

Q4 REPORT 2022



EOS Network
Foundation



Message from the CEO

Against the backdrop of the global political and economic turmoil of the past decade, the blockchain industry, not without its own growing pains, has been steadily coming of age. Today, the effect of shifting global markets and supply chain uncertainty has exposed many weaknesses in our legacy financial and business architectures. For such deficiencies in coordination, blockchain presents a once in a generation opportunity for a most timely upgrade. Every adversity contains within it the seeds of opportunity and growth.

Within this global context, The EOS Network has been undergoing its own rites of passage, integrating life lessons, gaining independence, and moving forward on its evolutionary path of becoming the premier blockchain ecosystem for interactive innovation.

The EOS Network Foundation (ENF) did not emerge with the EOS Network, it came into existence in mid 2021 born of the need for a reliable entity that could coordinate both financial and non-financial support to encourage the growth and development of the EOS Network. Just one short year ago, at the outset of 2022, the ENF core team consisted of only three people who believed in the possibility for EOS to emerge from the chaos of neglect and uncertainty that had been holding it back. We now step into 2023 with over forty talented and passionate team members. I am truly humbled by the incredible team that has formed to serve the EOS community. With a full complement of operations, engineering, communications, marketing, and developer relations, the team has matured into a highly capable organization able to execute on and sustain a variety of initiatives to provide the kind of foundational support and infrastructure that #TheNewEOS can rely on well into the future. The ENF is now more resilient, diverse, coordinated, and global than ever before, and it is ready to put EOS back on the map as a leader within the Web3 ecosystem.

Our first aim for 2022 was to finish laying the groundwork for sustainable funding of the EOS Network. Just one year ago, it was nearly impossible to get funding to build on EOS. This has since changed significantly. Through the ENF, there are now multiple avenues for EOS community members to receive funding. These include Pomelo Grants, ENF Direct Grants, Hackathons, and the emergent EOS Network Ventures (ENV) –a \$100M+ VC fund focused on innovating within EOS.

A major milestone for 2022 was facilitating the re-emergence of The EOS Network as a community-led DAO capable of asserting its sovereignty and protecting itself against powerful corporate interests. On September 21st, 2022, backed by an incredibly skilled team of engineers at the ENF, a growing network of technology partners, project managers, and key members of the developer ecosystem all working in close coordination, the EOS Network declared independence by performing a non-contentious hard fork to the community-led and maintained Antelope codebase.

“

“Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever has.”
–Margaret Mead [[EOS genesis block memo](#)]

Having secured the codebase as a fully open-source and independent framework for multiple Antelope-based blockchains who stand side by side with the EOS Network, The ENF has continued its efforts to strengthen cooperation through the Antelope Coalition. With over \$10M invested in the Antelope codebase, RFPs, additional tooling, and operational support, the ENF continues to be a driving force behind ecosystem development. With game-changing tech such as Inter-Blockchain Communication (IBC) and Instant Finality on the horizon, the whole Antelope family of blockchains, with EOS

as a key element, are poised and ready to provide truly resilient and scalable solutions for the dApps of Web3 and beyond.

With our network again on solid footing, and momentum building, EOS began to make its presence felt at crypto conferences around the world. We shared our unique story of a network taking control of its destiny in a way that exemplifies the very spirit of Web3 at leading crypto events across the globe. This is an effort we intend to ramp up in 2023 through additional events worldwide and continued collaboration with our amazing community.

At the ENF, having attended to the essential developments for our future success as a network, we now begin moving to iterate, improve, and advance from that foundational strength. Our Network is both uniquely suited and better positioned than ever to meet the demands of emerging markets in need of a truly capable, user friendly, and fully featured blockchain ecosystem. In 2023, we will set our sights on leveraging the extraordinary capabilities of EOS to make it a nexus for GameFi.

2023 is going to be an exciting year for EOS! I trust you will join us as we work to accelerate the human experience of what's possible with Web3.

Cordially,

Yves La Rose

Mission of the EOS Network Foundation



The EOS Network Foundation is the hub of collaboration and development on the EOS Network.

Our mission is to enable developers, businesses and individuals to build innovative solutions on EOS. The EOS Network Foundation (ENF) provides support, funds and the coordination of resources necessary to make EOS a thriving ecosystem. We harness the power of decentralization to chart a coordinated future for the EOS Network as a force for positive global change.

Through direct investments, a grant framework, sponsored working groups, and Pomelo, the ENF takes a multi-pronged strategic approach towards funding. We enable the EOS community to create positive sum games to mature EOS into a best-in-class Web3 smart contract platform and blockchain ecosystem.

ENF Progress Report

The 4th Quarter of 2022 was an exciting period of growth for the EOS Network Foundation. The team working behind the scenes grew exponentially with new additions to departments including operations, marketing, developer relations and more. In total, the ENF brought on 14 new hires in Q4 across multiple departments.

Most notable was the hiring of [Bart Wyatt as the ENF's Chief Technology Officer](#). As an original contributor to the Antelope codebase, an ENF grant evaluator, and game developer, Bart is deeply familiar with the technology and the wider ecosystem. In his new role, Bart will oversee the ENF engineering team and collaborate with a global ecosystem of partners to deliver transformative blockchain solutions.

He will work on the future direction of the EOS technology infrastructure and further its leading position in Web3. An important part of this strategy involves a significant expansion of the current engineering team. The department recently brought on five key hires that will play an integral role in ensuring that the EOS Network remains competitive in a constantly evolving industry.

The EOS Network Foundation operations department, led by [Ted Cahall](#) (COO), expanded their team to support the rapid scaling of the ENF through the addition of a VP of Finance, VP of Human Resources, and a Sr. Product Manager. They will play an integral role in ensuring that work at ENF is undertaken in an efficient manner while fostering an environment that is reflective of the values of Web3, including transparency, accountability and inclusivity.

The operations team also introduced the [Monthly Operation & Health Reports](#) in Q4. These reports provide regular insight into the progression of various initiatives across the EOS ecosystem.

Following the [addition of CMO, Patty Fisher](#) in Q3, the marketing efforts have begun to grow exponentially, along with the team. In Q4 the ENF made key hires for the following positions to join the marketing department: Director of Digital Marketing, Director of Marketing

Operations, Senior Growth Marketing Manager, and Senior Events Manager.

The new marketing team kicked off the year by meeting for a week-long, in-person strategy session. With a growth strategy in place and professional hires leading the charge, EOS is positioned to see massive growth in brand awareness and network users throughout 2023.



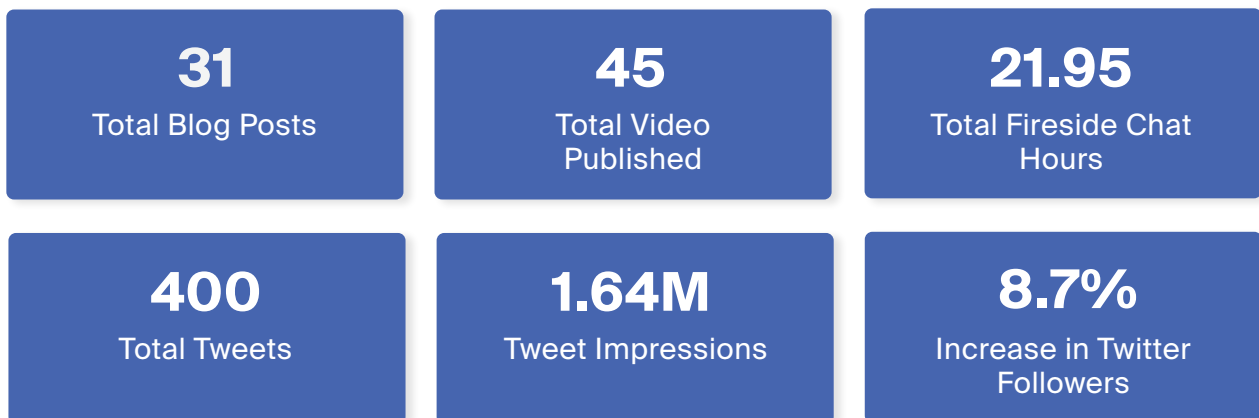
The communications department continues to improve upon efforts to facilitate open and transparent communication between the ENF and EOS community. The department hired Lliam Buckley as Communication Manager and Beatrice Wang as Community Manager, APAC. In addition to ongoing communication across blog posts, social media and podcasts, the department continued with ongoing weekly Fireside Chats where the community could meet with EOS leaders to discuss latest ecosystem developments.

Developer relations also saw [a number of big wins in Q4](#). Jonaed Iqbal joined the team as Developer Advocate and kicked off a new Twitter Spaces series DeCafe. The [EOS Developer Documentation](#) has undergone a massive overhaul with new information and a cleaner user experience. The team also launched the [EOS Learn Hub](#), which promises to be

a powerful outreach platform for onboarding new builders into the EOS ecosystem.

This is all just a small piece of the tremendous work that's been going on at the ENF. Further details on all of this and more can be found in the rest of this report. Below are some high level KPIs that demonstrate areas of exceptional growth in Q4 of 2023.

