

Quarterly Community Report

State of Polkadot Q1 2022

 May 2, 2022
DOT

Key Insights

- After five years of research and development, Polkadot parachains are now live.
- At the close of Q1 2022, 13 parachains won parachain slots bonding 127.8 million DOT (11% of the total supply; worth \$2.9 billion).
- A total of 28 more parachain slot auctions are scheduled through February 2023 (bringing the total to 41).
- Polkadot price and user accounts made all-time-highs around the time of the first parachain slot auction; however, both metrics have steadily declined since.
- Polkadot has an evenly distributed validator set, with 99% of validators having 1.8–2.6 million DOT staked.
- Polkadot developer activity remains among the strongest in crypto.
- The next major milestones are the implementation of the Cross-Consensus Message Format (XCM), parathreads, and performance upgrades.

Nicholas Garcia
 Research Analyst
[@NickDGarcia](#)

Mike Kremer
 Data Engineer
[@mikeykremer](#)

Alex Kan
 Data Engineer
[@lexonkan1](#)


M E S S A R I

Polkadot Key Metrics Summary

Polkadot Quarterly Metrics	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022
Circulating Market Cap	\$33,200,100,559	\$16,384,626,754	\$28,251,846,107	\$29,412,068,041	\$24,764,137,741
% Change		-50.6%	72.4%	4.1%	-15.8%
Active + New User Accounts	10,564	11,423	12,861	18,465	5,153
% Change		8.1%	12.6%	43.6%	-72.1%
Addresses Holding DOT	143,743	317,349	442,942	746,242	1,092,017
% Change		120.8%	39.6%	68.5%	46.3%
Total DOT Staked	646,412,655	686,986,206	690,827,170	635,153,980	620,169,926
% Change		6.3%	0.6%	-8.1%	-2.4%
Parachain Auction DOT Bonded (USD)				\$2,404,267,123	\$460,035,452
% Change					-80.9%
Developer Activity	425	435	387	306	367
% Change		2.3%	-11.0%	-21.0%	19.9%

Circulating Market Cap is the final day of the quarter. All other metrics are averages of the respective quarter.

Data as of: Mar. 31, 2022

Source: Messari, CoinGecko, Polkadot, Subscan, Token Terminal

Introduction to Polkadot

Polkadot is a [Nominated Proof-of-Stake](#) (NPoS) blockchain network designed to support various interconnected, application-specific Layer-1 chains known as [parachains](#). Each chain built within Polkadot uses Parity Technologies' blockchain development framework [Substrate](#), which allows developers to select specific components that best suit their application-specific chain. Polkadot refers to the entire [ecosystem](#) of parachains that plug into a single base platform known as the [Relay Chain](#). This base platform does not support application functionality but instead houses all validators and is responsible for securing, governing, and connecting the parachains.

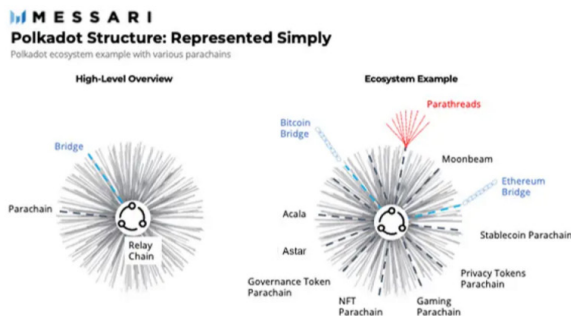
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Parachains are live. Following roughly [five years](#) of research and development, the first parachains were [launched](#) on Dec. 17, 2021. At Q1 2022 close, 13 parachains have [won](#) parachain slots bonding 127.8 million DOT (11% of the total supply, worth \$2.9 billion). As the first edition of quarterly coverage on Polkadot [commissioned](#) by Polkadot, this report will highlight important developments since the launch of parachains and evaluate the network’s Q1 performance. A full appendix of quarterly events and data is available at the end of the report.

Price and accounts have been trending down since the all-time-high in November.

