Web3 Development Report

alchemy

TL;DR

The state of web3 development

Active builders reach ATH; prices recover

ETH price ($ USD)

Web3 developers

$4,000

$3,500

$3,000

$2,500

$2,000

$1,500

$1,000

$500

Number of developers

	ETH price ($ USD)
	Web3 developers

Q1 2022   Q2 2022   Q3 2022   Q4 2022   Q1 2023
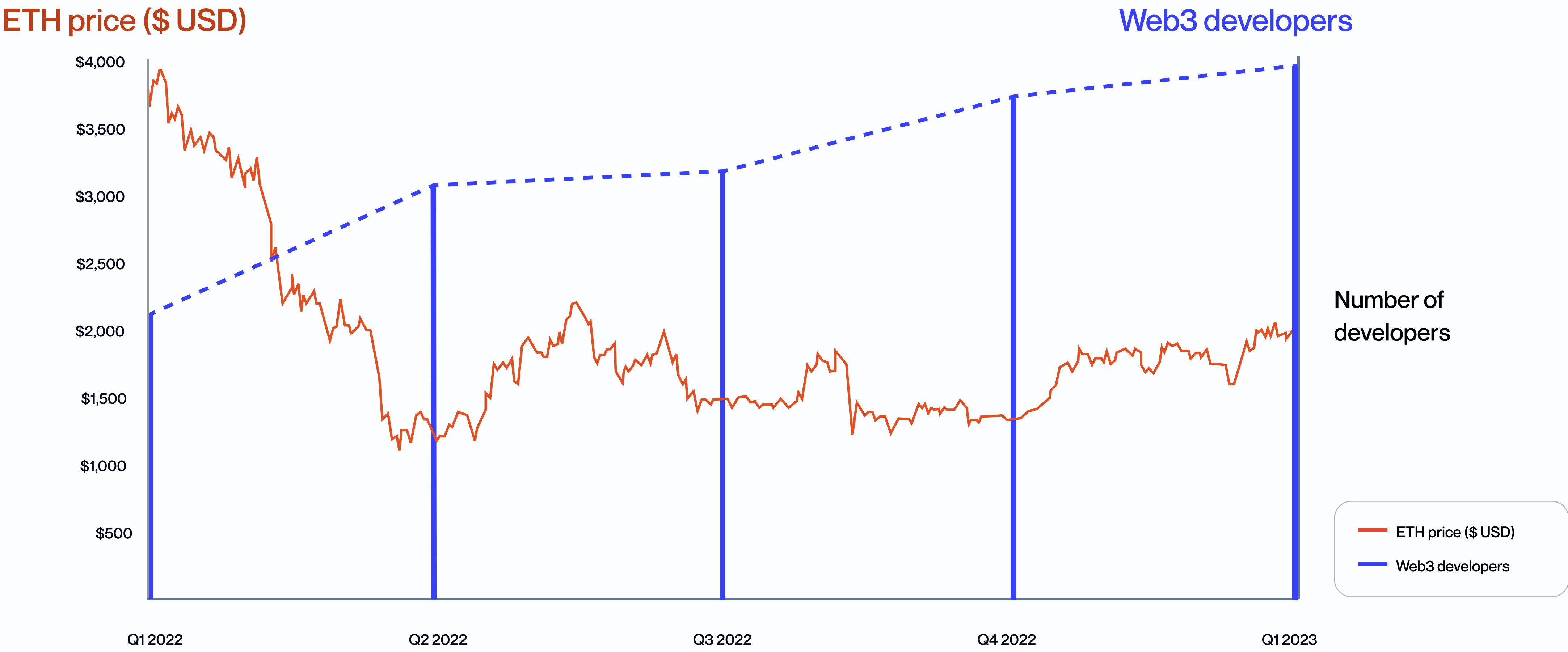
Executive summary

- **zkSpring**: Major zero-knowledge launches attracted new developers and end-users

- **Testnets:** Goerli ETH scarcity drove devs to embrace new abuse-resistant Sepolia faucets

- **DeFi:** Silicon Valley Bank failure and ensuing contagion contributed to DeFi growth

- **Discovery:** 150K+ users explored the best web3 tools on Alchemy Dapp Store

- **Education:** 46K+ aspiring web3 developers sprinted toward Alchemy University courses

Web3 dev activity **continued to climb**

Y/Y and Q/Q comparisons highlight sustained growth

1.9M
Ethereum SDK installs/week

+47% Y/Y   +8% Q/Q

1.4M
Goerli testnet smart contracts created

+577% Y/Y   -46% Q/Q

438K
Wallet SDK installs/week

+451% Y/Y   +33% Q/Q

18.9M
EVM smart contracts created across Ethereum mainnet, Arbitrum, Optimism and Polygon
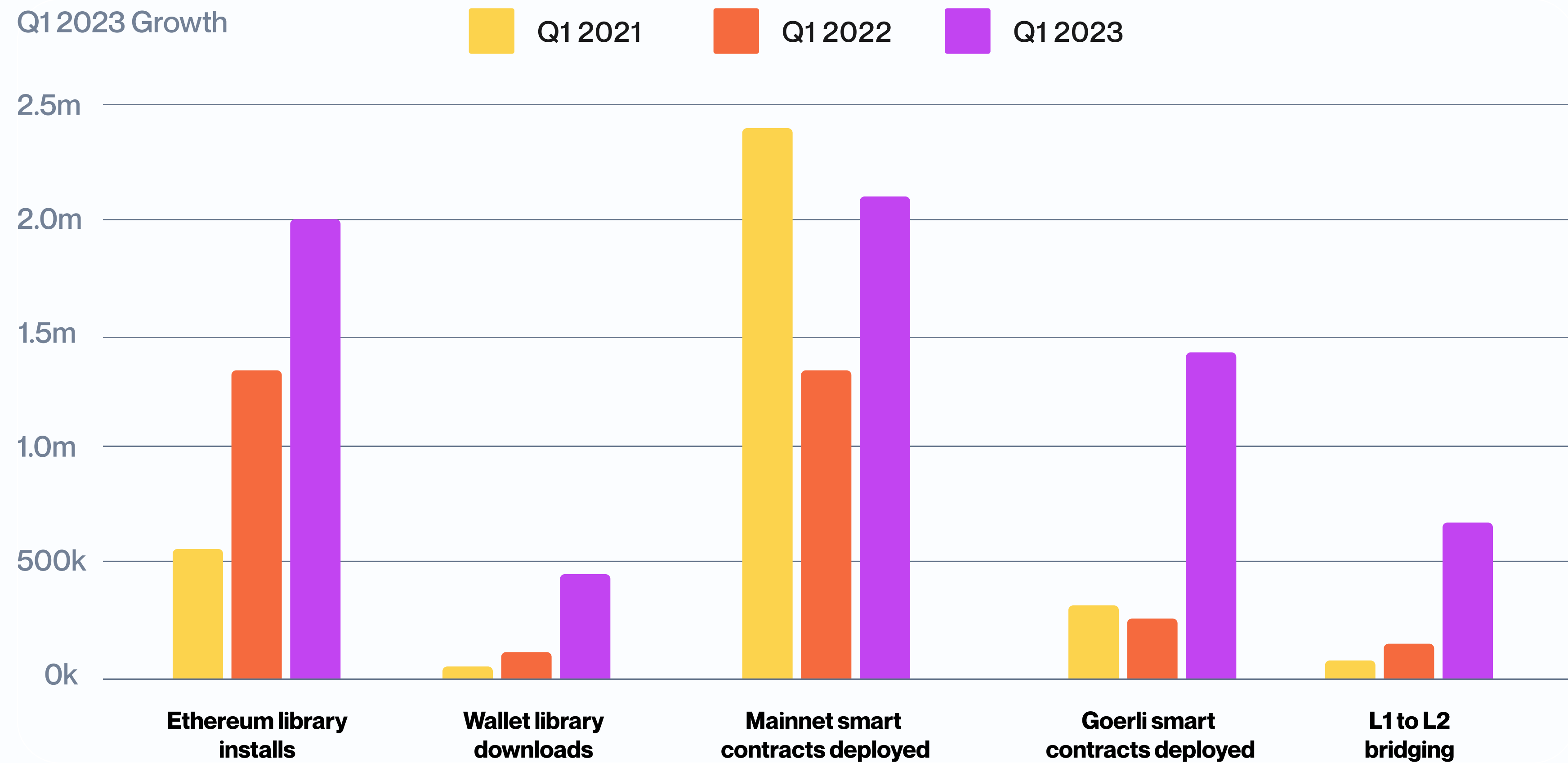
+139% Y/Y   -53% Q/Q

638K
Bridged assets from L1 Ethereum mainnet to Arbitrum, Optimism, Starknet and zkSync

+518% Y/Y   +44% Q/Q

70K+
Daily visits to sepoliafaucet.com which offers free Sepolia ETH: the new standard for developers testing on Ethereum

Shipping velocity **accelerated**

Q1 2023 Growth

Legend: Q1 2021 (yellow), Q1 2022 (orange), Q1 2023 (purple)

Categories: Ethereum library installs, Wallet library downloads, Mainnet smart contracts deployed, Goerli smart contracts deployed, L1 to L2 bridging