ENF Socials by the Numbers



Milestones



MoU with City of Busan

In October, the [ENF signed a memorandum of understanding](#) (MoU) with the Busan Metropolitan City government. This monumental agreement was signed in partnership with [AlphaNonce](#), [CoinNess](#), [Foresight Ventures](#), [OKX Blockdream Ventures](#), and [Ragnar Capital Management](#) to establish the Venture Capital Alliance of Busan Blockchain (VCABB), which collectively holds \$700m assets under management.

Under this agreement, the VCABB will actively contribute to the development of the blockchain ecosystem in South Korea's second largest city by investing \$100 million into blockchain-related companies over the next three years. This places the EOS Network at the center of what is becoming one of the fastest growing blockchain hubs in the world.

EOS Network Ventures

On November 9th, the ENF announced that it had initiated a proposal [to launch a \\$100m ecosystem fund](#) to be managed by EOS Network Ventures.

On November 12th, 2022, [EOS BPs reached consensus on issuing ~68M tokens](#), effectively replacing the ~68m that were previously retired in [late 2019](#) and [early 2020](#).

The fund will be managed by EOS Network Ventures (ENV) which will be established as an independent entity that will invest in Web3 businesses and entrepreneurs building on EOS.

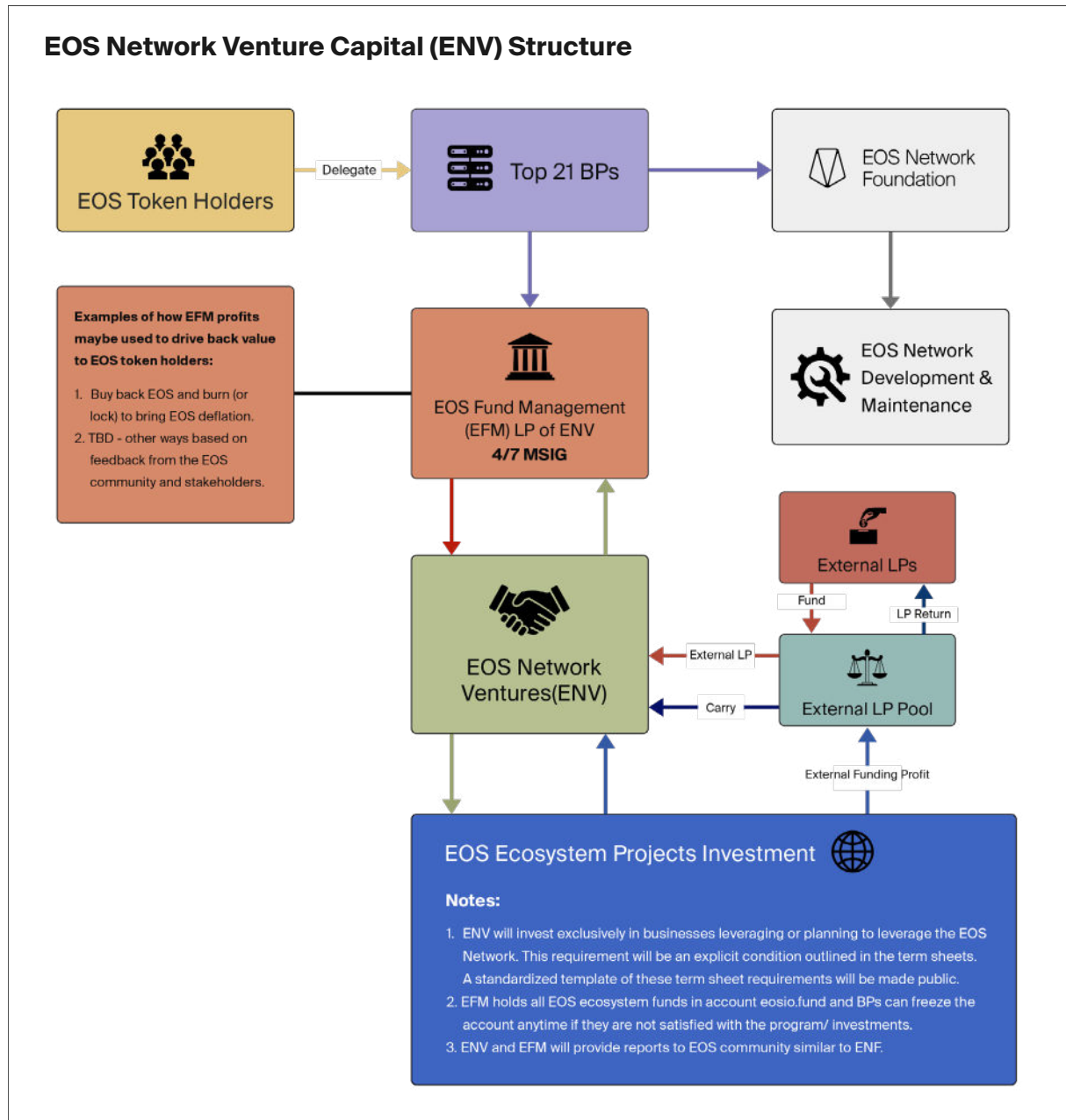
The fund will also be used to launch accelerator and incubation programs to support the adoption of the EOS Network into innovative new business models that leverage blockchain technology and will work closely with key stakeholders including the EOS Network Foundation (ENF). EOS Network Ventures will make strategic equity and token-based investments into tech startups across the Web3 space including GameFi, the metaverse, eSports, NFTs, and fintech.

“The ENF has been successful at deploying grant funding, but we really see EOS Network Ventures as another step in terms of being able to realize our mission, which is to enable developers, businesses and individuals to build on EOS, across all stages of company life cycles, and therefore fully support the creation of the ENV.”

– Yves La Rose, CEO of the EOS Network Foundation.

The EOS Fund Management (EFM) will be the custodian of a treasury acting as a Limited Partner (LP) in EOS Network Ventures. The on-chain fund account is [eosio.fund](#) and is administered by a number of industry leaders and trusted community members were chosen to be signers on the EFM multisig based on credible industry experience and trusted reputation within the EOS community.

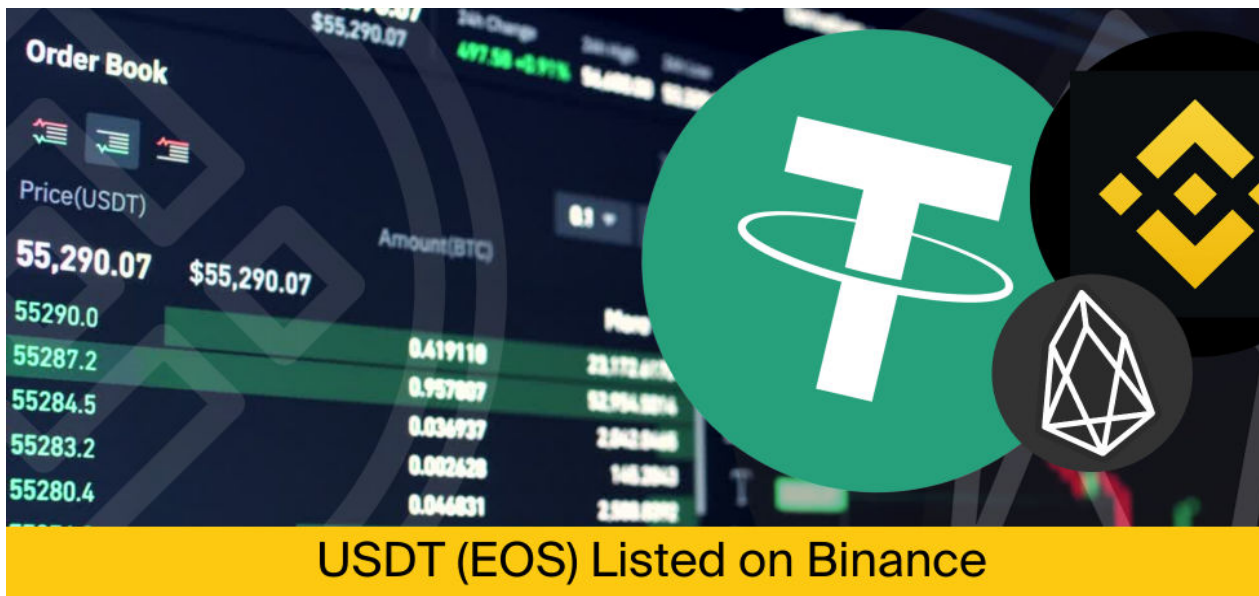
The chart below provides a high level overview of the various entities within the EOS ecosystem and an understanding of how ENV may be structured. Also included is clarity on how the network reaches consensus to signal support for these functions.



EOS Network Ventures' primary mission is to attract and grow value for the EOS ecosystem. Projects that don't leverage EOS will not be considered, including those leveraging Antelope technology outside of EOS.

For further details see the EOS Network Ventures [Community FAQ](#).