Price History

The concept of parachains was first introduced in the [Polkadot Paper](#) in 2016. In October 2021, at the [Substrate Sub0 conference](#), Co-Founder [Robert Habermeier announced](#) the Relay Chain was ready to support parachains. Over the following three weeks, the price of Polkadot’s native token [DOT](#) increased 57% to an all-time-high of \$55.08 (\$56.5 billion market cap) on Nov. 5, 2021, one day after the community [approved](#) the first parachain slot auction for Nov. 11, 2021. However, Polkadot, along with the broader crypto market, saw valuations decrease from November 2021 through Q1 2022. DOT ended Q1 2022 at \$22.51 (\$23.3 billion market cap), down 60% from the all-time-high.

MESSARI DOT Historical Price

After parachains were announced, DOT price climbed 57% over three weeks to a new all-time-high. Its price has been declining since.



Data as of: Mar. 31, 2022
 Source: Messari, CoinGecko, Polkadot, Token Terminal

During Q1 2022, Polkadot’s valuation change was in range with changes in other ecosystems. LUNA was the largest gainer at +18%, FTM had the largest drop at -38%, and Polkadot had the third largest drop at -19%.



MESSARI Ecosystem Comparison

In Q1 2022, Polkadot's valuation dropped by 19% (-\$5.38B) – the third largest drop among leading ecosystem tokens.

	Q4 2021 Close	Q1 2022 Close	Difference	% Change
ATOM	\$9.28B	\$8.40B	-\$0.88B	-10%
Avalanche	\$26.87B	\$25.58B	-\$1.29B	-5%
Ethereum	\$439.79B	\$394.63B	-\$45.16B	-10%
Fantom	\$5.77B	\$3.59B	-\$2.18B	-38%
NEAR	\$8.85B	\$8.73B	-\$0.12B	-1%
Polkadot	\$28.73B	\$23.35B	-\$5.38B	-19%
Solana	\$52.91B	\$40.04B	-\$12.87B	-24%
Terra	\$31.07B	\$36.53B	+\$5.45B	18%

Data as of: Mar. 31, 2022
Source: Messari, CoinGecko

Network Usage

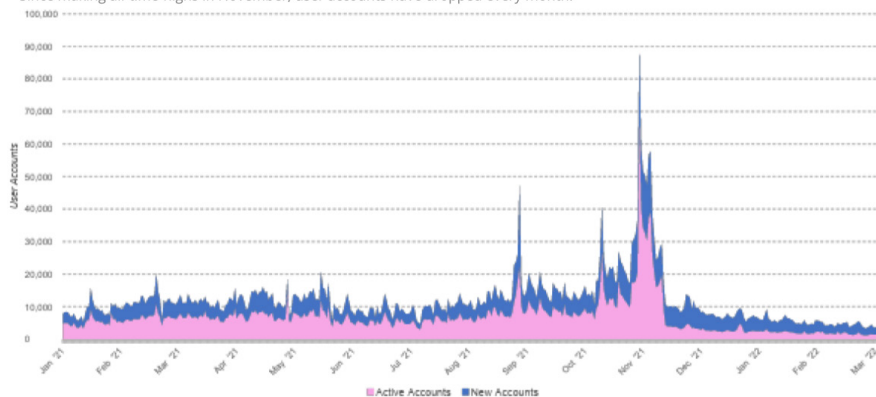
Polkadot user accounts, both new and active, followed a path similar to price. In November, user accounts were up 131% over the year-to-date average and recorded multiple all-time-highs. However, each month since November saw a drop in both active and new users accounts. Although the drop in user accounts was a common macro theme, some internal reasons were also responsible.

The decrease in active accounts may be the result of users locking their DOT for the [two-year lease period](#) to support their desired parachain(s) in a slot auction. DOT locked in a crowd loan is inaccessible and therefore cannot be used across Polkadot. To combat the [liquidity constraint](#), parachains [Acala](#) and [Parallel Finance](#) have introduced liquid staking.