Y-axis: 0k, 500k, 1.0m, 1.5m, 2.0m, 2.5m

Supported by a **price rebound**

DAPP VERTICALS

NFTS

+126%

Trading volume
USD Q/Q
-82% Y/Y

DEFI

+43%

DEX trading
volume USD Q/Q
-38% Y/Y

TOKEN PRICES

ETHEREUM

+53%

Ethereum price USD Q/Q
and -46% Y/Y

BITCOIN

+73%

Bitcoin price USD Q/Q
and -37% Y/Y

SOLANA

+110%

Solana price USD Q/Q
and -83% Y/Y

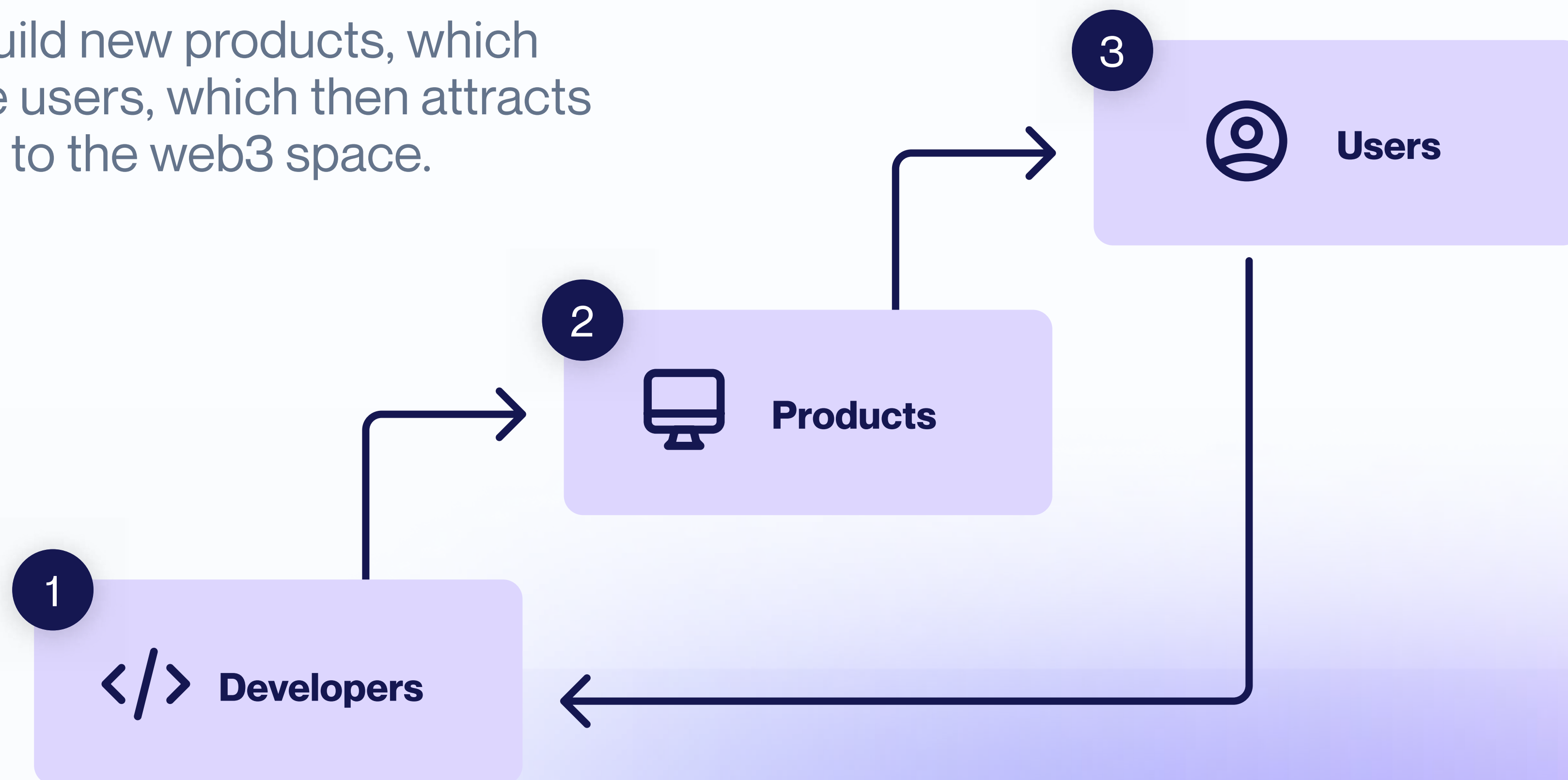Q1 2023 Web3 Development Report | alchemy

Our approach

Understanding the builder ecosystem

The development cycle

Developers build new products, which onboard more users, which then attracts more builders to the web3 space.

3 Users

2 Products

1 Developers

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 testnet blockchain through node offering, gets testnet ETH and deploys on testnet	Developer connects to mainnet blockchain, places Ethereum in wallet and deploys to Mainnet	Developer maintains, improves and scales existing codebase for growth
Measurement	Alchemy University, Alchemy Dapp Store, Alchemy Ventures, Web3 30 awards, Create Web3 Dapp downloads	Library downloads	Goerlifaucet.com, Testnet contracts	Goerli faucet, Sepolia faucet, Testnet contracts	Dapp usage, DappRadar

Measuring builder momentum

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

Libraries

Developer tools to easily
read/write to the blockchain

>

Smart contracts

Computer programs stored
on a blockchain

>

Dapps

End-user ready applications with
decentralized backends

1 Ideation and interest

Developer sentiment and increasing desires to learn about blockchain development signal growing interest in building web3 products.
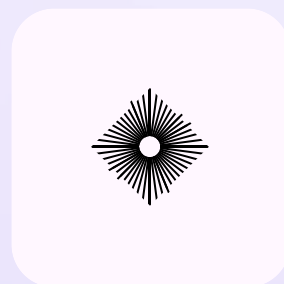
alchemy **Ventures**

Web3 startups **kept raising**

Alchemy Ventures saw continued momentum among innovative web3 builders and their projects:

- Investments steady Q/Q

- Launched Alchemy Accelerator program

- Startups included:

Cata Labs   Ostium   Shadow

Founders from our Q1 investments are focused on:

26%
DeFi

25%
Developer tools

16%
Account abstraction

13%
Infrastructure

10%
Roll-ups as a service

10%
Zero-knowledge tech

![alchemy [university]](#)

Students signaled **bullish sentiment**

Alchemy University - web3's free, open and advanced developer education platform and community - is booming:

46K+
students enrolled to date

25K+
registrations in Q1
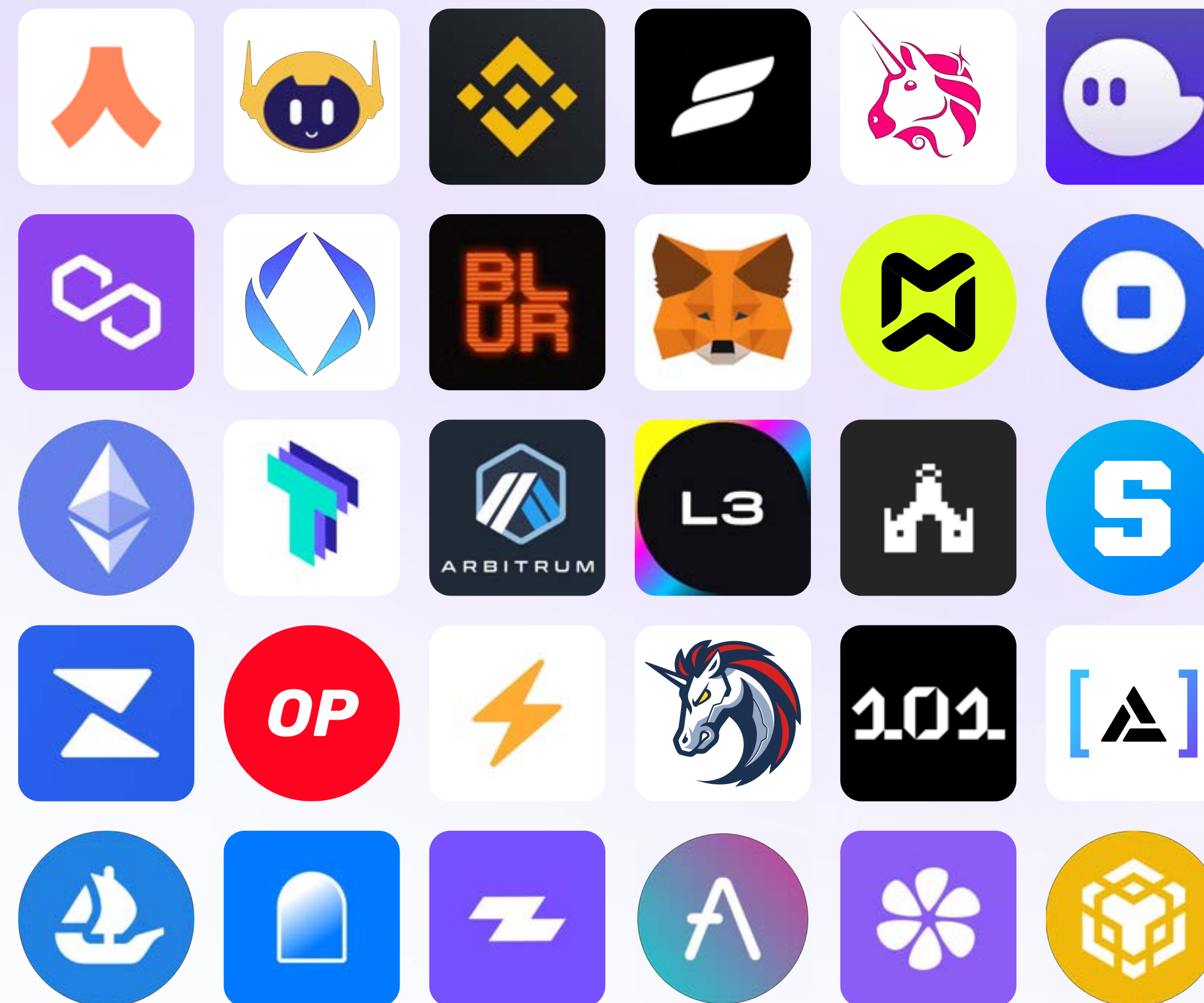
20K+
currently completing curriculum

Web3 30

And the ecosystem was celebrated

The inaugural Web3 30 recognized top projects in the industry's first-ever community choice awards!

