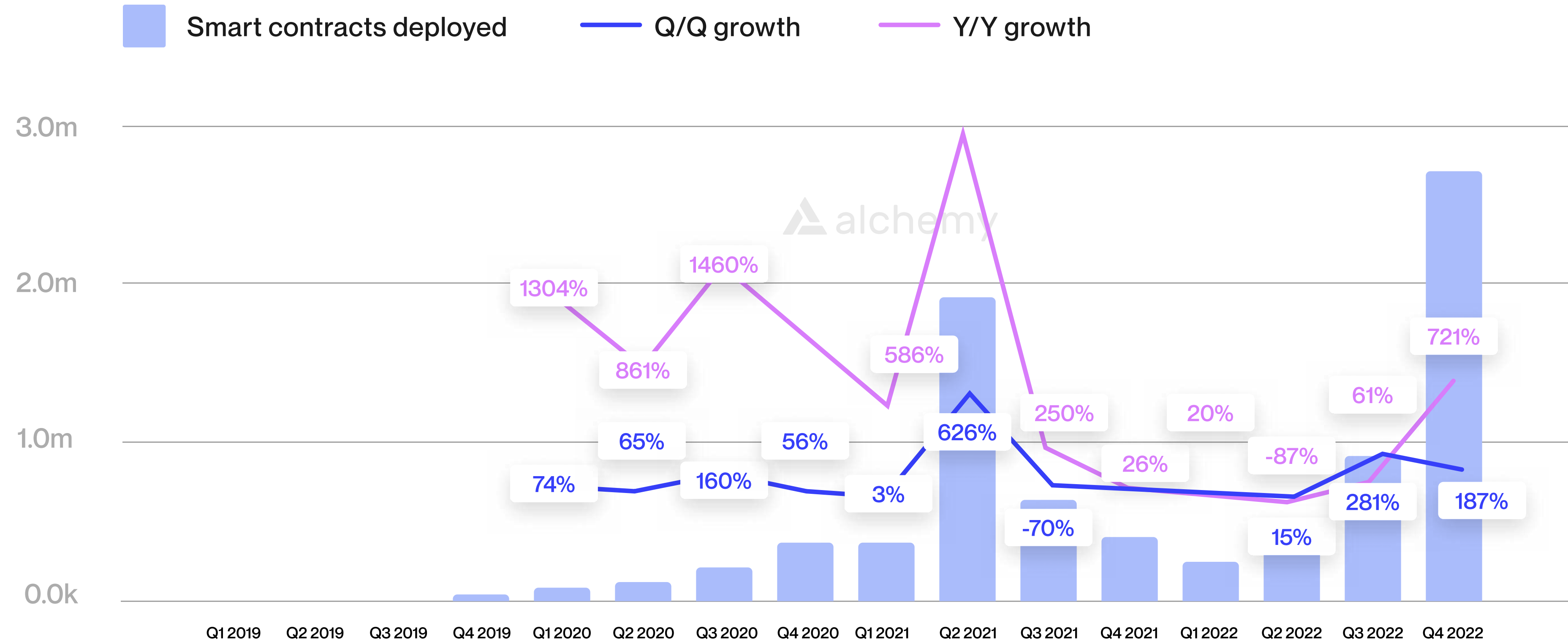
1.1M

Goerli ETH delivered

Testnet deployments surged



Goerli testnet smart contracts deployed per quarter



Source: Dune

- 1 Ideation and interest
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- 4 Mainnet deploy**
- 5 Scaling usage