The decrease in new accounts may be related to the fact that the first batch of parachains generated significantly more excitement than the second batch. The first batch of parachains (1–5) had 342% more DOT bonded than the second batch of parachains (6–11).

MESSARI User Accounts

Since making all-time-highs in November, user accounts have dropped every month.



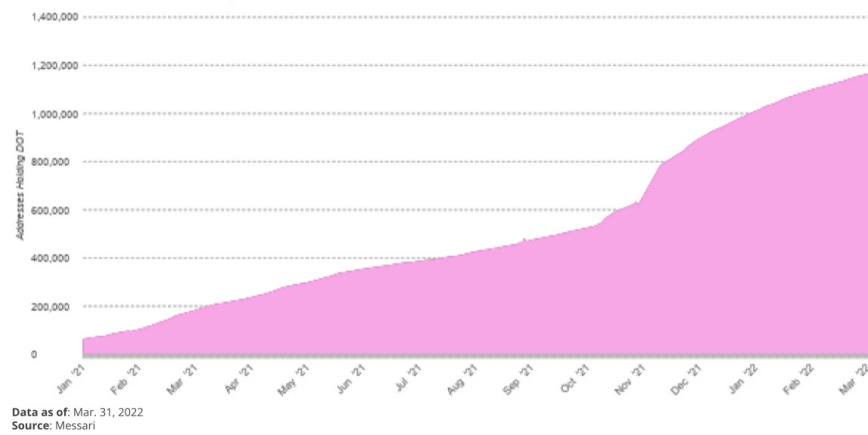
Data as of: Mar. 31, 2022
Source: Messari, Subscan

Conversely, the number of addresses holding DOT increased every month of 2021 and Q1 2022. The increase signals healthy interest in the Polkadot ecosystem despite decreasing valuations.



MESSARI Addresses Holding DOT

Total DOT holders increased every month over the last 15 months.



DOT stake is consistent and evenly distributed.

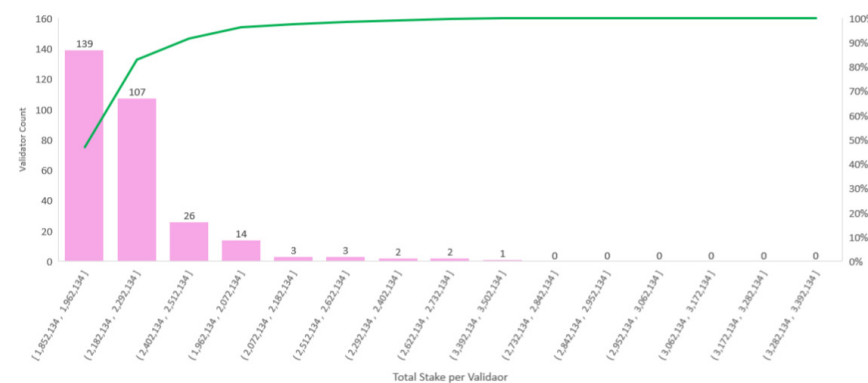
Staking and Decentralization

Polkadot uses a [Nominated Proof-of-Stake \(NPOS\)](#) consensus mechanism. Nominated PoS consensus [differs](#) from Delegated Proof-of-Stake (DPoS) consensus because [nominators](#), i.e. DOT owners who stake their tokens with a [validator](#), are subject to [slashing](#).

Validators are paid every 24 hours for completing payable actions, known as [era points](#). Every 4 hours, a subset of validators are randomly assigned to validate all parachains with a multiplier on the era points earned. The combination of era points and random parachain validation results in a probabilistic guarantee that validators earn nearly identical rewards. Because validators earn near equal rewards and distribute these rewards pro rata to their nominators, nominators are incentivized to stake with lower-staked validators to earn higher rewards. The validator-nominator reward model is designed to decentralize Polkadot's validator set. At Q1 2022 close, 294 of 297 (99%) of validators had 1.8–2.6 million DOT staked, confirming the nominator staking game theory is working.