7K+
Total votes

500+
Nominated projects

Create Web3 Dapp **ramped up strongly**

Create-Web3-Dapp is a beginner-friendly developer tool from Alchemy that allows anyone to create a fully-functioning dapp in less than four minutes from their terminal. Its usage signals an appetite from developers to ship new projects.

4.8K
Q1 downloads

655
GitHub stars

161
GitHub forks

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

Weekly Ethereum SDK installs **kept climbing**

Ethereum SDKs include Ethers.js, Web3.js, Hardhat and Web3.py which devs use to build smart contracts on Ethereum.

192K
2019 Q1

25% Q/Q
327K
2020 Q1

27% Q/Q
543K
2021 Q1

37% Q/Q
1.3M
2022 Q1

8% Q/Q
1.9M
2023 Q1

Weekly wallet SDK installs **hit an ATH**

Wallet SDKs analyzed include Coinbase Wallet, Rainbow, Web3 Onboard, and Web3 Modal - which developers use to connect consumers to the Ethereum blockchain, demonstrating that more dapps added wallet support.

33% Q/Q

438.5K

72% Q/Q

97.2K

98% Q/Q

11.1K

0

0.3K

2019 Q1   2020 Q1   2021 Q1   2022 Q1   2023 Q1
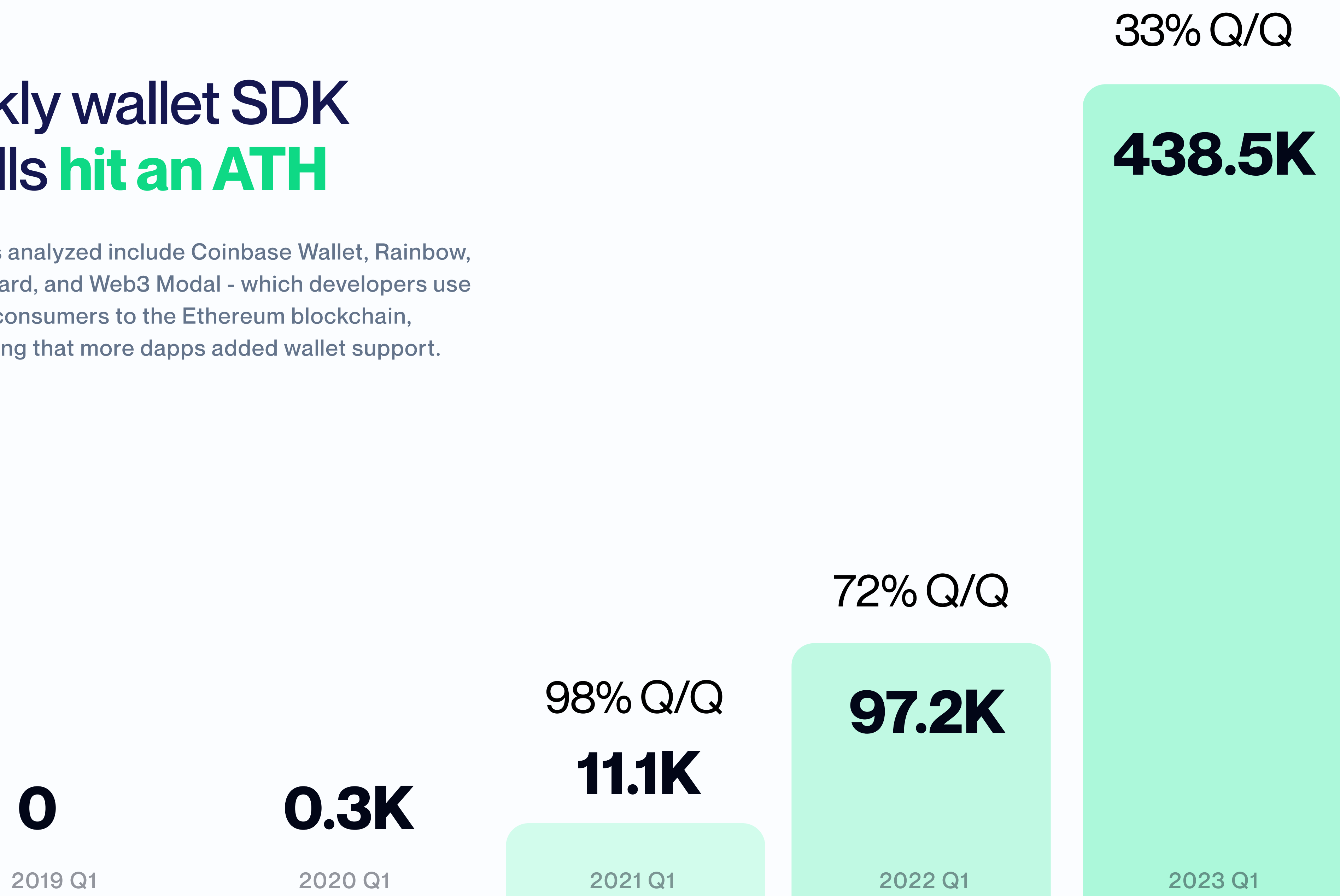
SPOTLIGHT

🦊 METAMASK

MetaMask wallet SDK Installs

SDK installs from the industry's most popular wallet,
MetaMask, reinforced the bullish trend:

- Launched JavaScript, iOS, React Native and Unity SDKs

- Slated to launch on Android and Unreal Engine

- Metamask SDK Q1 Stats:

  - Jan: 2,073 SDK downloads

  - Feb: 5,925 SDK downloads

  - Mar: 6,309 SDK downloads

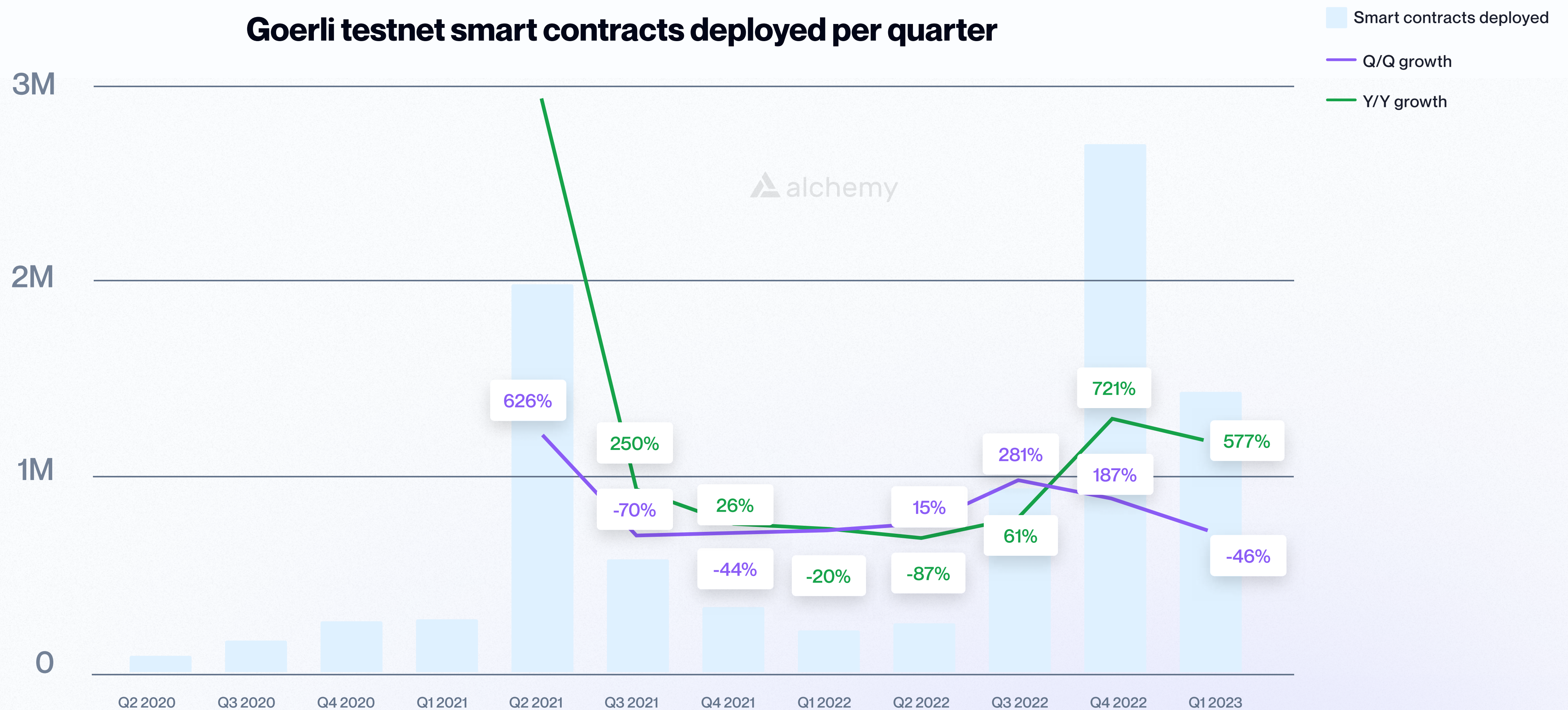**Q/Q increase in downloads = 325% growth**