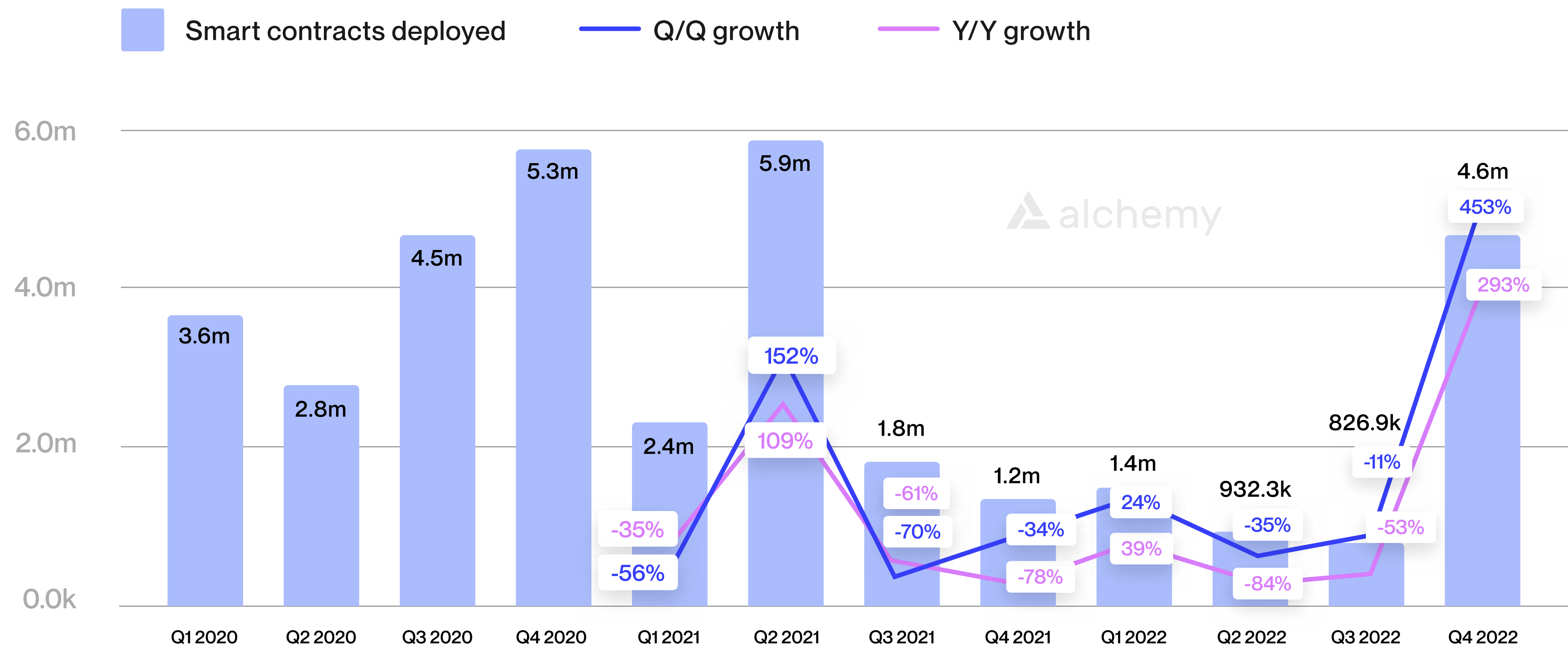
Developers deploy tested applications to the Ethereum Mainnet when the product is ready to serve real users



Devs ramp up **real-world solutions**



Ethereum mainnet smart contracts deployed per quarter

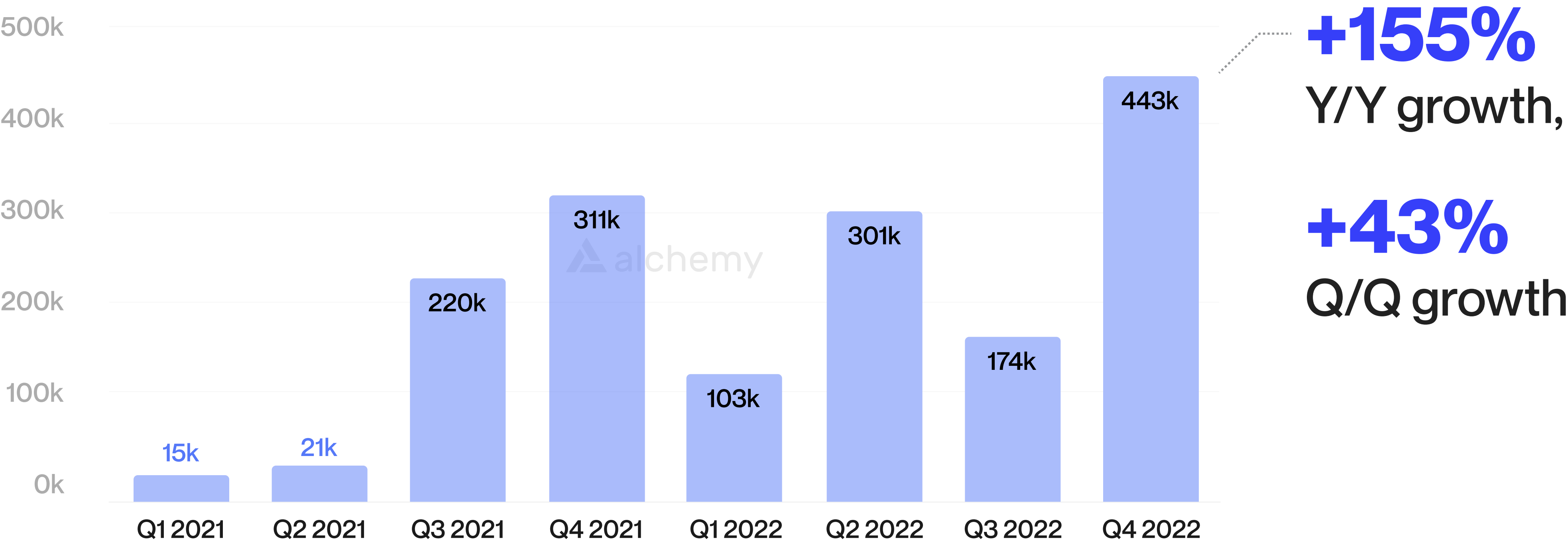


Source: Dune

Layer 2 bridging gets a boost



Users bridging from Ethereum L1 to official L2 chains (Arbitrum, Optimism, StarkNet, zkSync)



