

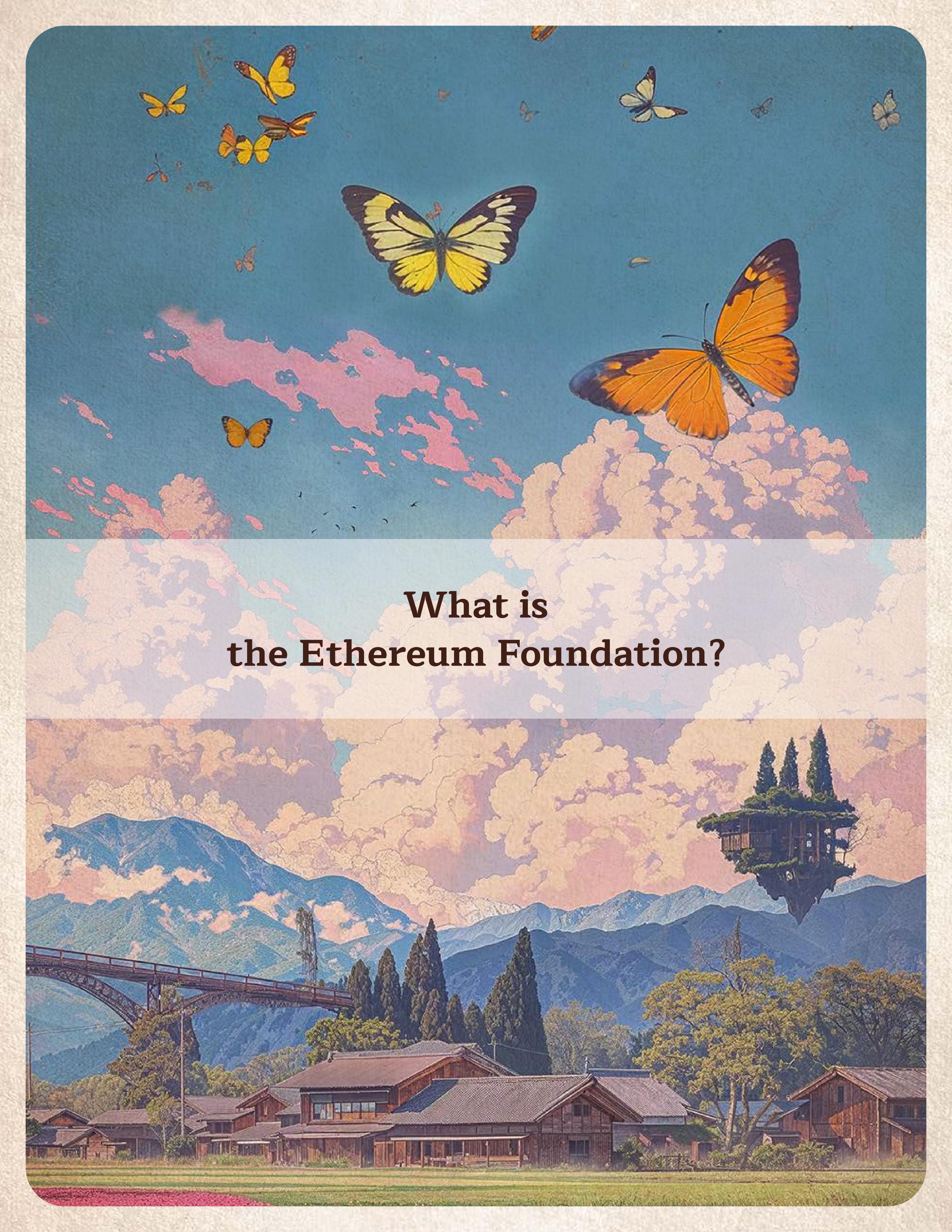
ethereum foundation report

2024 Edition

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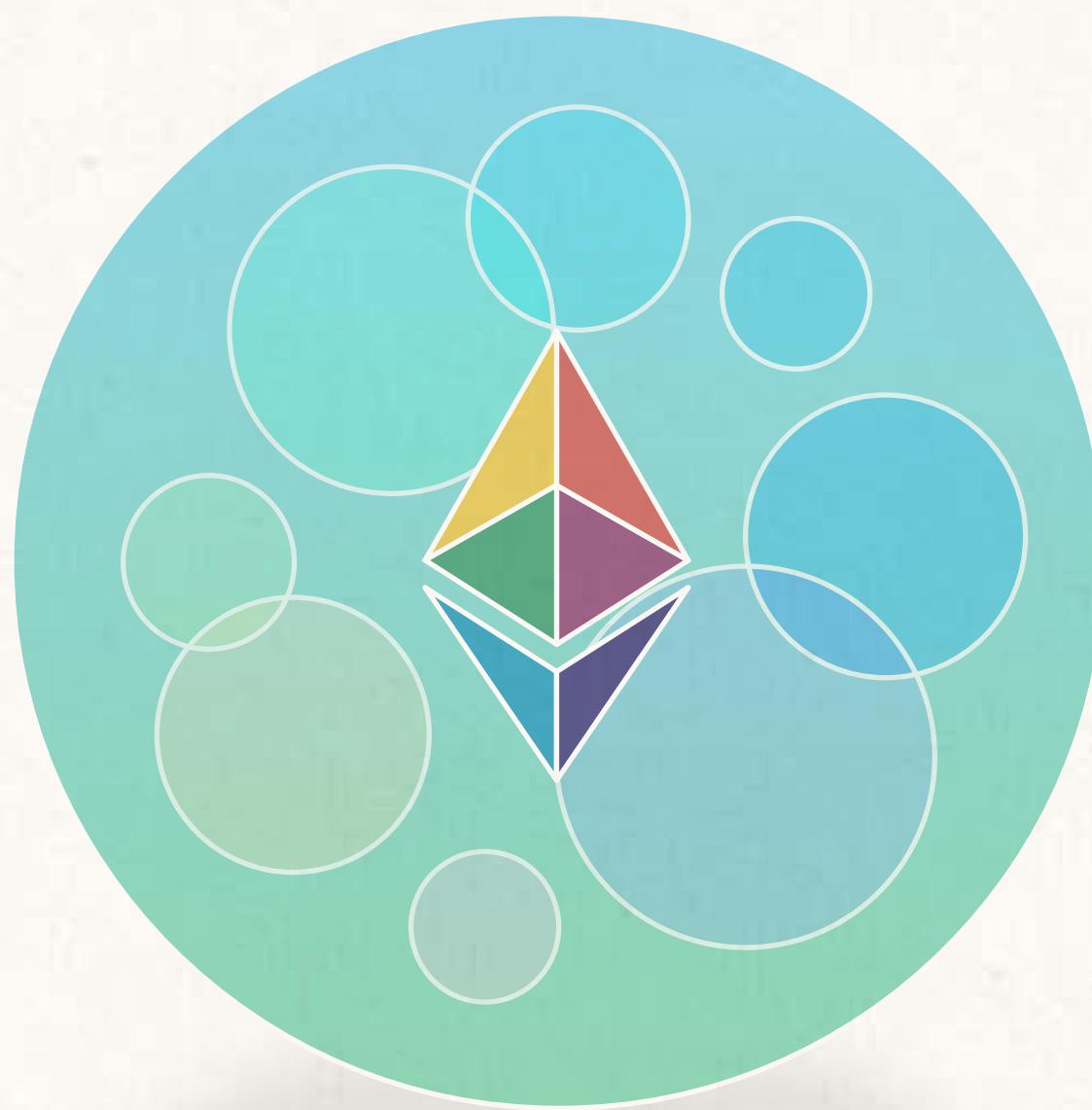
A collage of images featuring butterflies, traditional Japanese architecture, and a floating house.

What is the Ethereum Foundation?

What is the Ethereum Foundation?

The Ethereum Foundation (EF) is a non-profit that supports the Ethereum ecosystem. We are part of a larger community of organizations, individuals, and companies that fund protocol development, grow the community, and advocate for Ethereum.

We are at the frontier of a new kind of organization: one that supports a blockchain ecosystem without controlling it. What that means is a work in progress. Every day we learn more about what kind of organization the EF needs to be to support Ethereum's long term growth.



The EF itself is organized into many individual teams. We believe that small autonomous teams of people are the most effective structure for getting things done. New teams grow organically in response to new needs from the ecosystem, often by forking an existing team.

EF teams contribute to many different parts of the Ethereum ecosystem. Some teams build software or explore the frontiers of Ethereum's roadmap. Some teams help seed ecosystems of developers and users around the world. Others help educate and inform the world about Ethereum's utility and potential.

See page 23 for a list of current EF teams.