USDT Exchange Listings



Getting the EOS version of USDT listed on major exchanges has been an ongoing initiative since the ENF launched. Work in this area slowed down in 2021 due to the evolving regulatory landscape in China. However, the efforts finally came to fruition in December when [EOS USDT was officially listed on Binance](#).

This is a very important milestone for the EOS ecosystem and will play a major role in the [growth of the Yield+ program](#). More than ever before, the EOS ecosystem is better exposed to those wanting to engage in Web3 applications with a simple onramp and a stable currency.

Additionally, anyone holding USDT on Binance can now send USDT with all the benefits that EOS has to offer. This opens up EOS to become the leading network for transacting USDT. This is part of an ongoing effort and the community can expect additional listings in 2023 if work in this area progresses as intended.

Work has continued following the Binance listing, in order to have EOS USDT listed on as many major exchanges as possible. As part of this effort, EOS Support contacted 8 major exchanges to support EOS USDT token transfers. Some exchanges have signaled their intent to support EOS USDT. One of these is [Simpleswap.io](#) which listed EOS USDT during Q4.

Events

Hackathons

With renewed energy and enthusiasm in the EOS ecosystem, two hackathons were run in Q4 to encourage Web3 enthusiasts to build on EOS. The EVMxIdeathon & the DoraHacks Trust EVM hackathon both saw plenty of engagement from builders across the industry.

The EVMxIdeathon was an eight-week event, run in partnership with Helios. It covered two main tracks: an ideathon, in which participants put together the business logic and use cases for a powerful EOS-based product, and a separate EVM hackathon focused on the “GameFi” or “play-to-earn” models.

A total of 653 participants took part in the EVMxIdeathon, competing for \$88,000 in prizes. The projects were judged by the following panel:

- **Ben Sigman:** Bitcoin Libre founder and part of the Helios VC team
- **Zack Gall:** VP of Communications EOS Network Foundation
- **Daryn Soards:** UX Network and Origin founder
- **Yves La Rose:** CEO, EOS Network Foundation
- **Nathan James:** Director of Developer Relations, EOS Network Foundation

Congratulations to the following first place winners for each of the five categories:

- DeFi: [Realot](#)
- GameFi: [Marketing On Antelope](#)
- GOV3: [Robert’s Rules On-Chain](#)
- Social Good: [EOS Community Key Recovery](#)
- Web3: [Small Business Accounting & Web3](#)

[The full list of EVMxIdeathon winners can be found here.](#)

A second hackathon for the EOS ecosystem took place in Q4 on DoraHacks for Round 2 of the Trust EVM (EOS EVM) hackathon with over 20 submissions. This hackathon specialized in the GameFi and brought several high-quality projects to the EOS EVM.

Congratulations to the following first place winners:

- [MMMM](#)
- [Cyberpop](#)

[The full list of winners and report on the DoraHacks Trust EVM Hackathon can be found here.](#)

Conferences

The ENF continued its comprehensive conference strategy throughout Q4, in partnership with Zaisan. Most notably, ENF CEO, Yves La Rose spoke at TOKEN2049 London on its main stage about [the Future of Blockchain Protocols](#).

Director of Developer Relations, Nathan James gave a masterclass at [Web Summit](#) in Lisbon, Portugal. ENF CMO, Patty Fisher was also in attendance representing EOS to the 70k+ attendees that were present at the event. Zack Gall, VP of Communications, also represented EOS at [DCENTRAL Miami](#) and gave a talk on Layer 1 protocols.



Over the past 3 months, Zaisan represented the EOS Network Foundation at 10+ events in the Netherlands, Dubai, Germany, Ireland, Portugal, the UK, and Spain. Across all events, EOS was involved in 8 presentations and 6 panel events.

Despite the current market situation, there is still a lot of positive energy and enthusiasm. A total of 223,000 attendees were present across all events, an estimated 66,000 attendees saw the ENF booth and 1 out of 50 people that saw the booth engaged with the ENF team.

	Dates	Event	Location
October	6th	DeFi Conference 2022	Belfast, Ireland
	10th - 13th	Future Blockchain Summit	Dubai, UAE
	26th - 27th	Blockchain Expo	Zaragoza, Spain
November	1st - 4th	Web Summit 2022	Lisbon, Portugal
	7th - 10th	GARTNER IT/ Xpo Symposium	Barcelona, Spain
	9th - 10th	TOKEN2049	London, UK
	21st - 22nd	Gartner IT Infrastructure, Operations & Cloud Strategies Conference	London, UK
	28th - 30th	DCENTRAL Miami	Miami, USA
December	1st - 2nd	TECHEX Blockchain EXPO	London, UK

Virtual Events

While conferences allow the ENF to connect directly with Web3 enthusiasts in person, the reach of these initiatives are limited. This is why the ENF has been running a number of virtual events for the global EOS community to attend on a regular basis.

Most notably, the EOS Fireside Chats have been a pillar of the ENF's online outreach efforts. Every week, members of the ENF meet with the EOS community to answer questions, discuss recent events and field feedback on the work being done. They are well attended with 60+ community members joining live and the recordings being viewed by hundreds more on the [ENF YouTube channel](#) and [across podcasting platforms](#).

Additionally, the ENF Developer Relations team [recently launched a new Twitter Spaces Event, DeCafe](#). The intent of this event is to reach outside the EOS ecosystem and attract an audience from the broader tech space. So far, the events have been well attended with over 100 listeners tuning in regularly.

The ENF communications team also began a regular cadence of [bi-weekly podcasts](#). These serve as an avenue to elevate key figures and initiatives in the EOS Ecosystem, such as the recent episode with [Aaron Cox on the Wharf Web Client SDKs](#).

Community Funding

Pomelo Season 4

Pomelo is an open-source crowdfunding platform that funds EOS-based projects. It uses a quadratic mechanism to determine each project's share of the community matching pool. Inspired by Gitcoin, "Quadratic Funding" (QF) proves to be a mathematically optimal way for a community to vote on funding public goods. It calculates each contributor's vote weight according to the square root of the sum of their contributions. This function gives greater weight to the number of unique contributors to a grant when determining its proportional share of matching funds.



The ENF donated \$350,000 to the fourth season of Pomelo in Q4. This donation funded EOS community projects based on community support rather than directly by the ENF. Pomelo brought \$458,812 to public goods on EOS between matching funds and direct contributions. Pomelo has raised a cumulative total of \$2,610,052 for public goods in its first four seasons across widely variable crypto market conditions.

The community's enthusiasm and appreciation for Pomelo demonstrate QF's power. As the platform's primary matching partner, the ENF has empowered Pomelo to help the community bootstrap initiatives like HyphaDAO and hundreds of other projects.

One challenge of QF is that it is susceptible to individual users with multiple accounts through a Sybil attack. To combat this, the Pomelo team tracks metadata and other trends to identify suspicious donation patterns.

One tactic the team uses when they see clear evidence of collusion but no evidence that the grant owner is involved is to collapse all suspicious donations into one. Pomelo will disqualify the grant if the owner is involved in these donations. While harsh, these steps emphasize the team's level of scrutiny, as they must ensure that dishonest actors do not circumvent the quadratic formula that underlies the system.

In Q4, the Pomelo team also produced a new "Collections" feature, which allows Pomelo users to make collections of their favourite grants to share with the community. The "Bounties" feature is under development, with an anticipated release in 2023.

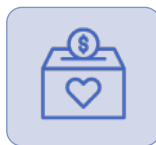
Pomelo demonstrates the power blockchain communities have with public goods funding, and the EOS Network Foundation has empowered creators in the EOS community through its support of Pomelo.