MESSARI Validator Stake Distribution

294 of 297 validators (99%) have 1.8 million-2.6 million DOT staked.

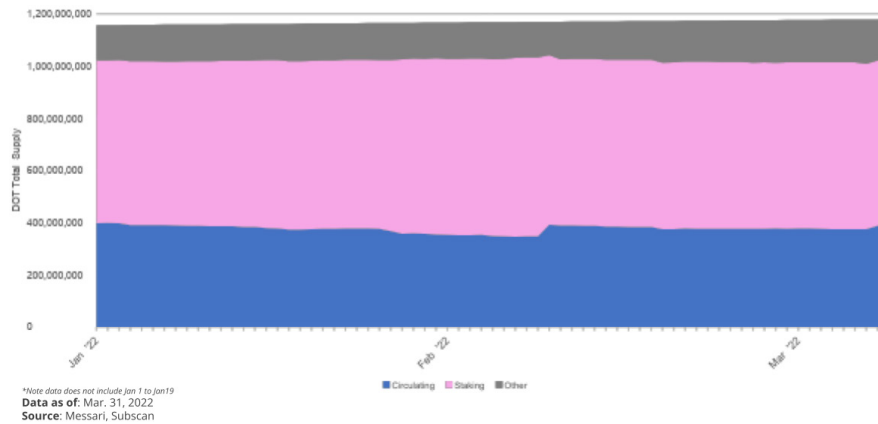


Polkadot uses an inflationary token model; therefore, there is no maximum number of DOT. Inflation rewards are distributed to validators for securing the Polkadot network, with the remainder going to the treasury. The inflation rate varies in relation to Polkadot's [ideal staking rate](#), but averages approximately 10% annually. During Q1 2022, DOT maintained a consistent staking rate with a range of 53.8% to 58.6% of total DOT tokens staked.



MESSARI Polkadot DOT Token Distribution

During Q1 2022, DOT maintained a consistent staking rate with a range of 53.8% to 58.6%.

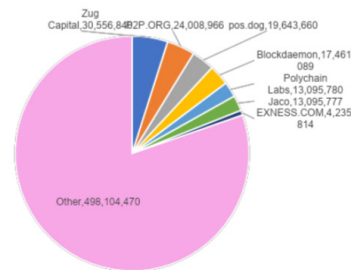


It is possible for a single entity to [run multiple validators](#). According to [Subscan](#), in Q1 2022 there were seven entities running multiple validators, accounting for 20% of the total DOT staked. It is possible that additional entities are running multiple validators, but Subscan has not identified them.

MESSARI DOT Validator Stake Distribution

DOT's staking distribution is relatively balanced - 80% of DOT is spread across 229 validators not tied to entities.

Entity	# of Validators	Total DOT Bonded	# of Nominators	% of Total Stake
Zug Capital	14	30,556,840	4,341	4.93%
P2P.ORG	11	24,008,966	3,326	3.87%
pos.dog	9	19,643,660	2,099	3.17%
Blockdaemon	8	17,461,089	420	2.82%
Polychain Labs	6	13,095,780	186	2.11%
Jaco	6	13,095,777	1,794	2.11%
EXNESS.COM	2	4,235,814	84	0.68%
68		122,097,926	12,250	19.69%

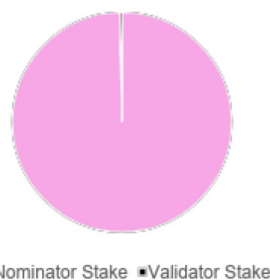


Data as of: Mar. 31, 2022
Source: Messari, Subscan

Because of the even rewards distribution, running multiple validators nets a greater expected value. As a result, Polkadot validators self-bond the minimum of one DOT and nominate their DOT across a [maximum of 16 validators](#) to maximize the expected value of their staking rewards. Of the total DOT staked, roughly 99.7% is from nominators, and 0.3% is from validators self-bonding.