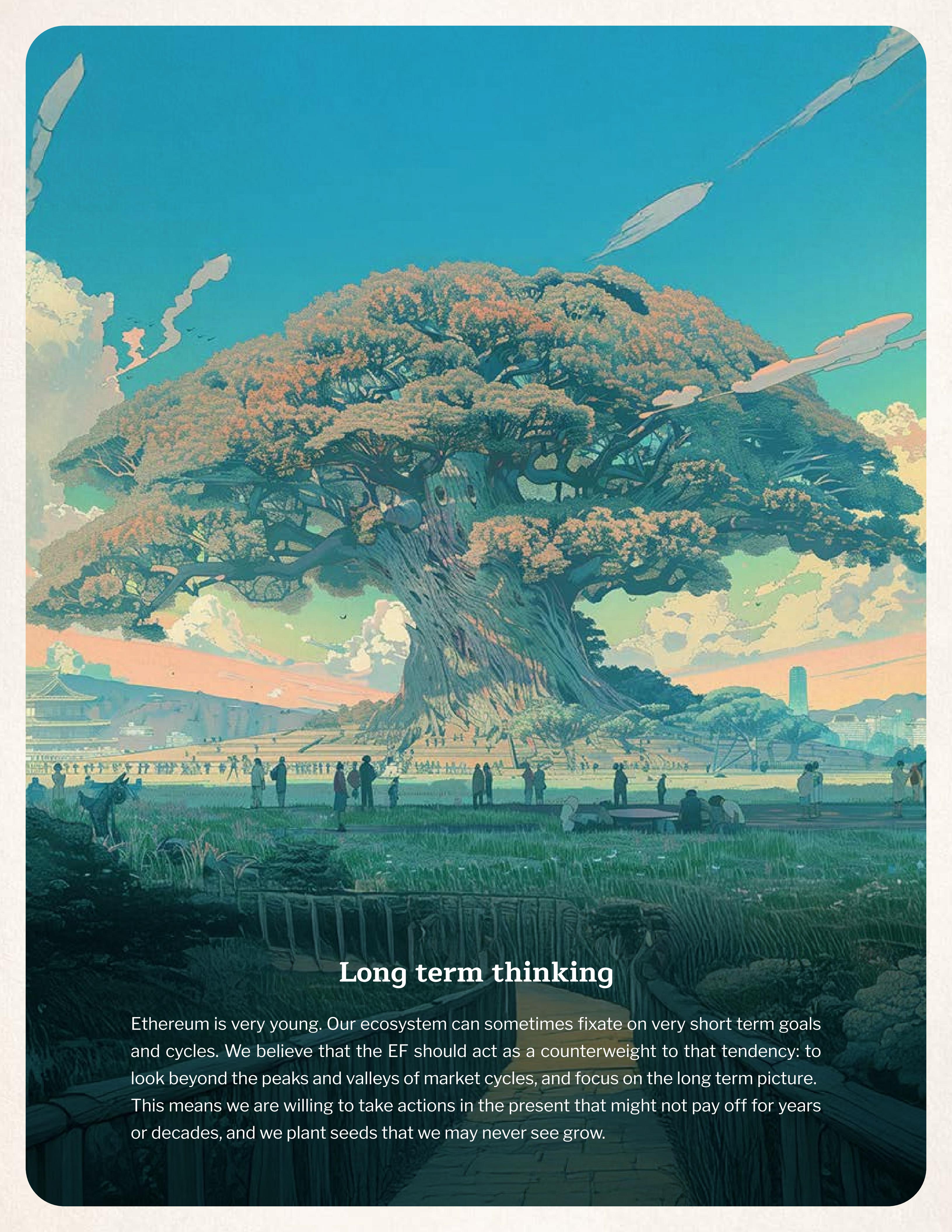
Core Values



Over the last 10 years, the EF has navigated the ups and downs of Ethereum's short history.