Source: MetaMask
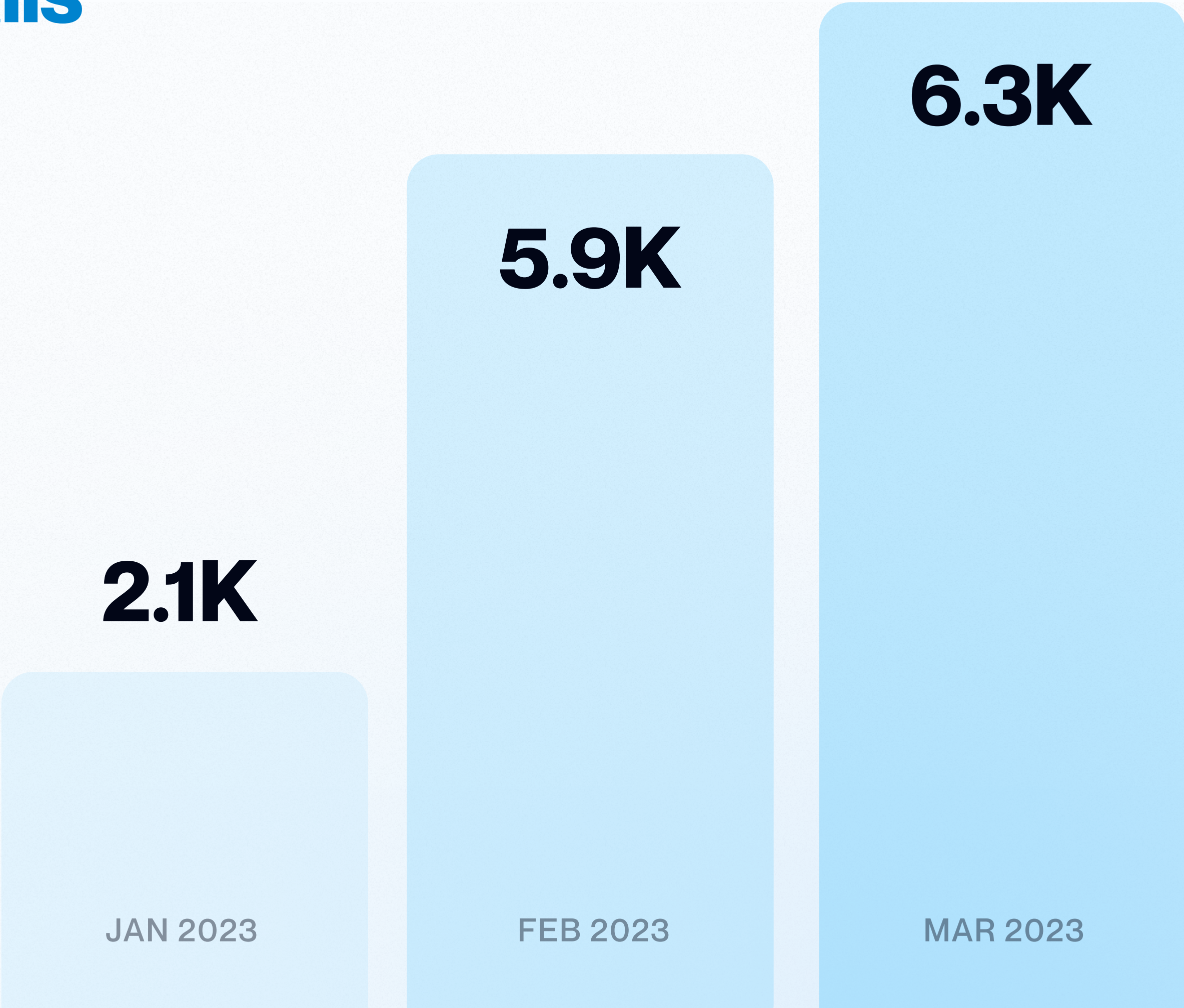
6.3K

5.9K

2.1K

JAN 2023   FEB 2023   MAR 2023

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

Despite headwinds, devs kept building on Goerli

Goerli testnet smart contracts deployed per quarter

Smart contracts deployed
Q/Q growth
Y/Y growth

3M

2M

1M

0

626%

250%

-70%

26%

-44%

-20%

-87%

15%

281%

61%

721%

187%

577%

-46%

Q2 2020 | Q3 2020 | Q4 2020 | Q1 2021 | Q2 2021 | Q3 2021 | Q4 2021 | Q1 2022 | Q2 2022 | Q3 2022 | Q4 2022 | Q1 2023

But Goerli ETH became harder to get

Goerli faucet visitors vs. price of Goerli ETH (USD)

Legend:
- Users of goerlifaucet.com
- Price of Goerli ETH
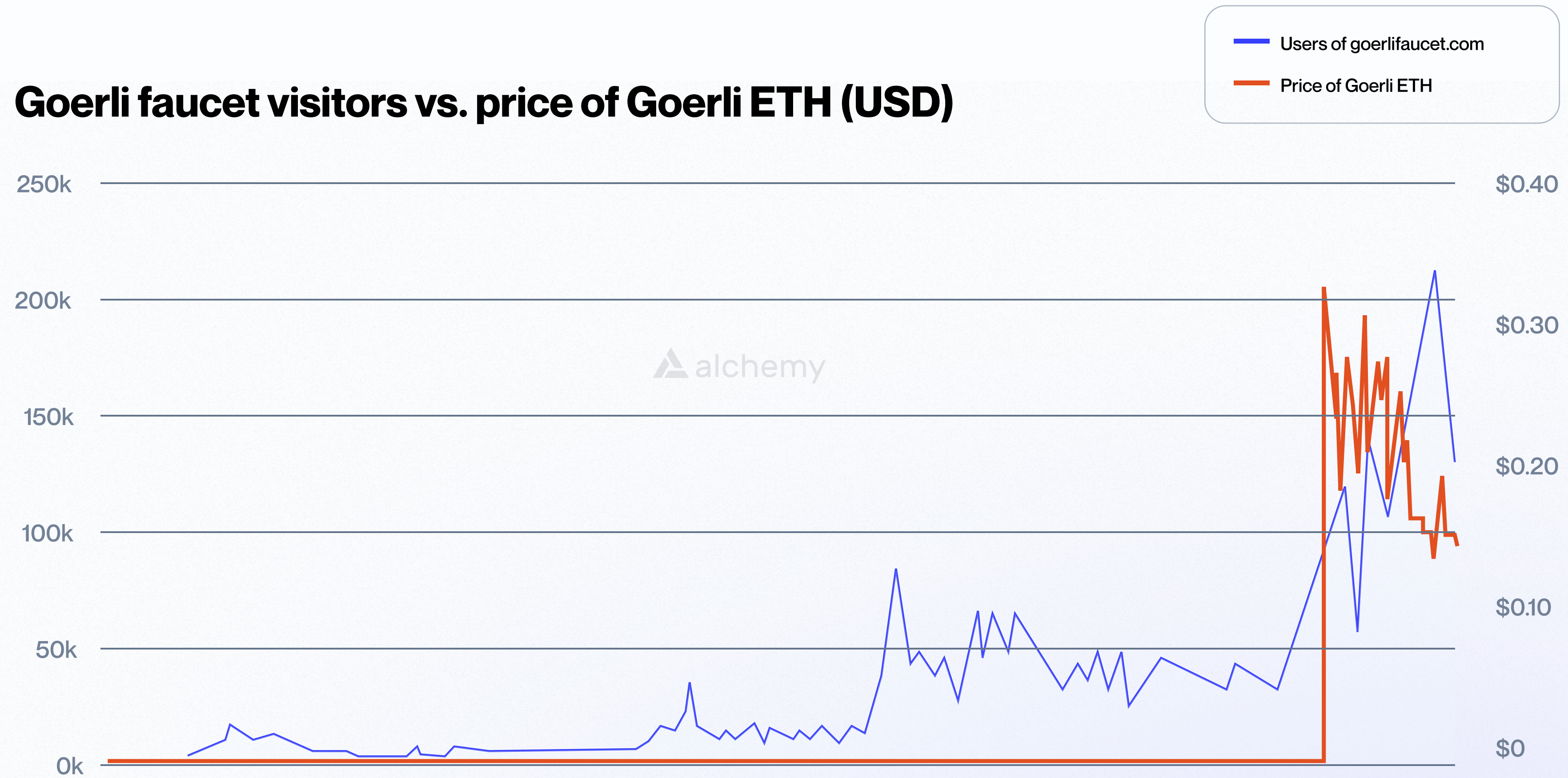
Which led to a new Ethereum standard testnet:

Sepolia

As the new sandbox for developers, Sepolia testnet surged towards the end of Q1.

**Daily visitors to sepoliafaucet.com**

Developers deploy tested applications to the Ethereum Mainnet when their product is ready to serve real users in a live environment.