MESSARI Nominator Stake vs. Validator Stake

618 million of the 620 million staked DOT is from nominators. Entities are incentivized to nominate their stake across multiple validators to maximize staking rewards.



13 parachains have won slots bonding 11% of the total supply.

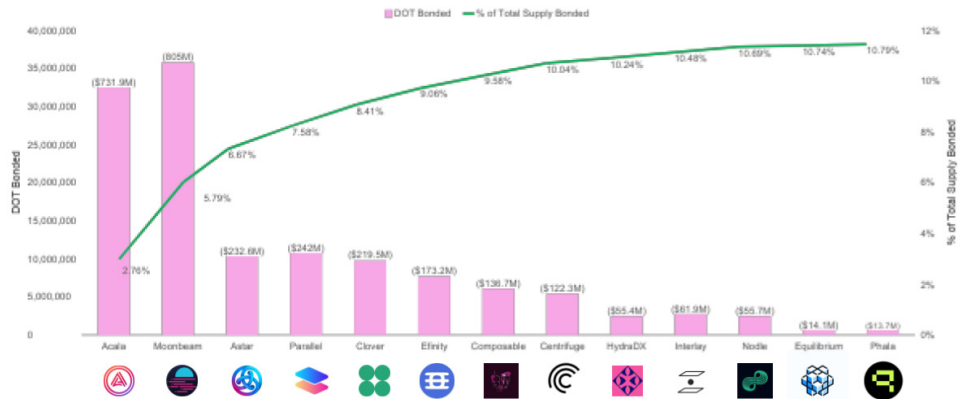
Parachain Auctions

The first parachain slot auction began on Nov. 11, 2021. At Q1 2022 close, 13 parachains [won](#) parachain slots bonding 127.8 million DOT (11% of the total supply, worth \$2.9 billion). Polkadot has [28 new slot auctions scheduled](#) through February 2023 (bringing the total to 41).

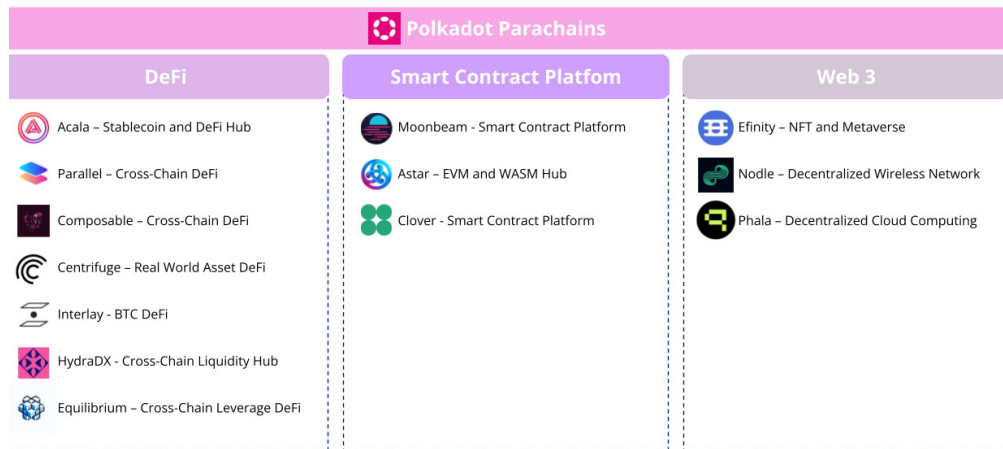


Polkadot Parachain Slot Auctions

Through 13 parachain slot auctions, 127.8 million DOT (11% of the total supply, worth \$2.9 billion) has been bonded.



Of the first 13 parachains, seven are DeFi chains, three are smart contract platforms, and three are Web3 infrastructure chains. For a deeper look at each of the first 13 parachains, checkout the [Polkadot Ecosystem Overview](#).