Pomelo Season 4 Statistics



138

Approved
Grants



\$93,740

Total Dollars
Raised



907

Unique
Contributors



5281

Total
Contributions



\$350,000

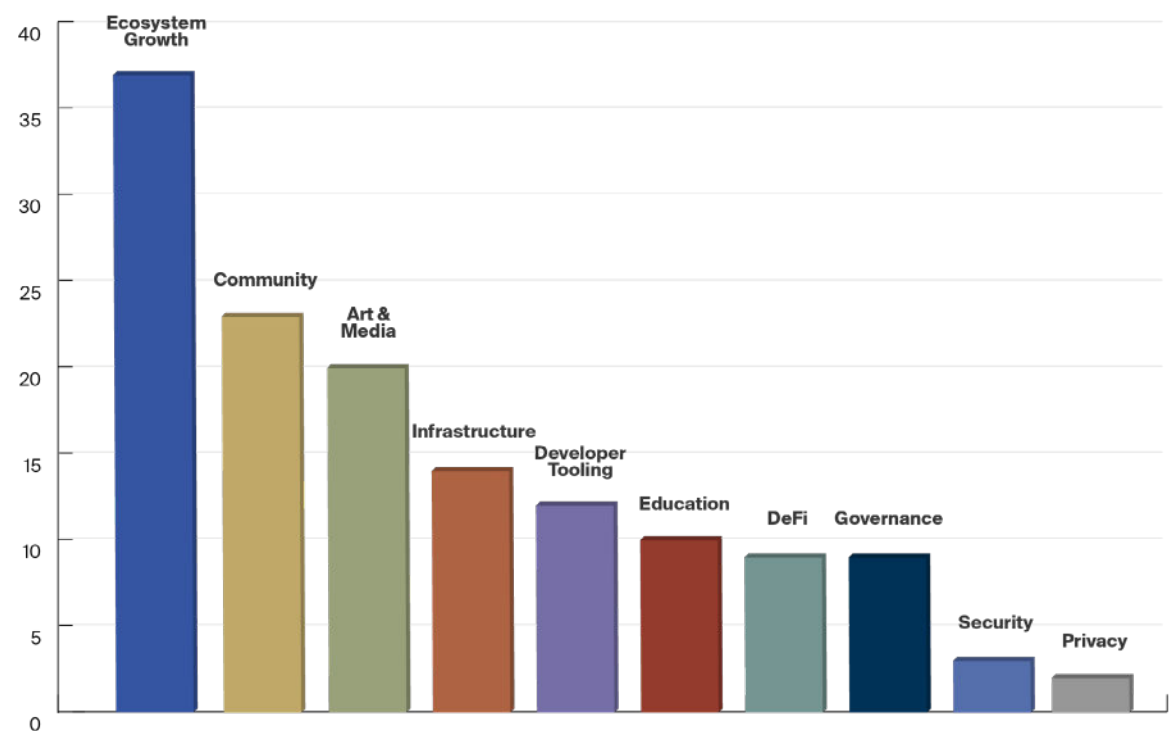
Direct Contribution
from ENF



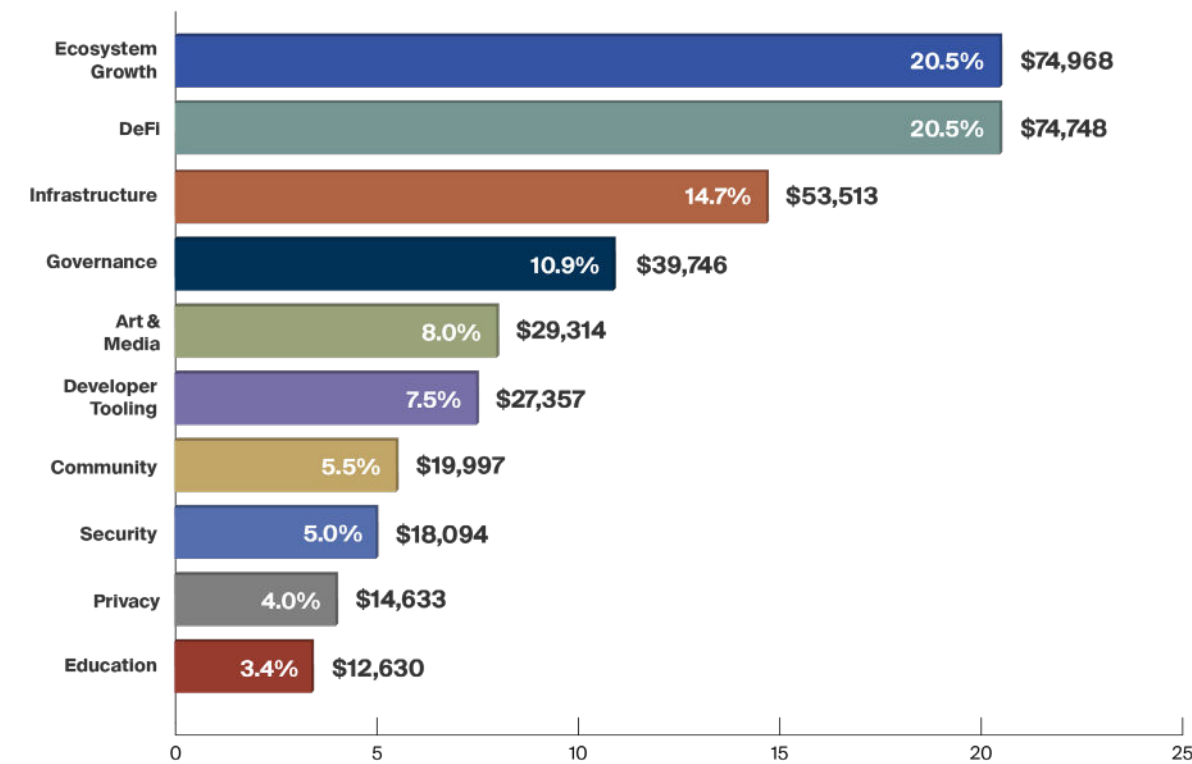
\$17.75

Average
Donation

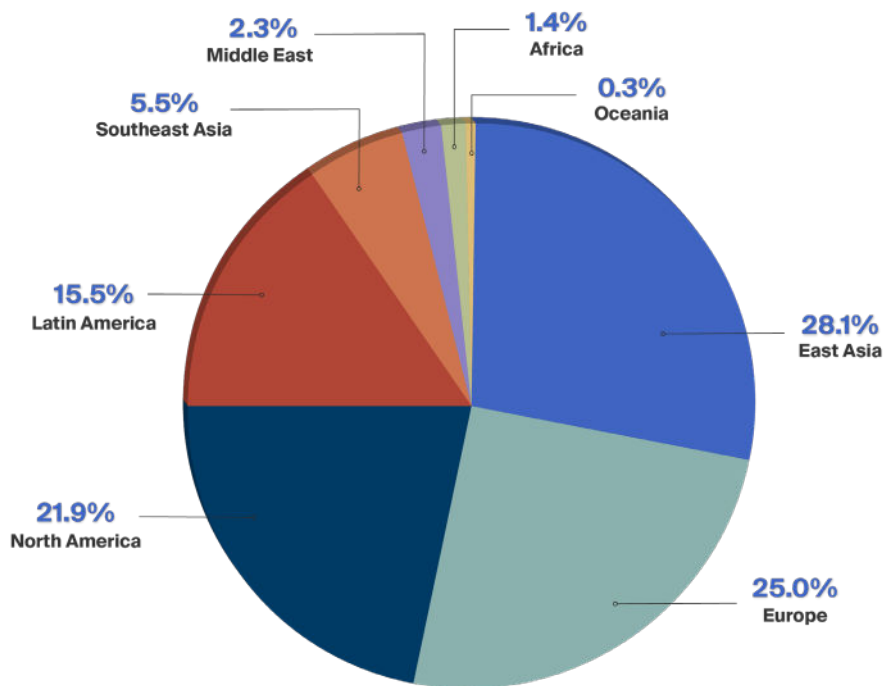
Number of Grants based on Categories



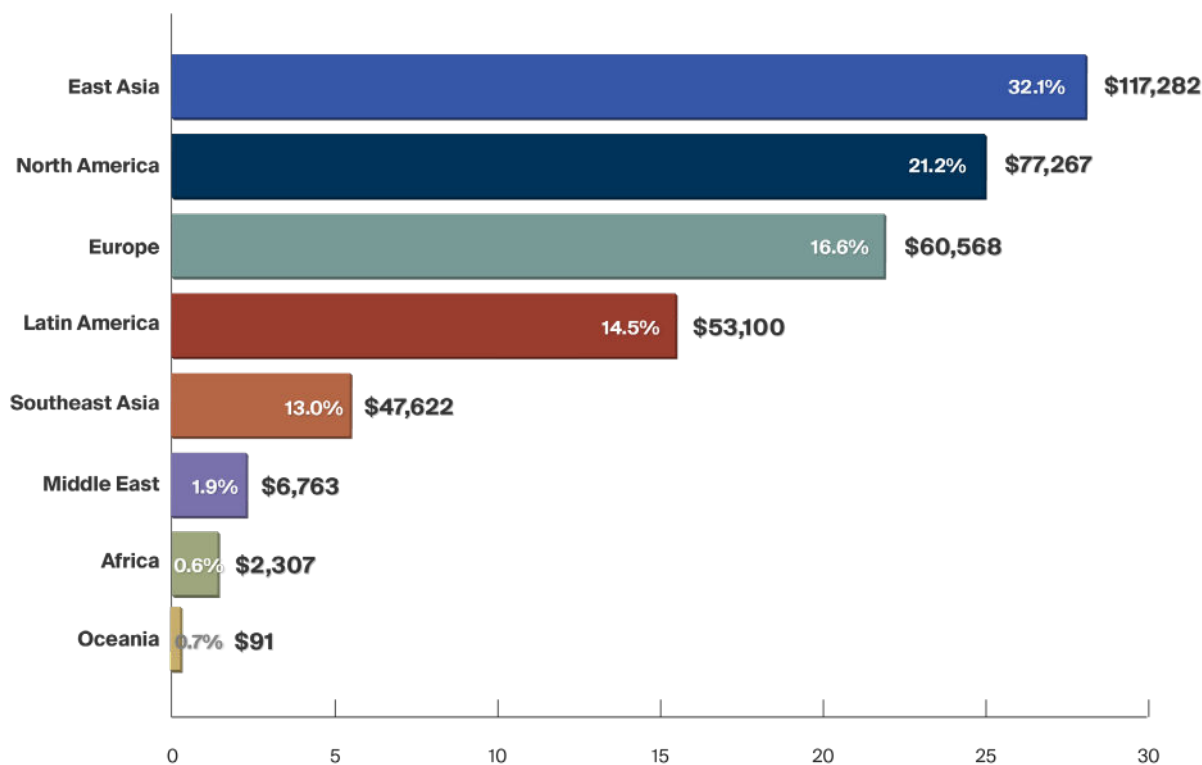
Amount Distributed based on Categories (USD)



Contributors based on Region



Amount Distributed based on Region (USD)



Direct Grant Framework

The ENF empowers developers, businesses, and individuals who wish to build on EOS.