Source: Dune

- 1 Ideation and interest
- 2 Local development
- 3 Testnet deploy
- 4 Mainnet deploy
- 5 Scaling usage**

As web3 products attract real users and find product-market-fit, developers need to scale their systems to support the increased consumer demand



Devs built **smarter and faster**

433% growth in
SDK requests YTD

showing the interest in simpler
web3 developer tooling

**>1000% Y/Y and
175% Q/Q growth**
in Enhanced API requests

showing developers are using
complex blockchain queries to build
products

**>1000% Y/Y and
132% Q/Q growth**
in NFT API requests

showing the increased interest from NFT
product developers and consumers

Alchemy chain partner teams are **booming**



Arbitrum

- **718%** growth in active developer teams on Alchemy Y/Y
- API usage on Alchemy > **900% Y/Y**



Optimism

- **>1,000%** growth in active developer teams on Alchemy Y/Y
- API usage on Alchemy > **1,000% Y/Y**



Polygon

- **389%** growth in active developer teams on Alchemy Y/Y
- API usage on Alchemy > **200% Y/Y**



Solana

- **>1,000%** growth in active developer teams on Alchemy Y/Y
- API usage on Alchemy > **1,000% Y/Y (277% Q/Q)**

Growth engines for **Ethereum**

Three of the many projects thriving on L2s with Alchemy



Slingshot

56K wallets used Slingshot to swap tokens on Arbitrum in Nov 2022 (up 80x Y/Y)



Optimism Quests

3.1M NFTs minted and **421k users** since Sep 2022 launch



Lens Protocol

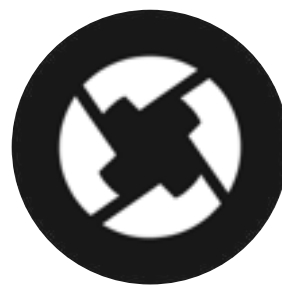
110K profiles and **99K NFT holders** since 2022 launch