Polkadot vs. Kusama

Another unique component of the Polkadot ecosystem is the canary network [Kusama](#). Kusama is a sovereign blockchain with a nearly identical codebase and architecture as Polkadot; however, Kusama has a quicker governance mechanism with 7-day voting vs. Polkadot's 28-day voting. All new code rollouts are proposed, approved, tested, and implemented on Kusama before moving to Polkadot. As such, Polkadot and Kusama are closely related. Over the last five quarters, the market caps of both networks have closely tracked each other with a 0.797 [correlation coefficient](#).





KSM - DOT Market Cap Correlation

Kusama and Polkadot's market caps have a 0.797 correlation coefficient.

Correlation Coefficient		
	KSM Market Cap	DOT Market Cap
KSM Market Cap	1	0.797
DOT Market Cap	0.797	1



Data as of: Mar. 31, 2022
Source: Messari, CoinGecko, Polkadot, Token Terminal

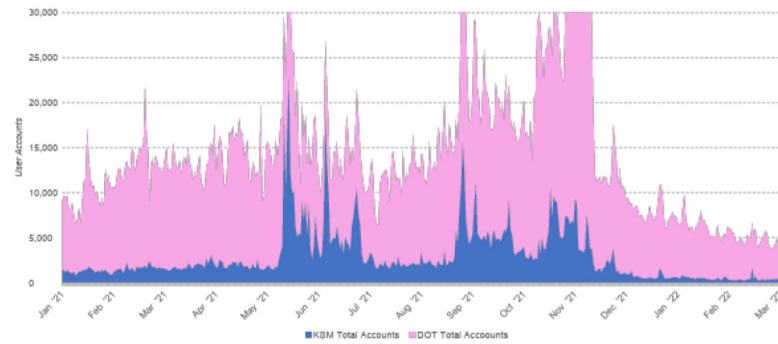
Conversely, user activity between the networks has little correlation. Over the last five quarters, the user accounts of both networks have had a weak 0.42 correlation coefficient. Both of the networks have seen user accounts trending downwards following the first Polkadot parachains.



KSM - DOT User Accounts

Kusama and Polkadot user accounts have a 0.42 correlation coefficient.

Correlation Coefficient		
	KSM Total Accounts	DOT Total Accounts
KSM Total Accounts	1	0.420
DOT Total Accounts	0.420	1



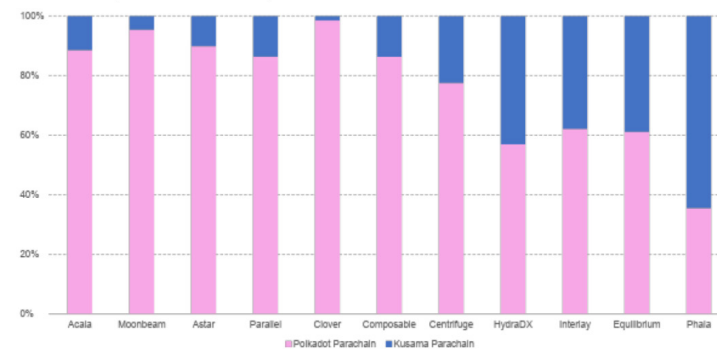
Data as of: Mar. 31, 2022
Source: Messari, Subscan

Similar to the Kusama-Polkadot relationship, parachain project teams can launch a Kusama parachain to test new features under real economic conditions. Of the first 13 Polkadot parachains, 11 have Kusama parachains. On average, the Polkadot parachains locked ten times the USD value of the Kusama parachains. The lone exception was the Polkadot parachain [Phala Network](#) which had a greater USD value locked on its Kusama parachain [Khala Network](#).



KSM - DOT Parachain Bonding

11 of 13 Polkadot parachains have Kusama parachains.



Data as of: Mar. 31, 2022
Source: Messari, Polkadot



Developer activity is among the strongest in crypto.