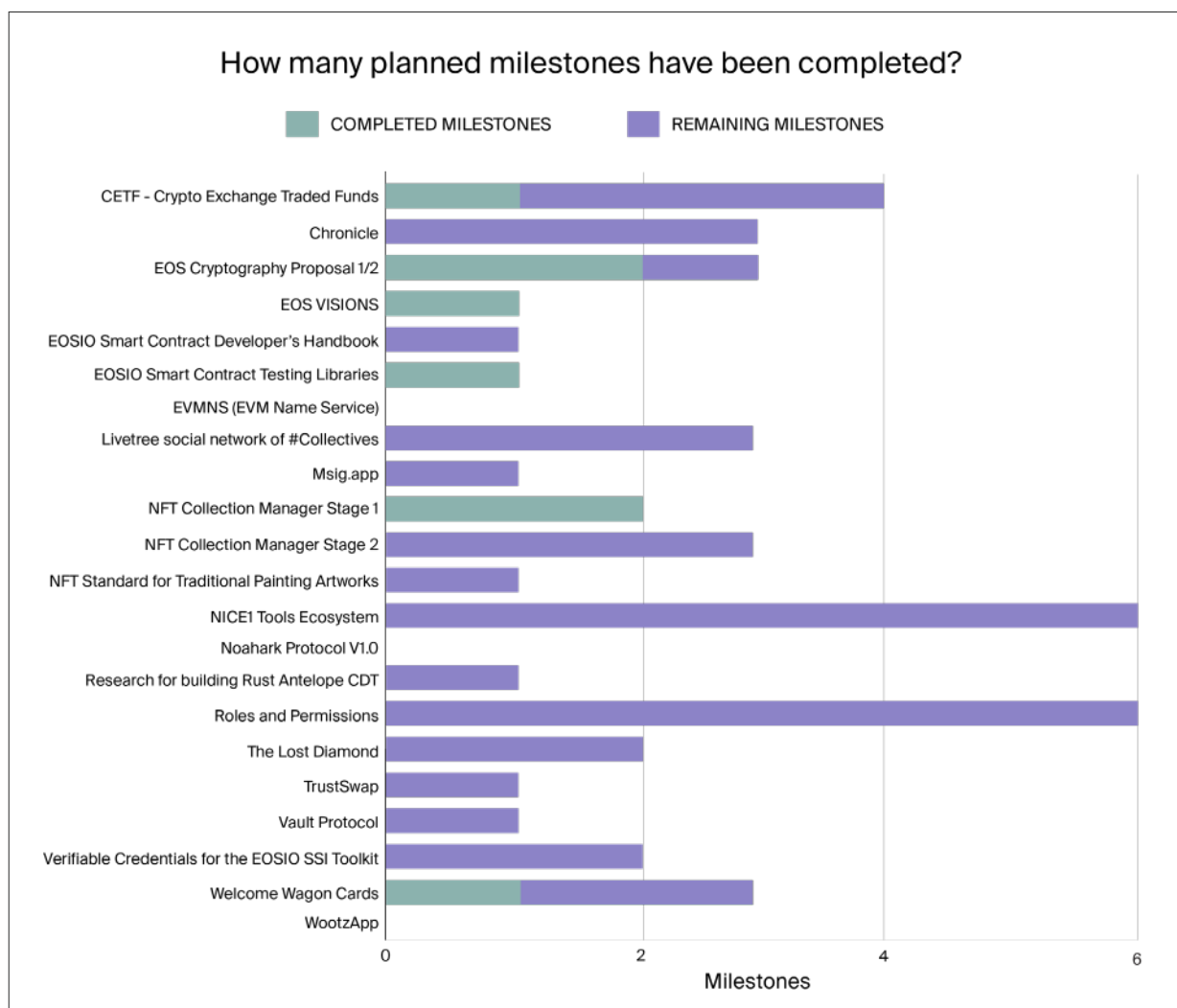
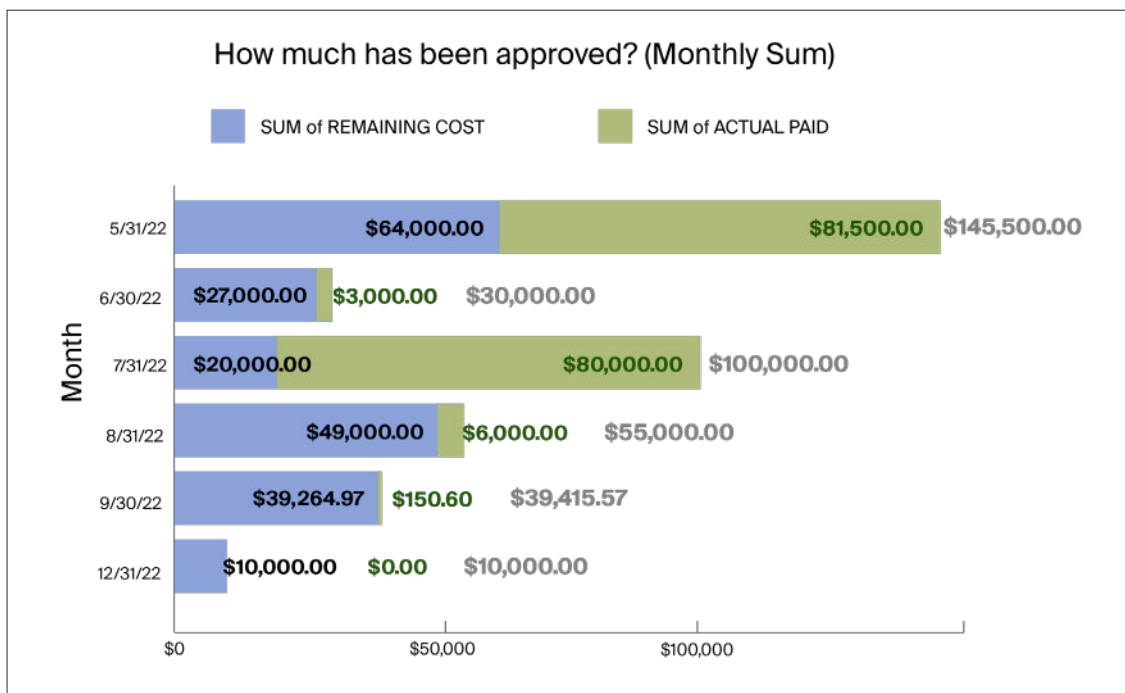
The ENF launched its direct grant framework early last year to kickstart a new era of development. It gives those wishing to build on EOS access to an efficient, transparent, and milestone-driven grant framework previously unavailable to network participants.

The ENF Grant Framework is open to individuals, small teams, and companies, with grants scaled to fit the scope of each initiative. All forms of projects are encouraged to apply for grants. Grant categories include Core Antelope Chain / Sub-modules, Development Tools, UI Development, Backend Development, and Cryptography. Grants are available to both “for profit” and “public good” entities, with the goal that all grants will benefit the EOS ecosystem.

In order to encourage more contributors to apply to this funding avenue, the ENF released two articles in Q4 promoting the ENF grant framework, one [guiding readers through the application process](#) and another that [took a broader look at public goods funding on EOS](#).

Since launching the direct grant framework, the platform has received 113 applications. Of these 113 applications, 13-milestone-driven grant applications have been approved, 3 of which have been completed in full. Across these applications, a total of \$379,915.57 has been committed to contributors in the EOS ecosystem, pending milestone completion. \$170,650.60 has been paid out so far.

The ENF will maintain communication with the EOS community as projects begin to move through the application process, receive funds, and reach milestones. In order to maintain transparency with the EOS community, all [grant applications](#), comments on applications, and [milestones](#) for approved applications are all tracked on Github.



Ecosystem Initiatives

Yield+

Yield+ is a liquidity incentive and rewards program designed to attract DeFi dApps that generate yield for dApp users. If qualified Yield+ dApps participate, the program rewards them with EOS based on the true TVL (Total Value Locked) in eligible EOS or Tether (USDT) liquidity.