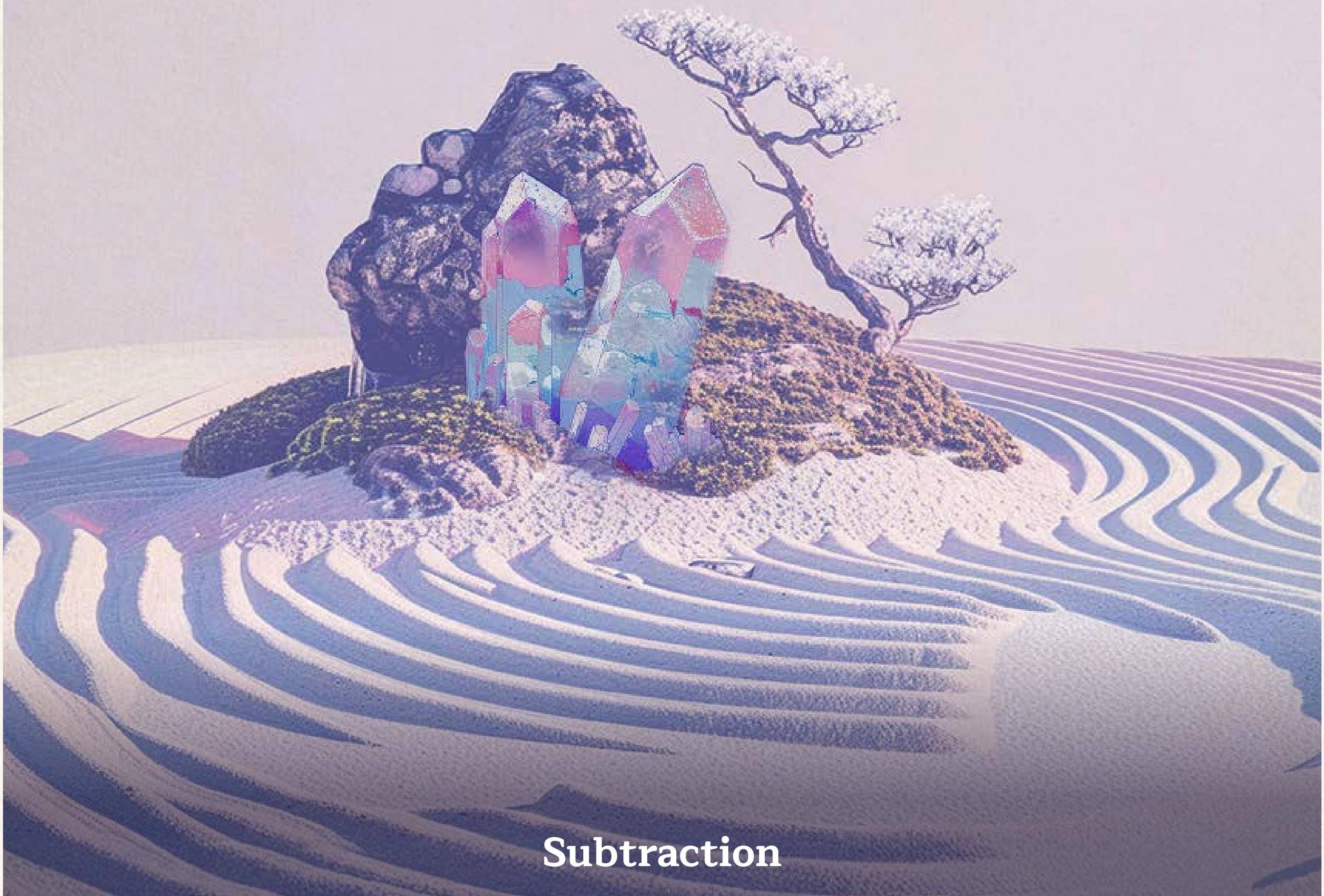
This experience has taught us many lessons. Over time, three big ideas emerged which have helped guide the EF and inform our decisions.

These are our three core values: long term thinking, subtraction, and stewardship of values.



Long term thinking

Ethereum is very young. Our ecosystem can sometimes fixate on very short term goals and cycles. We believe that the EF should act as a counterweight to that tendency: to look beyond the peaks and valleys of market cycles, and focus on the long term picture. This means we are willing to take actions in the present that might not pay off for years or decades, and we plant seeds that we may never see grow.



Subtraction

Subtraction means that we aren't trying to accumulate power and prestige. Our success is measured by what the Ethereum ecosystem achieves, and not what the EF achieves. We are happy to give others the credit, to support independent organizations, and to work quietly in the background.

Subtraction stems from an observation: that organizations—including non-profits—naturally desire to accumulate power. But an organization that supports a decentralized blockchain like Ethereum must not give in to this tendency. To resist that default path, we need to actively work against it.