Developer Overview

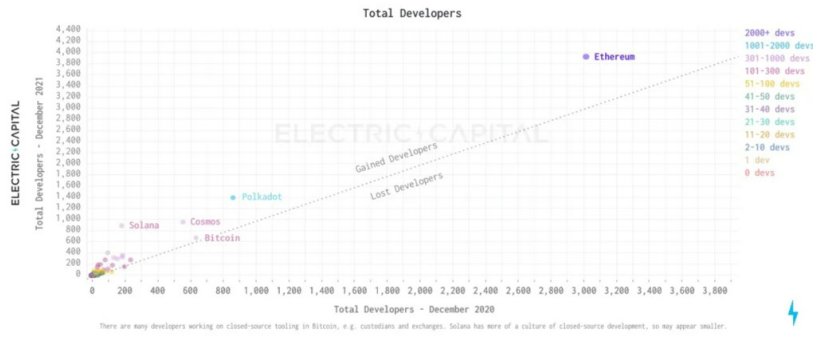
Polkadot had the [second largest developer community](#) in 2021, according to the annual Electric Capital Developer Report. Polkadot began the year with 840 total developers and ended the year with 1,400 total developers, a net gain of 560 total developers (+67%). For comparison, Ethereum had the most developers with 3,920, and Cosmos had the third most with roughly 950.

MESSARI Polkadot Developer Activity

Polkadot developer activity is among the strongest in crypto.

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ETHEREUM, POLKADOT, COSMOS, SOLANA, & BITCOIN ARE THE 5 LARGEST ECOSYSTEMS

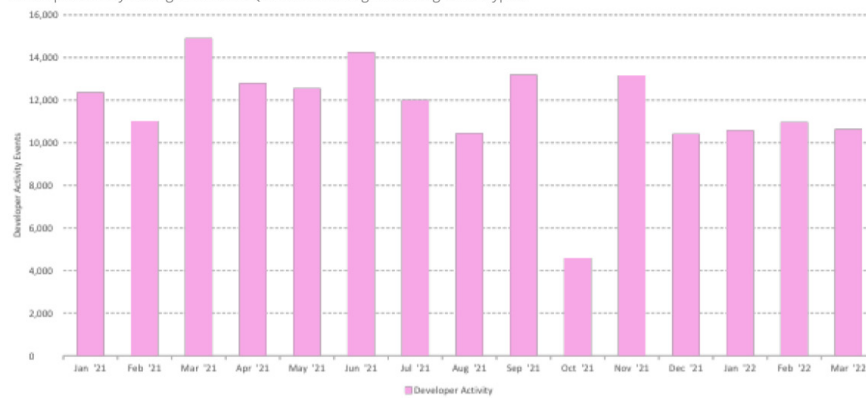


Data as of: Mar. 31, 2022
Source: Electric Capital

Developer activity through 2021 and Q1 2022 was consistent, with 14/15 months (93%) registering over 10,000 [developer activity events](#). The exception, October 2021, was a result of developers shifting focus to supporting prospective parachains in anticipation of the inaugural auctions. Q1 2022 saw a 10% drop in average monthly developer activity as developers prioritized enabling previously deployed features rather than developing new features. Overall, Polkadot's developer activity is among the strongest in crypto.

MESSARI Developer Activity

Developer activity through 2021 and Q1 2022 is among the strongest in crypto.



Data as of: Mar. 31, 2022
Source: Messari, Santiment

Challenges include lack of adoption, wallets, and a knowledge gap.

Ecosystem Challenges

In Q4 2021, new users flooded Polkadot to partake in the inaugural, novel parachain slot auctions. However, excitement surrounding the ecosystem has steadily declined through Q1 2022. To jumpstart excitement, Polkadot needs a spark, likely driven by a parachain or a protocol built on top of a parachain. A protocol needs to develop a new primitive(s) utilizing the cross-chain architecture and XCM communication. Developing new functionality and use cases will showcase the power of the network and organically attract users.



Additionally, users on the network often complain about the complexity of the [Polkadot JS](#) wallet. As of Q1 2022 close, multiple projects are working on a Polkadot ecosystem wallet including [Talisman](#), [SubWallet](#), [Nova](#), and [Polka Wallet](#).