An expanding ecosystem

1,300+ web3 solutions and counting now on Alchemy Dapp Store

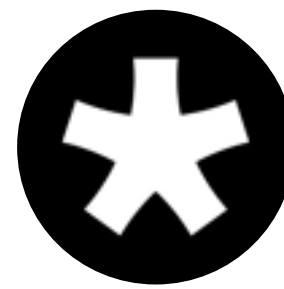
Ox



OpenSea



Forta



Developer_DAO



Phantom



Rainbow



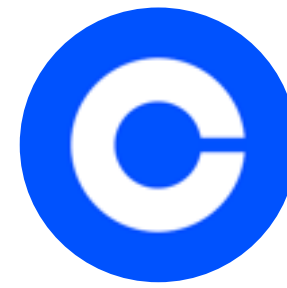
Chainlink



Aave



Coinbase



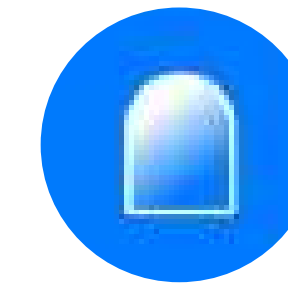
Metaplex



Lenster



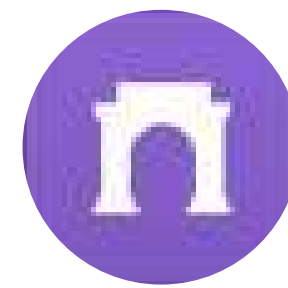
Mirror



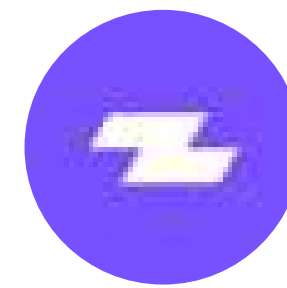
Zerion



Farcaster



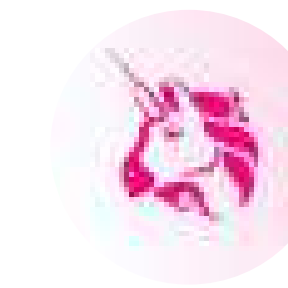
Zapper



ZenGo



Uniswap



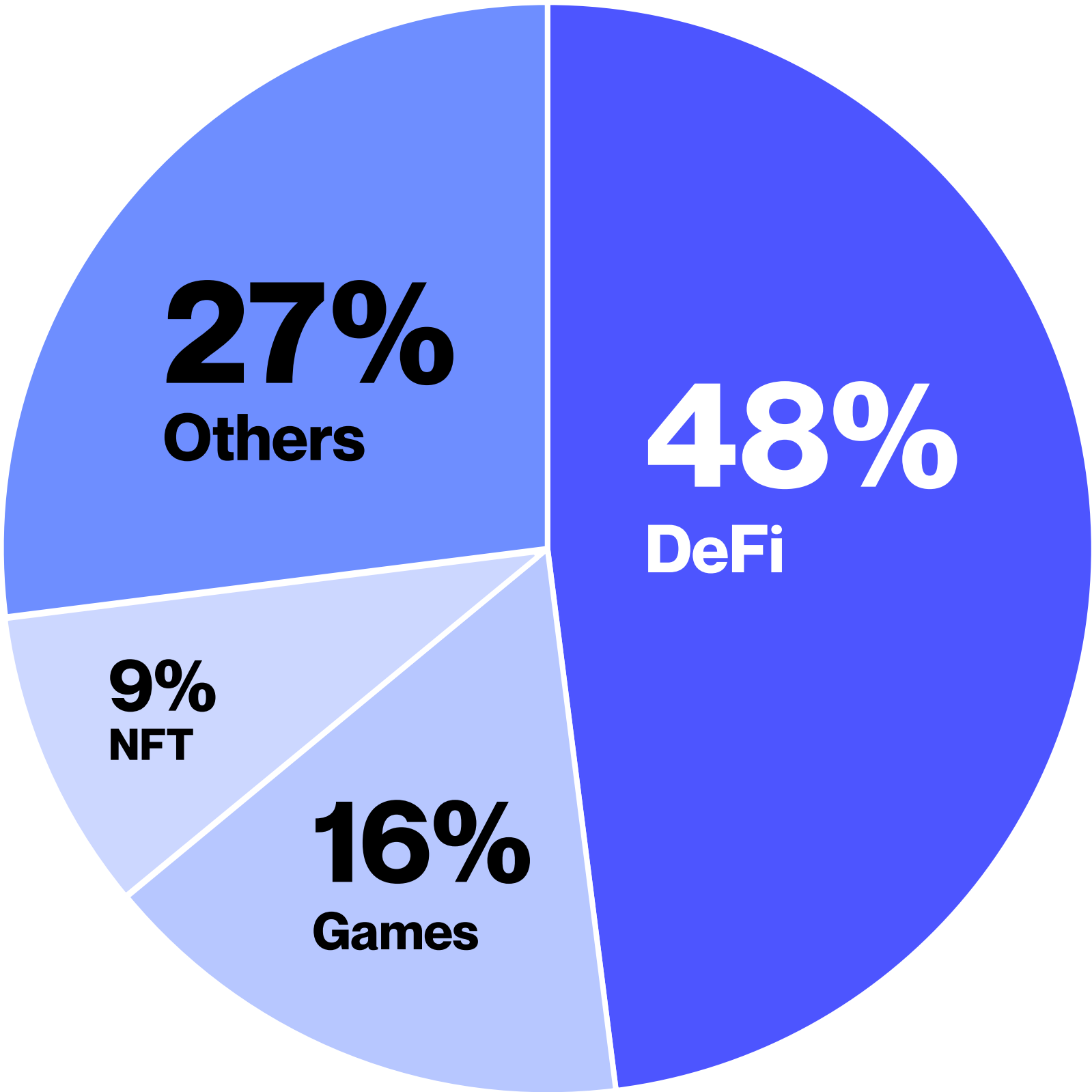
Collab.Land



Dapps to the moon

16,102

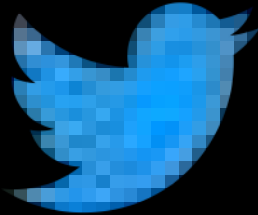
Total dapps up 16x since 2018
and +32% Q/Q, according to
DappRadar



Fastest growing: Social dapps +105% Y/Y and +58% Q/Q

Thank you!

For more web3 alpha and analysis,
join our community:

 **@alchemyplatform**

For developer tools, resources
and support, head to:

alchemy.com



Appendix



Methodology

This report strives to provide an accurate and useful representation of web3 development. The following sources were used for data collection purposes: Etherscan (verified smart contracts), DappRadar (dapp count), Github and NPM (SDK installations and metadata), CoinMarketCap (token prices), and the Internet Archive (fetching historical versions of aforementioned pages to provide timestamped data sources).

Our sources

Developer activity: **Alchemy**

Smart contracts, bridging, and programs: **Dune and Solscan**

Market and prices: **CoinGecko, DappRadar, Defi Pulse, CoinMarketCap, Dune**

SDKs: **NPM Trends.com**

Historical webpages: **Internet Archive**

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