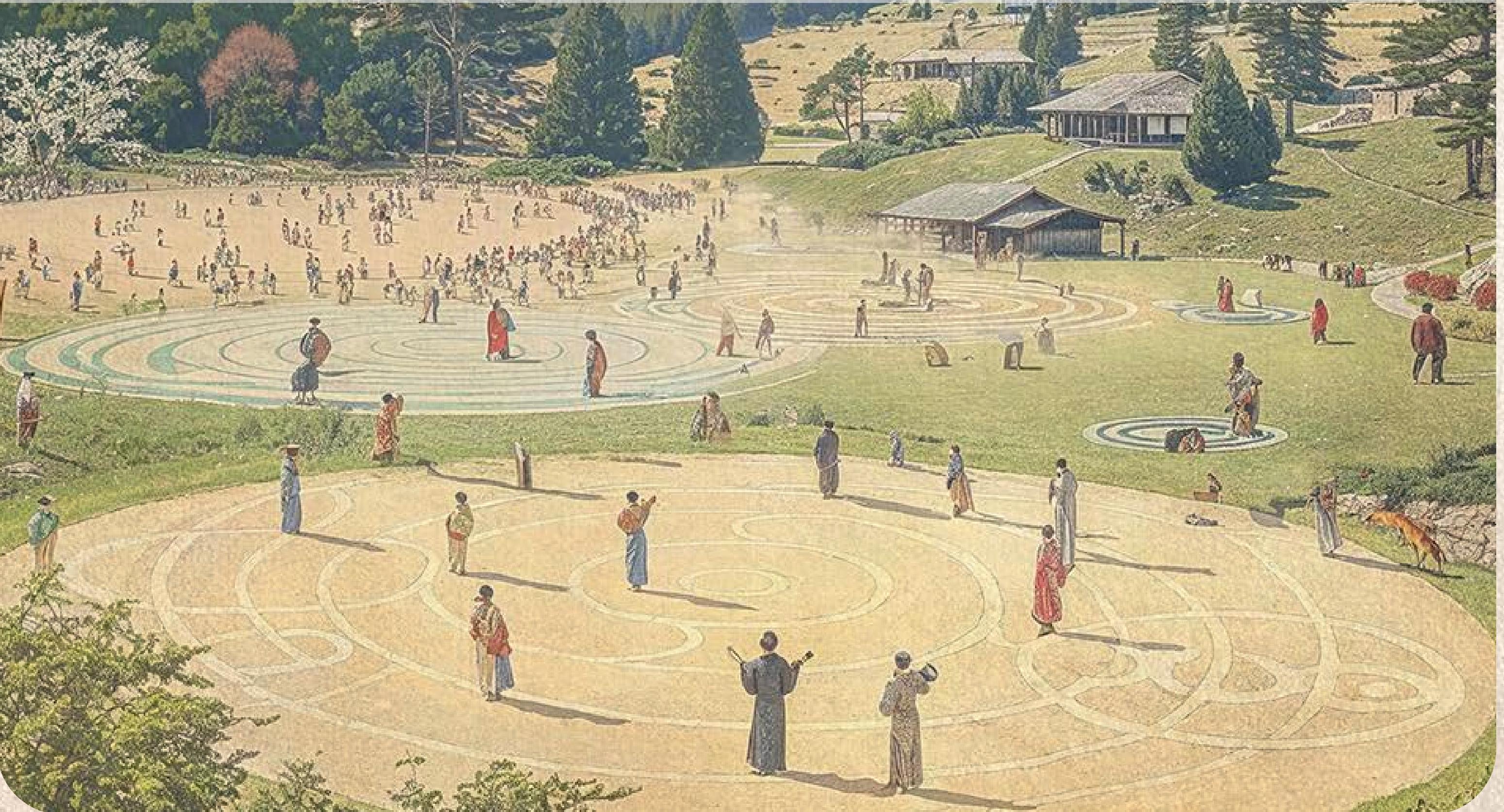
A close-up photograph of a person's hands cupping a cluster of large, clear, faceted crystals. The hands are positioned in the center of the frame, with the fingers gently cradling the crystals. The background is a soft-focus landscape featuring rolling hills or fields under a sky with a mix of green and yellow hues, suggesting either sunrise or sunset. The overall composition is organic and emphasizes the natural beauty of the crystals.

Stewardship of values

Ethereum is more than a technology. It is a community bound by a common set of values, with a vision for how those values can improve the world. The Ethereum ecosystem stands on the shoulders of a long history of open source and cypherpunk communities who paved the way before us.

Supporting Ethereum as a technology requires nurturing and defending those values.

EF Activities and Spending



Ethereum Foundation Teams

The EF contains many teams that contribute to the Ethereum ecosystem, across a wide range of domains. Some teams contribute to important Ethereum infrastructure, while others research and steward the Ethereum roadmap, or help coordinate the ecosystem. See page 23 for a list of current EF teams.

Example team:

Robust Incentives Group (RIG)