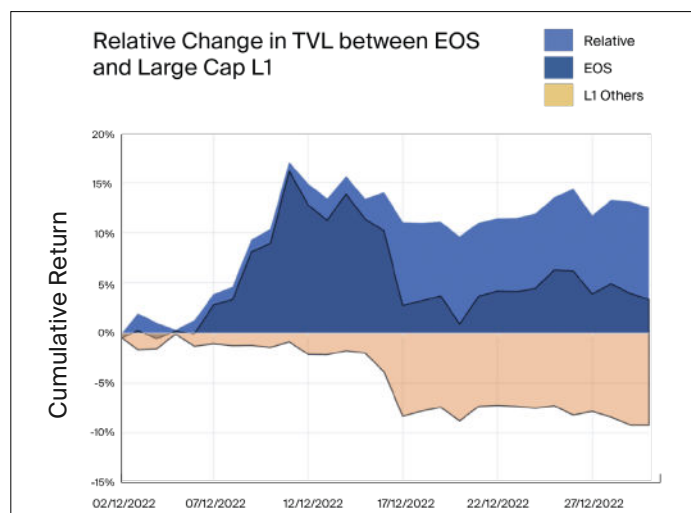
The launch of the Yield+ Incentive program marks a major milestone that increases opportunities to reward dApp developers and earn yield for EOS users. A method that directly measures and rewards increased economic activity on EOS can attract and retain an interest in the entire ecosystem, and the Yield+ team has delivered on that goal.

The Yield+ team began reporting on this initiative in Q4 with monthly blog posts:

- [October Yield+ Report](#)
- [November Yield+ Report](#)
- [December Yield+ Report](#)

These reports inform that since launching, 14 protocols have joined the Yield+ program with a combined TVL of over 26 million dollars. Of those 14, 11 are eligible for rewards with thousands of dollars in EOS tokens being rewarded across these DeFi protocols every day. This is visible on the Yield+ Portal at TokenYield.io.

You can also see the liquidity overview across each protocol on this site. [The most recent Yield+ report provides more granular metrics and details.](#) In December, the Yield+ team observed a 7.5% growth trend in the key TVL to Market Cap ratio continuing on from previous months, demonstrating



sustained and resilient development. This steady growth is continuing despite the broader market downtrend. The graphic below shows how EOS has been outperforming other popular L1 blockchain's in this area.

Recover+

The Recover+ working group was established in Q1 and led by the team at PIZZA DeFi. The goal of Recover+ is to create a crisis management framework for EOS with deliverables such as the development of emergency contracts, protocols, best practices guides, FAQs, and advice on who to contact for help and support immediately after an exploit occurs.

The Recover+ team published their Blue Paper in Q2, which examined how to build an asset recovery framework for hacking incidents using the DPoS governance system of EOS. This document also established the product logic and functionality for the EOS Recover Portal. In October, shortly after the September launch of the [Recover+ portal](#), the ENF released [an in-depth article](#), detailing the impact of this innovative initiative.

The Recover+ program is currently serving 22 projects with a total TVL of \$47,625,135. In Q4, the program [successfully responded to its first DeFi exploit](#), preventing over 2 million EOS from being stolen from Panda Rings users. This was a major win for the program, demonstrating the speed at which Recover+ can respond to incidents, bringing a new level of security to DeFi users that is not found in other areas of the industry.

EOS EVM

The EVM+ working group was established in early 2022 with a mandate for delivering an Ethereum Virtual Machine (EVM) on EOS with full RPC compatibility, deterministic gas usage / billing, and ETH precompiles as EOS intrinsics.

Development for the EOS EVM began in January 2022 and by April, the first version was successfully deployed onto the Jungle Testnet. During this time, it was also announced that the EOS EVM would be incubated and launched as a product, Trust EVM, which would have its own independent team, funding, and token economy. It was later decided that the

project would instead be launched as a public good, which would exclusively leverage the EOS token for gas and governance over the system, rather than incorporating a new token and incentive model for RPC nodes. The decision was also made to drop the Trust EVM name in favor of 'EOS EVM'.

The ENF has provided engineering support to the EVM both directly to the EOS EVM itself as well as to the Antelope codebase to add new host functions for crypto primitives, which significantly reduced the CPU costs of executing cryptographic functions available in EVM precompiled contracts.

During Q4, the team made significant performance improvements including an architecture overhaul with the implementation of Silkworm and SilkwormRPC, which significantly improved its performance and reliability. The EOS EVM codebase was successfully audited by Senti in Q4 and the latest Silkworm-based testnet went live on January 19 with a planned mainnet launch scheduled for April 2023.

The EOS EVM will provide an instant on-ramp for Solidity developers to build on EOS while leveraging all of the tools, libraries, and open source code that they are already familiar with. To accelerate the onboarding of Solidity projects, developers will be able to access EOS funding via Pomelo, direct grants, and the EOS Yield+ liquidity incentive program.

HyphaDAO

[HyphaDAO](#) is an Antelope-based application that leverages blockchain technology to provide all the key building blocks for organizations to govern effectively, manage capital, compensate, and coordinate to achieve their goals in a transparent and decentralized way.

Earlier in 2022, the ENF [announced an \\$850K milestone-based grant to bring Hypha and their “Organization-in-a-box solution” to EOS](#). This grant will greatly accelerate Hypha's further product development, help fuel a powerful roadmap of new advanced features, and provide a welcome home base for Hypha to create the thriving network of innovative ventures they have long envisioned.

EOS members will access Hypha's DAO solution via a range of attractive price plans,

including a freemium option, to start their own DAO journeys. As part of the agreement with the ENF, Hypha will add the [Political Playoff UpVote Process](#) as a governance setting in its voting module, so all new DAOs using Hypha may elect to use an UpVote governance process. Thanks to the high performance of the blockchain and the UpVote governance process, the EOS Network can become an oasis for organizations that want to build and grow within a fully featured DAO ecosystem.

During Q4 the team completed and received payment for Milestone Two, which involved the DAO Creation Wizard smart contract deployment on EOS. The Hypha team is currently undertaking Milestone Three, involving dgraph k8 deployment for EOS Smart Badges. This is expected to be completed by the end of January. Integration of the UpVote democratic process as a governance setting is also expected to be completed within the current quarter.

EOS Support Partnership

[EOS Support](#) serves as a concierge that provides service and technical support for users and customers of the EOS Network. Community members independently created the organization with a focus on issues related to onboarding new community members. They feature a support ticket system and 24/7 live chat across multiple languages. The ENF also integrated the EOS Support chat bot into the ENF website to provide a trustworthy source of customer service, which is particularly useful in a blockchain environment.

In Q4 2022, EOS Support articles were viewed 30,006 times. EOS Support responded to 200 tickets with 1782 total responses in Q4. The average time to close out each ticket was 13 hours and 38 minutes with a median response time of 52 sec with 87.8% customer satisfaction.

EOS Support also launched a [news center](#) and news feeds for the direct chat widget. The initiative has published 51 news articles and news feeds in 9 languages over the last three months.

The team also assisted exchanges that were facing issues following the Leap 3.1 hard fork,

so that they could quickly reactivate their EOS deposits and withdrawals. In December 2022, EOS Support was able to close the final two tickets relating to exchanges with halted deposits and withdrawals.

EOS Support held meetings with exchanges, project owners, node infrastructure providers, GameFi projects and influencers to discuss possible collaborations. A major influencer created an EOS account for the first time and has started reading the EOS Support How-to-articles.

.gems Partnership

As part of our community engagement initiative, the ENF continued our strategic partnership with .gems. The .gems team engages in community initiatives, such as forum moderation, live Twitter Spaces events, the weekly EOS Fireside chats, video edits, and many other outreach functions.

The weekly EOS Fireside Chat is an open-ended all-hands meeting for the EOS community. From core protocol developers to passionate community members, all parties get to share their perspectives and ask questions. This event allows anybody to engage with the top EOS ecosystem players.

The Fireside Chat exemplifies engagement and transparency and should serve as a model for the rest of the blockchain industry. The .gems team organizes and hosts these events and uses non-fungible proof-of-participation (POP) tokens to incentivize active engagement in the chats. People can use these tokens to enter a monthly raffle, and prizes include EOS-backed NFTs with real financial value.

The organization also supports the ENF Twitter spaces, which invite EOS veterans and the EOS-curious alike. Twitter is a critical method of outreach that allows even casual observers to get a nuanced view of the EOS ecosystem.

These community events enable collaboration and community feedback and encourage the cross-pollination of ideas. The .gems team edits recordings of all these events to provide informative and participatory engagement across the EOS landscape.

The .gems team also hosts various promotions. In Q4, they hosted the Pomelo Poker Tournament as a free-to-play Texas hold-em tournament where the winners donate to their favorite Pomelo grants. They also leveraged the Bountyblok social contest tool to host the EOS Holiday Giveaway promo, which awarded more than 1500 EOS to community members.

Through these outreach initiatives and promotions, .gems has brought significant value to the EOS blockchain and remains a valued partner of the EOS Network Foundation.

dBoost Partnership

In our efforts to strengthen communications with the Chinese speaking EOS community, the ENF continues to develop its long standing partnership with dBoost. Led by CEO Myra Wang, the dBoost team are the trusted partners representing ENF China, and work closely with ENF Communications Manager, Bebe Wang.