Lastly, Polkadot suffers from a knowledge gap. The uniqueness of the architecture leads to common questions and comparisons with other open economy ecosystems. Polkadot could benefit from increased marketing and education efforts to combat common misconceptions.

The next major milestones include XCM, parathreads, and performance upgrades.

The Road Ahead

The [launch](#) of Polkadot began in May 2020 with the Relay Chain genesis block and finished in December 2021 with the launch of parachains. Several post-launch developments and optimizations have been implemented in Q1 2022, and they are expected to continue through 2022.

Arguably the most important area of focus is the buildout of Polkadot's [Cross-Consensus Message Format \(XCM\)](#). XCM is a communication language allowing parachains to exchange messages with other parachains, similar to Inter-Blockchain Communication (IBC) on Cosmos. Kusama, Polkadot's canary network, has been testing a light client version of XCM, called [HRMP](#). Expectations are that XCM will be implemented on Polkadot in Q2 2022.

***Update, Co-Founder Robert Habermeier [tweeted](#) on Apr. 17, 2022 that XCM would be launched on Polkadot during the next runtime upgrade.*

Another area of focus is the launch of [parathreads](#). Parathreads are pay-as-you-go parachains. Instead of always being connected to the Relay Chain like parachains, parathreads pay for the Relay Chain's security and interoperability as needed. Parathreads are useful for projects that do not wish to acquire a full parachain slot and/or existing parachains that no longer require a dedicated parachain slot.

Lastly, the developers will continue optimizing the network's performance. One major performance upgrade will come from [Asynchronous Backing](#). It will allow parachains to build blocks concurrently with the relay chain and reduce the block time from 12s to 6s. Additional protocol updates are also [in-development](#).

Closing Summary

The marquee event of 2021 was the launch of parachains. Parachains going live led to all-time-highs in price, user accounts, and parachain slot auction contributions. Unfortunately, the euphoria was short lived, and each of these metrics experienced month-over-month declines through Q1 2022.

During the same period, the foundational KPIs held steady. Polkadot maintained a healthy validator distribution by total stake, developer activity remained among the strongest in crypto, and users continued acquiring the token, signaling a healthy interest in the ecosystem.

Q2 2022 will be characterized by additional parachains coming online and the rollout of XCM. To gain more market share, Polkadot needs a parachain or a protocol built on a parachain to take advantage of XCM and the cross-chain architecture by building a unique use case. Because parachains only launched 4 months ago, they are still in their early days.



Appendix

Events

- October 13, 2021 - [Robert Habermeier Announces Parachains](#)
- November 11, 2021 - [First Parachain Auction Begins](#)
- November 18, 2021 - [Acala Wins 1st Parachain Slot](#)
- November 25, 2021 - [Moonbeam Wins 2nd Parachain Slot](#)
- December 2, 2021 - [Astar Wins 3rd Parachain Slot](#)
- December 9, 2021 - [Parallel Wins 4th Parachain Slot](#)
- December 15, 2021 - [Polkadot Re-Brand](#)
- December 16, 2021 - [Clover Wins 5th Parachain Slot](#)
- December 17, 2021 - [Parachains 1-5 Connected to Relay Chain](#)
- December 30, 2021- [Efinity Wins 6th Parachain Slot](#)
- January 13, 2022 - [Composable Wins 7th Parachain Slot](#)
- January 27, 2022 - [Centrifuge Wins 8th Parachain Slot](#)
- February 2, 2022 - [Report Polkadot Has Smallest Carbon Footprint](#)
- February 10, 2022 - [HydraDX Wins 9th Parachain Slot](#)
- February 24, 2022 - [Interlay Wins 10th Parachain Slot](#)
- February 24, 2022 - [30 Additional Auctions Scheduled](#)
- March 10, 2022 - [Nodle Wins 11th Parachain Slot](#)
- March 19, 2022 - [Equilibrium Wins 12th Parachain Slot](#)
- March 31, 2022 - [Phala Wins 13th Parachain Slot](#)





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