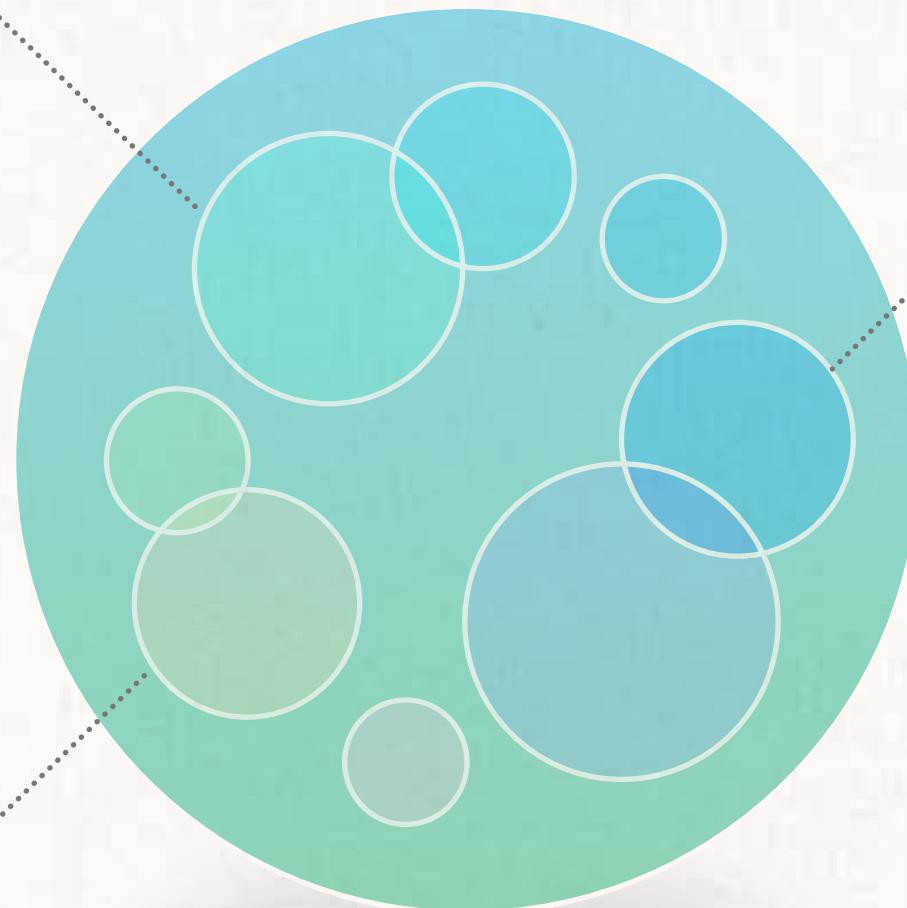
Dedicated to the study of mechanism design and cryptoeconomics for Ethereum. RIG's work maps all the ways that incentives directly or indirectly affect users and protocol stakeholders of Ethereum. Where possible, RIG proposes mechanisms to recover incentive compatibility and system optimality.

[RIG homepage](#)

Example team:

Protocol Support

The Protocol Support team ensures Ethereum has the right people, processes and perspectives to support its long term maintenance. In practice, the team helps facilitate network upgrades ([AllCoreDevs](#), [EL specs](#)), attract and retain protocol contributors ([Ethereum Protocol Fellowship](#)), and takes on various other projects related to the sustainable evolution of Ethereum.



Example team:

Devcon

Hosts and supports events like Devcon to foster collaboration, education, and promote Ethereum's values and mission. As the community has grown, the team has expanded its reach with projects like the community-driven gathering Devconnect, support for non-EF events worldwide, and regional initiatives like the Road to Devcon Grants Program, amplifying Ethereum's global impact.

[Devcon website](#) / [Devconnect website](#)