With a dedicated staff of 10+ working exclusively for EOS, the dBoost team provides coverage across a variety of communication and media channels. dBoost facilitates native Chinese language content exposure for EOS across a wide array of social media platforms, engages in a variety of community building initiatives, and continues expanding their reach to additional media outlets across Asia.

dBoost hosts bi-weekly Spaces events on the @EOSFoundationCN Twitter account, and through their relationship with 10+ top Chinese blockchain media outlets EOS gains even further reach in this market segment, while members of the dBoost team extend the presence of EOS to adjacent industry Twitter Spaces as guests.

In Q4, dBoost actively engaged with 20+ blockchain communities to promote EOS news and events, while working with key opinion leaders in 30+ communities. dBoost also managed to engage mainstream blockchain media outlets and communities to publish the ENF's most important news releases, reaching 323m users with 44.6m total views. Publishing accounted for 40 articles across multiple platforms covering 17.6m users with 3.9m views.

dBoost will continue to expand media resources in 2023 while building relationships with media outlets in Hong Kong, Macau and Taiwan and deepening existing media partnerships. Dedicated columns in influential media platforms, and continued growth across third-party platforms will continue to amplify the reach of EOS across the Asian markets.

The dBoost team provides critical coverage for the EOS Network across multiple Chinese language speaking regions, and remains a key partner to the EOS Network Foundation as we strive to engage with our valued partners in the East.

ENF Technical Developments



Project Health Reports - New in Q4

The Web3 industry has been built on the pillars of trust, transparency and accountability between projects, contributors and community members. With this in mind, the EOS Network Foundation aims to grow the EOS ecosystem by adhering to these values and ensuring that those in the EOS community are provided with regular information on all the work that's going on behind the scenes.

A key part of this strategy is the monthly Program & Operations Health Reports, which the ENF began circulating to the community in Q4. These provide high level insight into important initiatives across EOS including IBC, Hypha DAO, Market+ Dashboard, Wallet+ SDKs and more. Health scorecards detail the current status of various milestones, highlights & accomplishments, upcoming activities and more.

In Q4, one of the biggest milestones to be completed on this roadmap was the launch of

the [Yield+ Portal](#). Those interested in reading the full operations reports can find them on [the ENF Github](#).

Github Project Management

In keeping with the theme of transparency and openness, many of the ENF and Antelope core initiatives are tracked on a public GitHub repository. This serves as another avenue for community members to keep up with the ongoing developments. These are managed by the ENF's operations team and updated initiatives evolve.

The ENF repository can be [found here](#) and the Antelope repository can be [found here](#).

Below are some of the most notable boards for these initiatives:

- [Antelope Coalition](#)
- [ENF Core Antelope/Leap Development](#)
- [ENF Engineering](#)
- [Initiatives Backlog](#)
- [Developer Relations](#)

Documentation Portal

During Q4 the EOS developer documentation [underwent a massive overhaul](#) thanks to the hard working ENF developer relations team. [This portal](#) will play an important role in welcoming developers to come build on EOS and arming them with the knowledge they need to dive into smart contracts, get familiar with an array of community developer tools, and engage with a number of tutorials.

As the developer relations team continues to revamp the old Antelope documentation and create an ever more robust documentation portal it will act as a force multiplier for future waves of developers building on EOS.

The next steps for documentation will be to focus on aligning the docs more closely with EOS and removing any dynamic content lingering from before the launch release of [Antelope.io](#) as we go all-in on the community led Antelope framework.

Learn Hub

The [Learn Hub](#) is another key piece of the Developer Relations strategy that was launched during Q4. It features an array of introductory materials, videos and will continue to expand its offerings for those who are early on their journey into the fundamentals of EOS and Web3.

The intention of the Learn Hub is not only to serve as a place for the materials that the ENF is creating internally, but perhaps more importantly; a place for content creators in the general EOS ecosystem to have a singular platform to display their creations.

Additionally the platform [provides insight](#) into the various ways that contributors can begin earning income by building on EOS, such as [Pomelo](#) and the [ENF Grant Framework](#). The combination of learning materials and income generating opportunities create a framework to easily onboard builders into the ecosystem and enable them to contribute to the growth of EOS with as little friction as possible.

ENF Technical Developments

CDT 3.1.0

The Contract Development Toolkit (CDT) is a software toolset that helps developers create smart contracts using the C and C++ programming languages. These contracts can be compiled to WebAssembly (WASM) and deployed to the Antelope blockchain.

The latest release of the CDT includes a few key updates that will make contract development even more efficient and secure. One of the biggest changes is the addition of new crypto extensions, which are special functions that allow for the native use of advanced cryptographic techniques. These extensions include new types, such as G1 and G2 points, and a bigint type that developers can use for modular exponentiation.

The release has also optimized data segment partitioning. This improvement automatically repartitions data segments, with a maximum of 1024 bytes, and considers any spans of zeros that might be present. This repartitioning will help to make the contracts run more efficiently and reduce the amount of memory they consume.

Overall, the Contract Development Toolkit (CDT) is a powerful and flexible toolset that makes it easy for developers to create smart contracts that are secure, efficient, and easy to understand. The latest release will make it even more effective in creating smart contracts on Antelope blockchains. Additional notes on the release can be [found here](#).

Leap 3.2

In November, the Leap v3.2.0 upgrade was released and launched on the EOS mainnet. The v3.2.0 release of Antelope's Leap software includes a new unified command-line interface (CLI) tool called leap-util to support users like DApp owners or others operating Leap nodes for reasons other than block production. It also adds many new sub-commands to cleos, the command line tool for interacting with the Antelope blockchains, and various performance enhancements. A large portion of this release is a series of backported PRs from previous releases of EOSIO (now Antelope).

The new program `leap-util` is a unified tool for Leap node operators that captures all the functions that are not appropriate to include in the transaction listener daemon `nodeos`. It uses a command-line interface of hierarchical sub-commands familiar to users of `cleos`. The application includes all of the functionality provided by the `eosio-blocklog`. It will, over time, include additional functions like retrieving chainbase build environment information via the sub-command `chain-state`.

This release also includes enhancements to `cleos`. `v3.2.0` includes autocomplete support, which makes it easier for users to find the commands they need. Additionally, the update includes HTTP/1.1 support, which improves how `cleos` handles error codes and allows it to work more seamlessly with advanced cloud stacks. The update also features a new `cleos` sub-command to validate signatures which takes a signed transaction, validates the signatures on it, and outputs a JSON array of the recovered public keys. In addition, it allows a `cleos` user to specify an authority structure for the owner or active authorities when creating new accounts. It also adds new options to help with fetching chain data and compressing transactions.

This release includes several updates to the `http_plugin` and `eosio-blocklog` programs. It also adds benchmarking frameworks to help developers write benchmarks by reusing common measuring functions and unifying reports. It also incorporates several performance improvements to the system, including optional integrity hash logging upon start/stop, HTTP server improvements, stability and performance improvements to `state_history_plugin` (SHiP), and optimizations to transaction and block processing. The new Leap release also introduces multi-threaded support for calculating Merkle roots in a thread pool, block packing for the `blocks.log`, and `get_accounts_by_authorizers`.

Leap `v3.2.0` includes several other changes, like using the “3-strike rule” for speculative blocks, which previously only applied to produced blocks. This rule intends to reduce excessive CPU usage by limiting the number of failed transactions on speculative blocks. Additionally, this version uses `cleos` flags differently, introducing a new dry-run option and deprecating the read-only option. This release also includes new logging enhancements, which provide more detailed information about block production and transaction processing.

Leap `v3.2.0` is a release that treks the path to making Antelope a more accessible and

useful protocol. The full release notes can be [found on the Antelope GitHub](#). Through its performance improvements and new features, it is preparing the protocol for future advancements in accessibility and scaling. In particular, the new leap-util tool helps DApp operators or other users running nodes join an Antelope network.

In Q4, the ENF hosted and published 10 weekly calls with block producers and infrastructure providers [in partnership with EOS Nation](#) to keep the community informed of all upcoming technical developments for Leap and the rest of the Antelope tech stack.

OCI Partnership

[OCI is a key partner to the ENF](#), and a global technology consultancy with multiple blockchain developers deeply familiar with the EOS codebase. With partners such as Google, Intel, and AWS, and with over 27 years of industry experience, OCI serves many globally recognized businesses including NASA, Rio Tinto, Bayer, and Motorola.

Over the past quarter, OCI has been working hand in hand with ENF engineers to address numerous bug fixes, upgrades and other projects that fall under the Leap 3.1, 3.2, and 4.0 environments.

Additionally, the OCI team has provided additional support on:

- TrustEVM support
- SHiP Log Splitting
- Block Log Splitting
- Prometheus Plug-in for logging

Perhaps most notably, OCI has been leading development of the Performance Test Harness to evaluate the performance of the Leap C++ implementation, and working on a GoLang library migration for BN256 host function in support of EOS EVM.