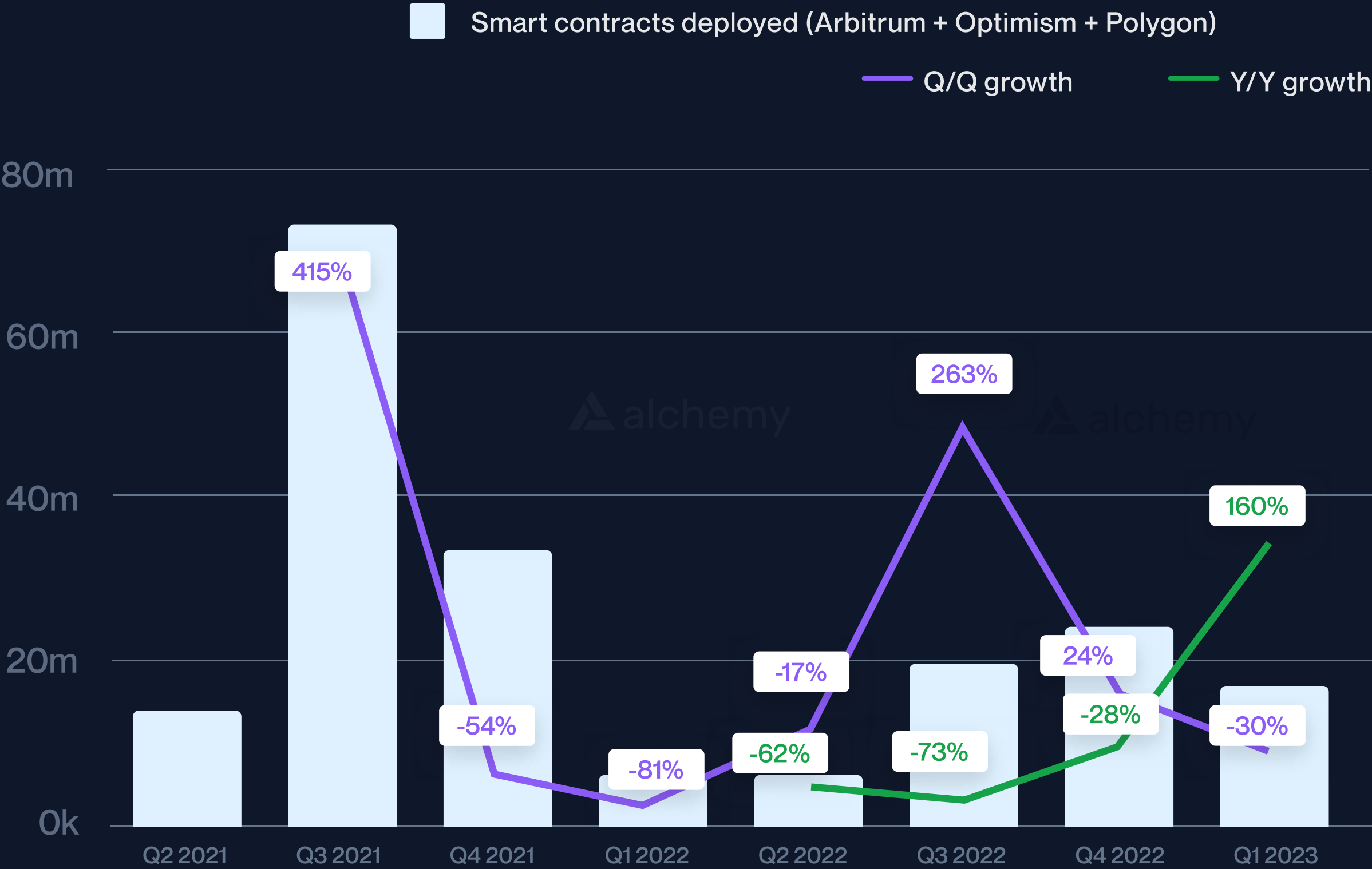# Deployed Ethereum smart contracts retracted Q/Q but **grew Y/Y**

Q1 mainnet smart contracts deployed retracted beyond the previous quarter's anomaly spike,
but resumed an upward trend on activity from quarters prior to that.

## Ethereum mainnet smart contracts deployed per quarter

■ Smart contracts deployed
— Q/Q growth
— Y/Y growth
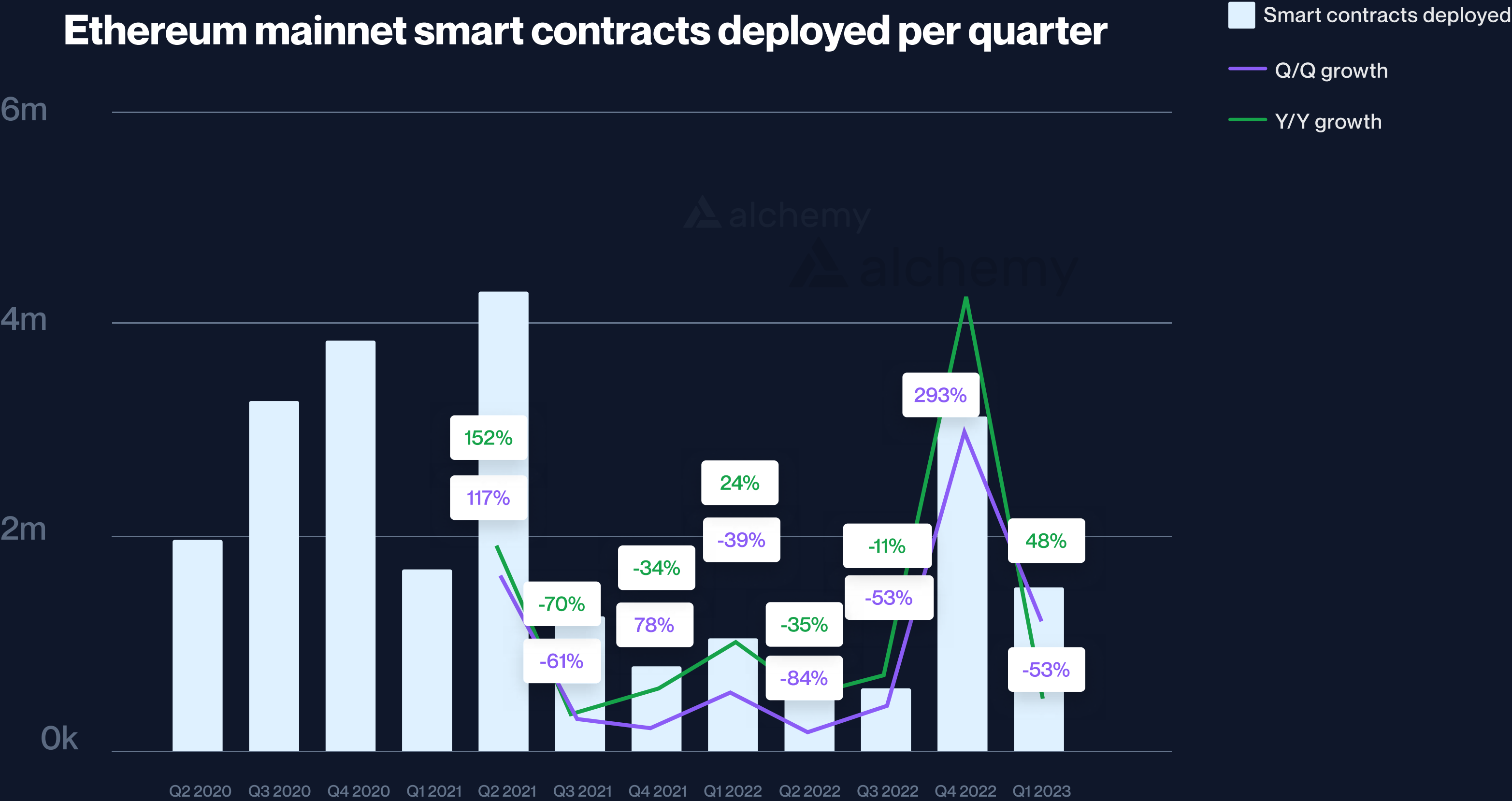
EVM Layer 2 (L2) contracts **grew 160% Y/Y**

Smart contracts deployed (Arbitrum + Optimism + Polygon)

Legend: Smart contracts deployed (Arbitrum + Optimism + Polygon) · Q/Q growth · Y/Y growth

Q/Q growth values: Q3 2021: 415%, Q4 2021: -54%, Q1 2022: -81%, Q2 2022: -17%, Q3 2022: 263%, Q4 2022: 24%, Q1 2023: -30%

Y/Y growth values: Q2 2022: -62%, Q3 2022: -73%, Q4 2022: -28%, Q1 2023: 160%

Y-axis: 0k, 20m, 40m, 60m, 80m

X-axis: Q2 2021, Q3 2021, Q4 2021, Q1 2022, Q2 2022, Q3 2022, Q4 2022, Q1 2023

L2 bridging users **got a big boost**

More users bridging to L2s suggests that cheaper, more scalable blockchains are resonating with end-users vs. using mainnet applications - as reinforced by successful airdrops from Optimism and Arbitrum during Q1.
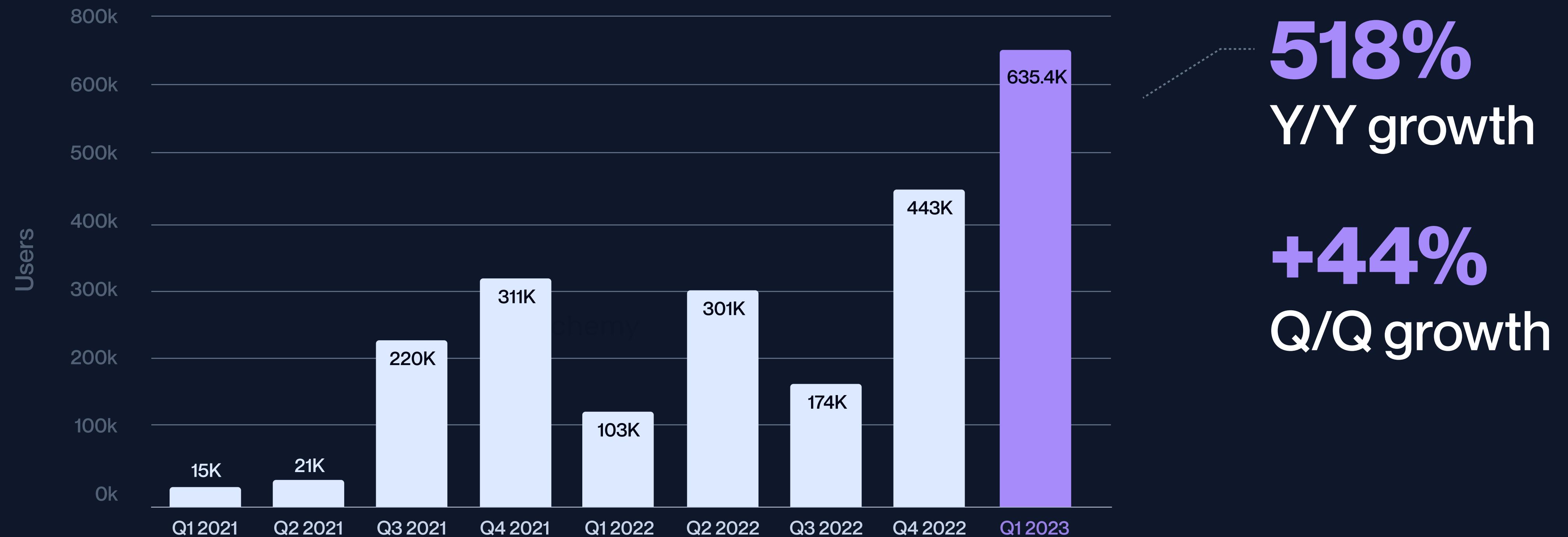
518%
Y/Y growth