Ethereum Foundation Grants

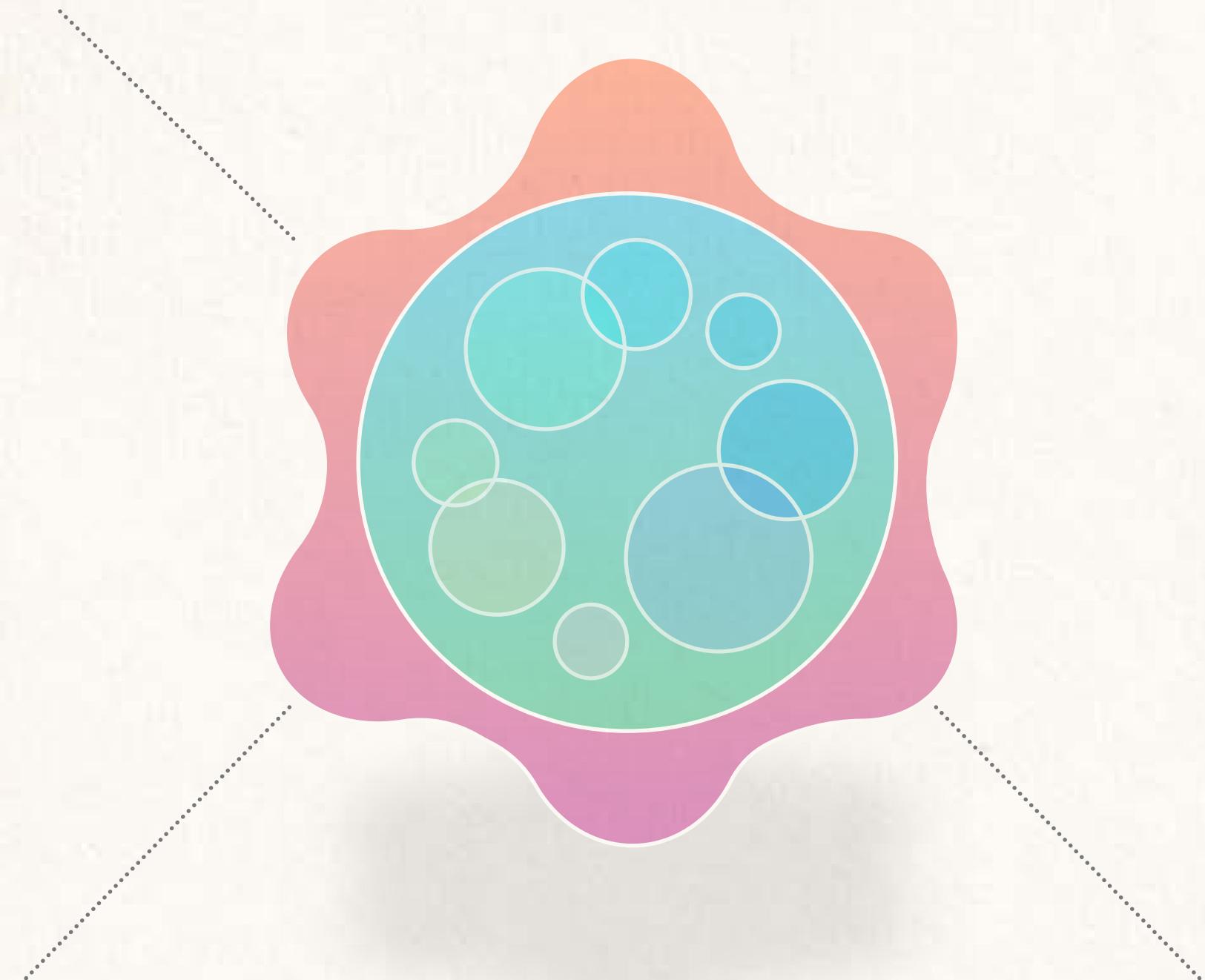
The EF supports important work across the ecosystem through grants. Grants come in many sizes and forms, and many EF teams have a role in approving and evaluating grants. Grant activity is reported regularly by the [Ecosystem Support Program \(ESP\)](#).

Example grant:

wtf.academy

WTF Academy produces free, open-source, concise, and community reviewed tutorials of web3 development tools, including Solidity, Ethers, and more, with a focus on Chinese language content. ESP's grant helped them expand their curriculum, as well as translate more content into English.

\$30K grant awarded in November '22.



Example grant:

Security Alliance

The Security Alliance works to make a safer ecosystem. They do this through projects like SEAL 911, the Whitehat Safe Harbor Agreement, their security frameworks, and SEAL Wargames. Their efforts have helped projects and users through proactive security measures, reactive incident handling, and assisted in preventing loss of funds.

\$130K awarded in '22 - '23.

Example grant:

Road to Devcon University Roadshow

Events at five universities across Thailand, with the goal of exposing students to the Ethereum ecosystem, educating them about Ethereum, and connecting them to career opportunities.