The ENF continues its partnership with OCI, working in parallel to accelerate the development of the community-run Antelope protocol and further strengthen the position of the EOS Network within Web3.

Antelope Coalition Developments



In the early half of 2022, the ENF led an unprecedented show of cross-network collaboration when it established an EOSIO+ working group to help fund, organize, and prioritize the future of the software. After months of planning and deliberation, this working group evolved into the Antelope Coalition with EOS, Telos, WAX, and UX Network as its core representatives.

On April 8, the [coalition made a public commitment](#) to invest \$8m in annual funding towards the advancement and continual development of the Antelope protocol. The coalition's shared treasury provides significant cost savings to the EOS Network because it shares costs across multiple chains and taps into a much wider talent pool than within EOS. The Antelope protocol unites the coalition. The synergies and mutually beneficial development between chains will supercharge these blockchains into the future.

Web Client SDKs: Introducing WharfKit

The Antelope Web Client SDK RFP was awarded to Greymass in Q3. It will help developers create applications, services, and tools that integrate with Antelope. The project will create a complete framework to build web applications that utilize Antelope-based blockchains.

The suite of SDKs and tools within this framework will give applications access to native Antelope data types, API access to read and write data, authentication with external users through their wallets, and the flexibility to adapt to the custom needs of each network and application.

In Q4, after work on audience research, the Greymass team [introduced the official branding for the Web Client SDK: WharfKit](#). In addition to sticking with the nautical theme of Greymass' Anchor Wallet, this new name eloquently captures the goals of this initiative, including serving as a solid platform for developers, bridging the gap between Web2 & Web3, as well as having competitive SEO potential.

Greymass also launched the [WharfKit website](#), which serves as a homebase for this important piece of infrastructure. In Q4, the Greymass team began releasing weekly meetings here, providing the EOS community with valuable insight into the progress going on behind the scenes.

More details on the vision that Greymass has for WharfKit can be found in the ENF's [recent interview with Aaron Cox of Greymass](#).

Instant Finality

In Q3, Orgin agreed to a 24-month, milestone-based release schedule to bring Instant Finality to Antelope chains. Improving Instant Finality, would make EOS the fastest blockchain with the lowest time to finality. This serves as a prerequisite for improved horizontal scalability of transactional throughput via parallelization.

Throughout Q4, the Orgin team made steady progress on Instant Finality. Following a review and analysis of Fast, Diem, and HotStuff consensus mechanisms, the team completed the final version of mathematical proofs and submitted them for review. Private testnet deployment is expected to take place during Q1 of 2023.

Inter-blockchain Communication

Also part of the 24-month Orogen contract is an effort to bring inter-blockchain communication (IBC) to the Antelope ecosystem. IBC is a major technical leap forward for Antelope chains, allowing for any action taking place on an Antelope blockchain (chain A) to be cryptographically provable to another Antelope blockchain (chain B).

This feature aims to facilitate a multitude of use-cases, such as trustless sidechains, wrapped tokens, distributed governance, interchain resource models, application-specific chains, specialized CPU mining chains, and so on.

IBC has been progressing through Q4, with the team completing proof API server v1 in October and deployment of the eosio.ibc to the UX public testnet in November. The Milestone #1 audit has also been completed, an external audit has commenced in advance of Milestone #3 and Milestone #4 (Firehose + proof API server bundle) has been completed with the deliverable approved.

So far, the testnet version of IBC has been successful and it is expected to be launched across Antelope coalition blockchains in January 2023.

RAM Limitations RFP

In November an [RFP was pushed forward by the Antelope Coalition](#) to address current RAM limitations with some Antelope powered blockchains. Currently, hardware to successfully operate nodes on these networks has become cost prohibitive and is at risk of future growth, pushing to an even higher tier of hardware requirements.

As a starting point to address these issues, research is required to assess some of the best opportunities to slow down the growth of physical RAM consumption per transaction and optimize or refactor existing solutions to better manage this resource. The outputs of this research will be used to author one or more additional Requests for Proposal to deliver these solutions along with possibility of some opportunities being managed by the ENF internal development team.

Bids have been submitted by several parties and are pending review by the Antelope Coalition. A decision will be made within Q1, after the coalition completes a new annual budget exercise to account for the suppressed prices in crypto.

P2P Peer Discovery RFP

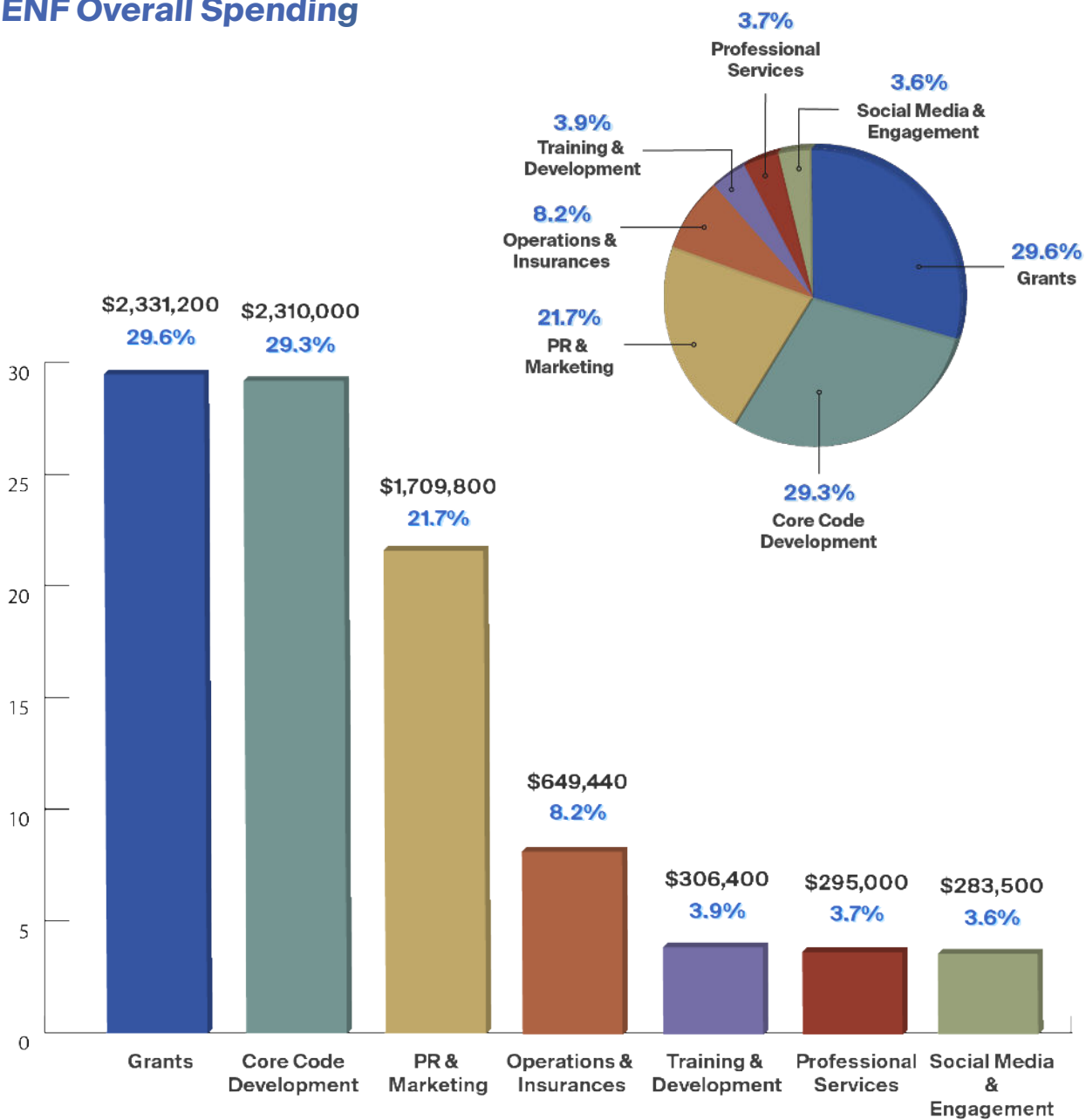
Also in November, the Antelope Coalition [pushed forward an RFP](#) to solicit proposals from qualified sources, in order to establish contract(s) that will provide to implement improvements to peer node discovery and synchronization processes within the peer-to-peer (P2P) protocol of the nodeos service.

A primary objective of the Antelope Coalition is to improve user activation, which includes the process of spinning up a node and getting it in sync with the network as a casual user, app developer, API provider, block producer, or exchange. This initiative will play a major role in achieving that objective and improving the user experience for node operators.

Bids have been submitted by several parties and are pending review by the Antelope Coalition. A decision will be made within Q1, after the coalition completes a new annual budget exercise to account for current market conditions.

ENF Operations and Financial Overview

ENF Overall Spending



Q4 2022 Total Spending

\$7,885,340

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The Future of Blockchain



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**EOS Network
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