+44%
Q/Q growth

Source: Dune

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

Builders loved **Polygon on Alchemy**

Active teams

+116% Y/Y

Free tier teams
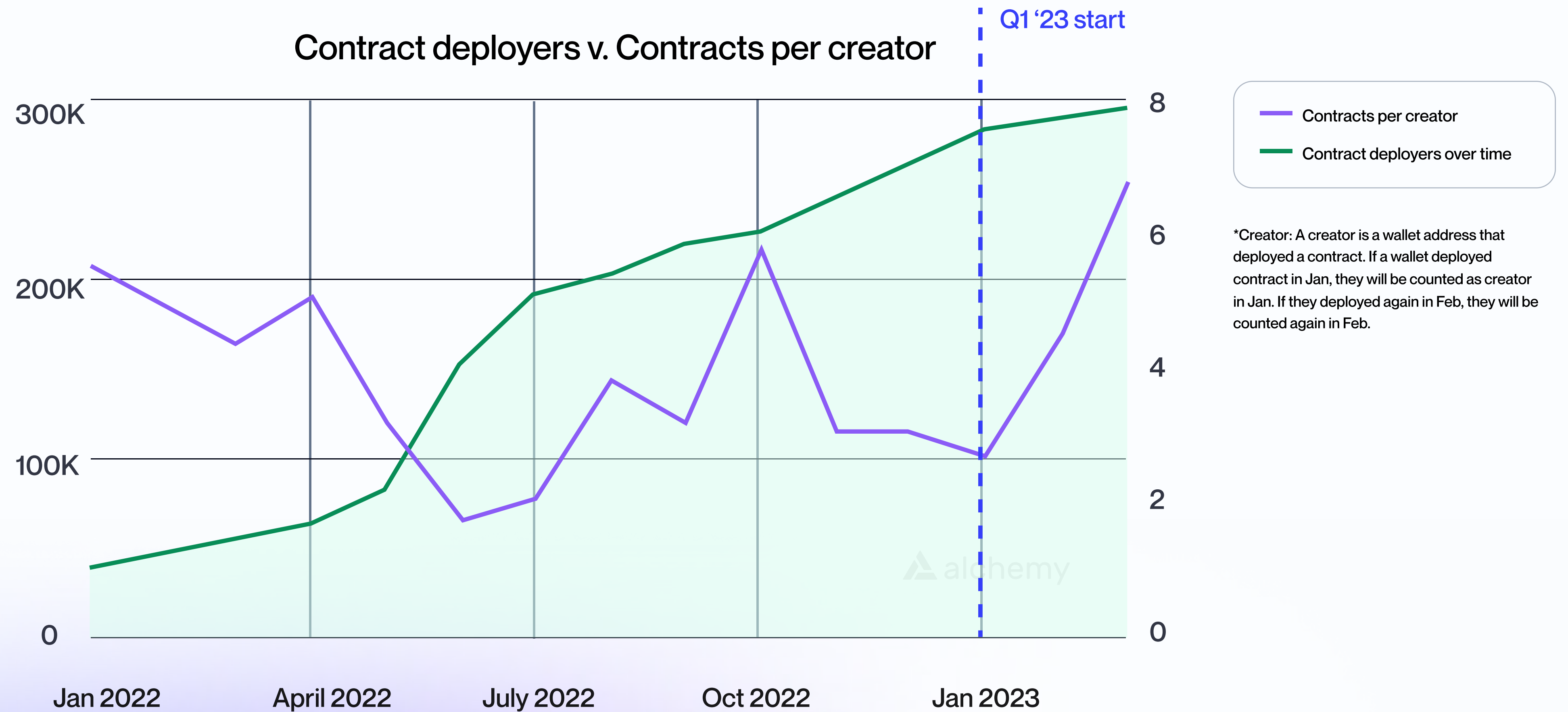
+111% Y/Y

Total requests

+126% Y/Y

Free tier requests

+207% Y/Y

Enhanced API requests

+1,313% Y/Y

polygon

And a cohort of Polygon power creators **became more active than ever**

Contract deployers v. Contracts per creator

Q1 '23 start

— Contracts per creator
— Contract deployers over time

*Creator: A creator is a wallet address that deployed a contract. If a wallet deployed contract in Jan, they will be counted as creator in Jan. If they deployed again in Feb, they will be counted again in Feb.

300K
200K
100K
0

8
6
2
0

Jan 2022   April 2022   July 2022   Oct 2022   Jan 2023

ARBITRUM

Arbinauts landed on Alchemy **in droves**

Active teams

+2,779% Y/Y

Free tier teams

+2,998% Y/Y

Total requests

+286 Y/Y

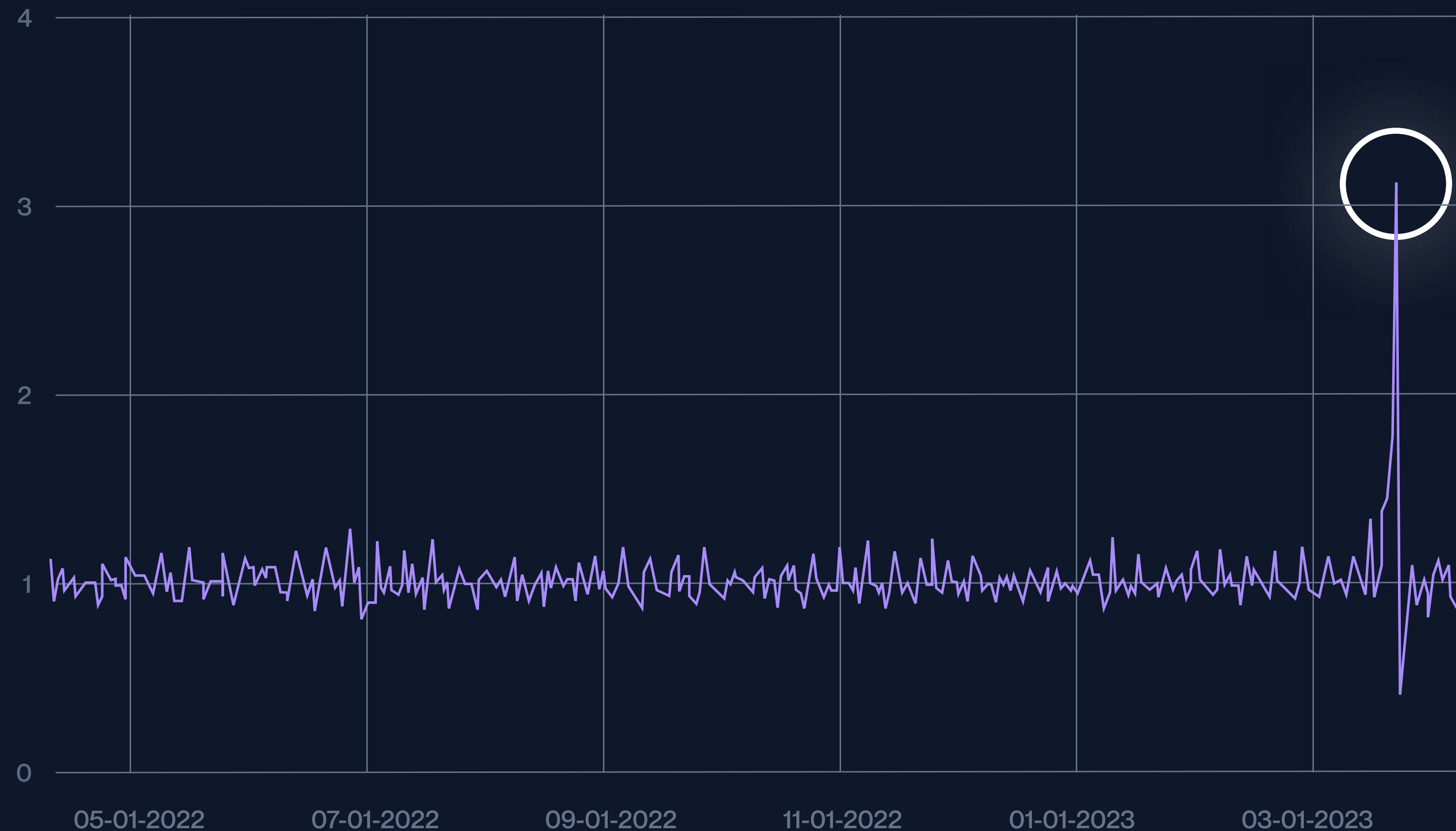Free tier requests

+676% Y/Y

Enhanced API requests

+6,286% Y/Y

Arbitrum's $ARB airdrop led to ATH Alchemy usage

There was a 3X increase in daily active teams using Arbitrum on Alchemy in March 2023:

Arbitrum daily active teams growth rate

Optimism builders **boomed with Alchemy**

Active teams

+1,499% Y/Y

Free tier teams

+1,651% Y/Y

Total requests

+2,044% Y/Y

Free tier requests

+4,880% Y/Y

Enhanced API requests

+27,791% Y/Y

OPTIMISM

And took the chain **to new heights**

10M $OP

Token distribution to 195 teams in Retroactive Public Goods Funding

500K

Attestations made since the start of 2023, furthering Optimism's decentralized identity effort
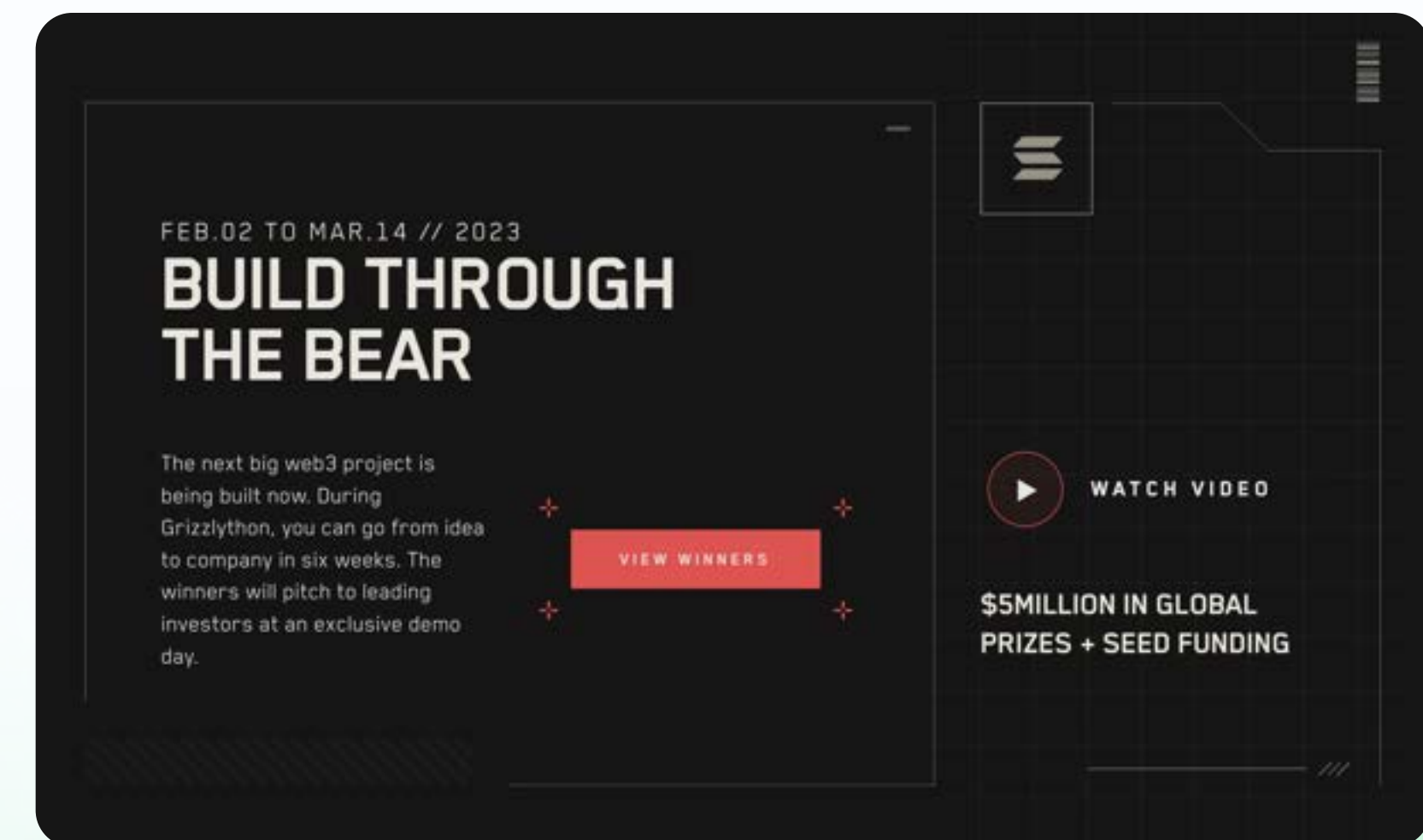
SOLANA

Solana's Grizzlython hackathon was **its biggest to date**

10k+
Global hackers

813
Final projects

FEB.02 TO MAR.14 // 2023

BUILD THROUGH
THE BEAR

The next big web3 project is
being built now. During
Grizzlython, you can go from idea
to company in six weeks. The
winners will pitch to leading
investors at an exclusive demo
day.

VIEW WINNERS

▶ WATCH VIDEO

$5MILLION IN GLOBAL
PRIZES + SEED FUNDING

While overall
dapps kept mooning

With consumer use-cases like collectibles (NFTs) and social growing fast

17,564
Total dapps across all chains
+9% Q/Q

*ACCORDING TO DAPPRADAR

Including:

LENS   MAGIC EDEN   ZenGo

1inch   Collab.Land   Compound

+25%
Q/Q Collectibles

+17%
Q/Q Social

+11%
Q/Q Marketplaces

+19%
Q/Q DeFi & Exchanges

+7%
Q/Q Games

+5%
Q/Q Other

150K+
unique visitors to Alchemy Dapp Store in Q1 too!

From pressure on the traditional banking system, to a deep focus on web3 security, here are some insights and how the industry responded.

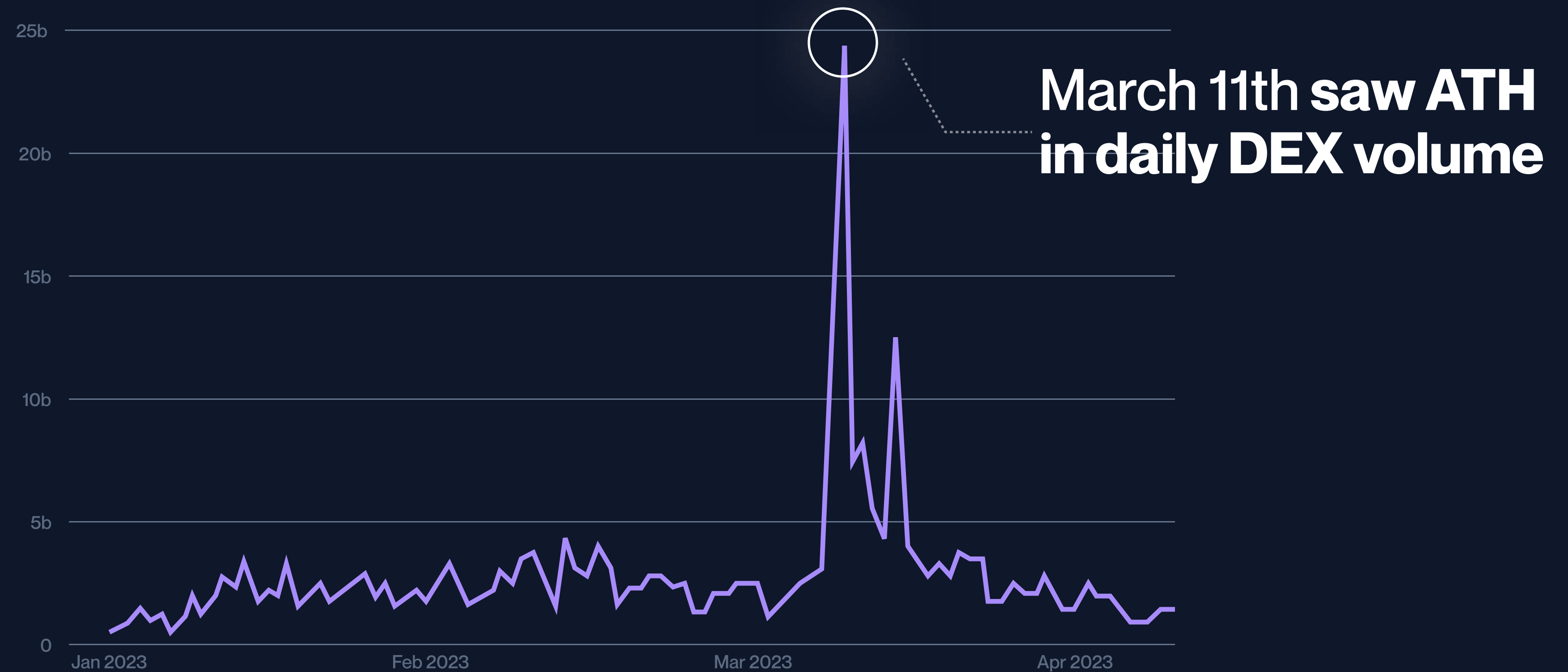# High-profile hacks drove adoption of enhanced web3 security tooling

Tools like Alchemy's Transaction Simulation APIs boomed as end-users demanded greater trust and safety:

Alchemy Transaction Simulation API requests

January 26th **Kevin Rose's NFTs stolen due to bad contract**

DEX volumes increased post-SVB collapse

The implosion of Silicon Valley Bank (SVB) and loss of consumer confidence in traditional finance contributed to to a surge in transaction volumes on decentralized exchanges (DEXs).

March 11th **saw ATH in daily DEX volume**

25b

20b

15b

10b

5b

0

Jan 2023   Feb 2023   Mar 2023   Apr 2023
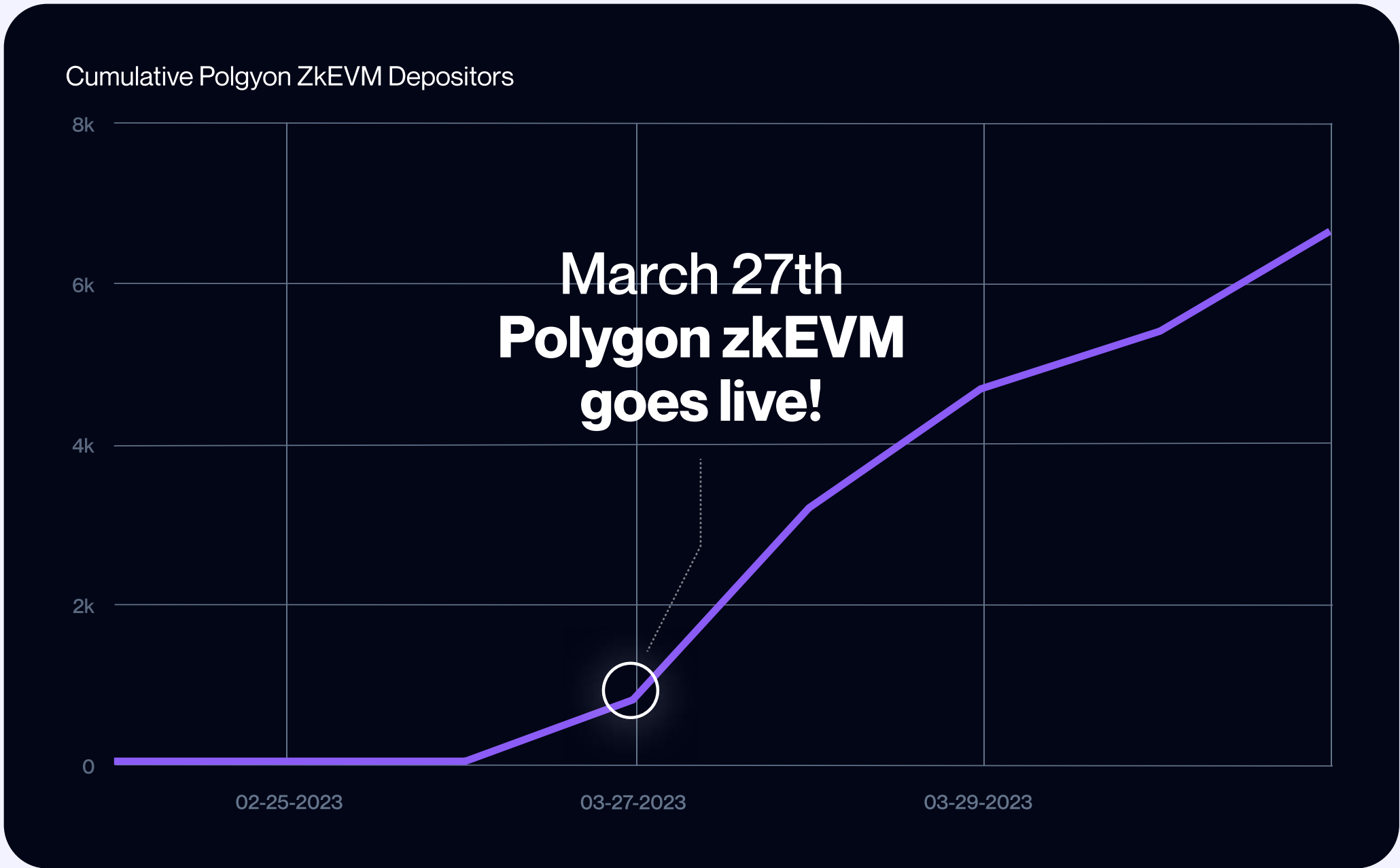
UNISWAP

Uniswap saw record volumes

Uniswap Protocol had its **highest volume day in history** on March 11th, 2023 ($11.8B)

In March, Uniswap LPs **earned $77M in fees**

L2s now account for **35% of total USD Uniswap Protocol volume**

Zero knowledge tech landed with a bang

Polygon and zkSync heralded the next chapter of scaling Ethereum with a flying start:

Cumulative Polgyon ZkEVM Depositors

March 27th
**Polygon zkEVM
goes live!**

zkSync Era Total Value Locked (in $ USD)

March 24th
**zkSync Era goes
live!**

209m

104.8m

9.2m

PLANET IX

Web3 gaming **took flight**

Interacting wallets:

Planet IX retained a dedicated userbase Q/Q which grew significantly when they launched a second, more engaging layer to the game.

Transaction volume:

Planet IX saw users showing steady play-time through the amount of transactions, which heavily increased upon launching extended Play2Earn elements in the game.
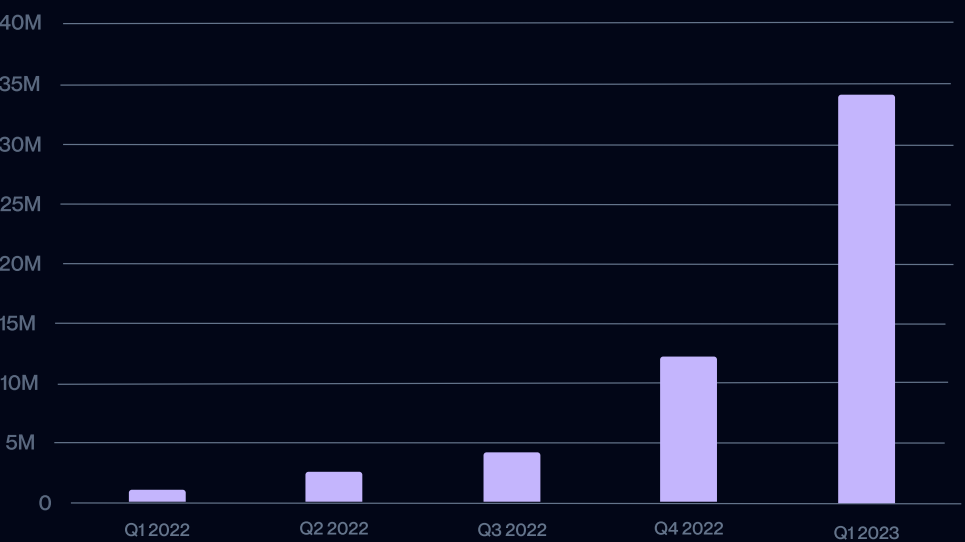
Gas usage:

New layers and value between GameFi strategies and NFT utility, saw Planet IX's gas usage explode, with players wanting to leverage as many opportunities as possible.
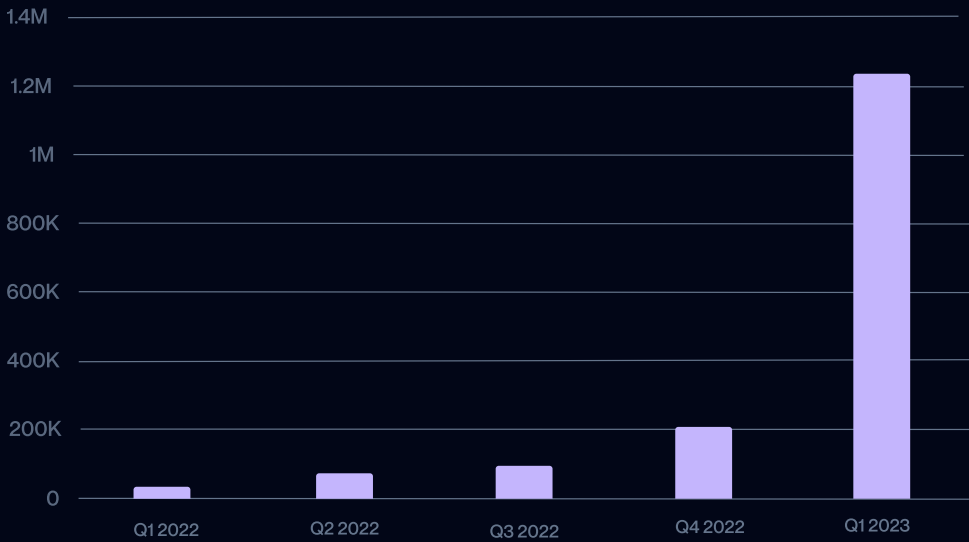
Source: Planet IX

Interacting wallets (active users)
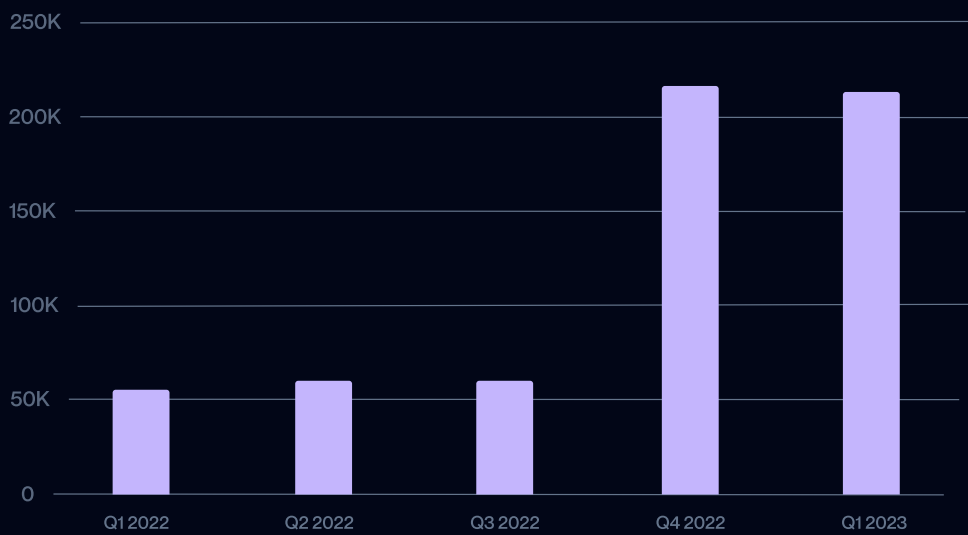
Transactions

Gas usage

THANK YOU

For more web3 alpha and
analysis, join our community:

For developer tools, resources
and support, head to:

🐦 @alchemyplatform

alchemy.com

Methodology

Our aim

This report aims to provide an accurate and useful representation of web3 development. The following sources were used for data collection purposes: Dune (verified smart contracts), DappRadar (dapp count), Github and NPM (SDK installations and metadata), CoinGecko (token prices), and npmtrends.com

Thanks to our sources

Developer Activity: Alchemy

Smart Contracts, Bridging, and Programs: Dune

Market and Prices: DappRadar, CoinGecko, Dune

SDKs: NPMTrends.com, GitHub, NPM

For any questions, or to explore contributing data and insights in future reports,
please reach out to dev-report@alchemy.com

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