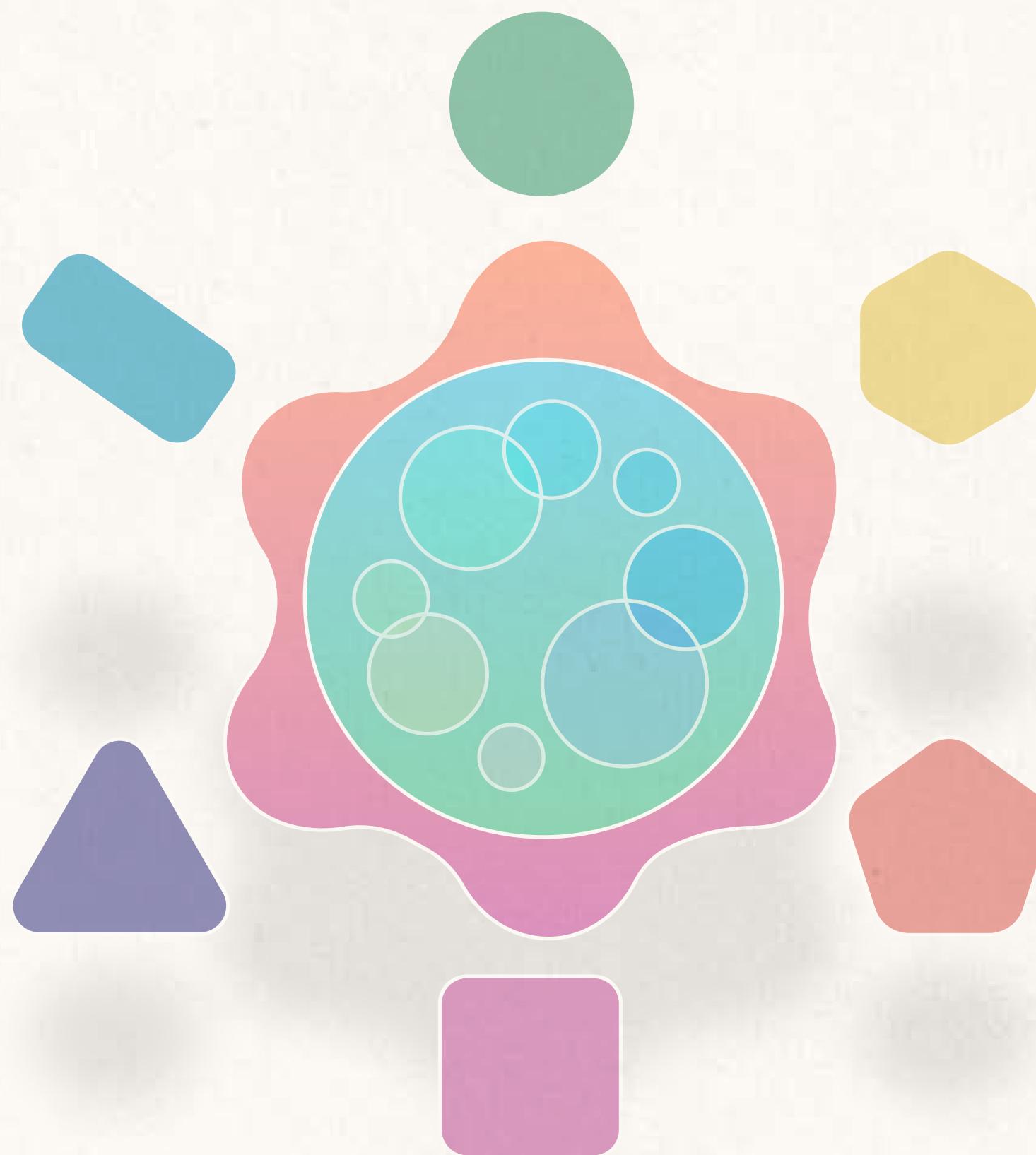
\$10K awarded in April '24.

* All dollar figures in this report are USD.

Growing Ethereum's Ecosystem of Institutions

Ethereum is a large global project. There is an extraordinary range and variety of work that contributes to the Ethereum ecosystem, across every layer of the stack and in every region of the world.

Many individuals and organizations contribute to that work today. But there is still so much more to be done, especially in supporting and maintaining public goods. Relying on one or a few organizations to do the majority of this work would be a risk to the ecosystem.



This diagnosis led the EF to prioritize efforts to grow many independent organizations that can step up and support the ecosystem. Institutions that can share responsibility for Ethereum's health, maintenance, and growth.

Over the last two years the EF has worked to nurture and support many new organizations who are now driving the Ethereum ecosystem forward like Argot Collective, Geodework, L2BEAT, Nomic Foundation, and 0xPARC. We are very proud to work alongside them.

Argot Collective

The Argot Collective is a newly formed non-profit, democratically organized group dedicated to maintaining free and independent software for Ethereum. Composed of ~25 former Ethereum Foundation team members, including compiler engineers, programming language theorists and verification experts, Argot focuses on core infrastructure development without commercial pressures. Their mission emphasizes long term sustainability, and transparency, opposing profit-driven motives. Argot is the new home for current in-house Ethereum Foundation teams Solidity, Fe, Formal Verification and Sourcify. While Argot expects to both retire and launch new projects in the future, they are fully committed to the long term maintenance and development of Solidity for as long as it is considered useful by the community (Argot.org).

Geodework

Geodework is a public benefit organization dedicated to Ethereum ecosystem development and building a better internet. Its core focus is pursuing the geographic decentralization of Ethereum, which means building community and educational infrastructure and supporting local innovators and leaders across the globe. In practice, Geodework facilitates grant giving, creates ecosystem tools, products and services, and executes on a range of projects geared towards strengthening the community layer of Ethereum. Geodework is currently under development within the EF and will share more information in early 2025.

L2BEAT

L2BEAT provides analytics, research, and tooling relating to Ethereum layer 2 scaling projects. It was created to provide transparent and verifiable insights into emerging layer two technologies aimed at scaling Ethereum, and to monitor different L2 technologies with the primary focus on the security of user funds. L2BEAT tracks the progress of projects that are credibly committed to becoming trust-minimized L2s. Their goal is to provide the community with the most up-to-date information about the state of these projects and to provide insights and guidance for them to become fully trust-minimized (L2BEAT.com).

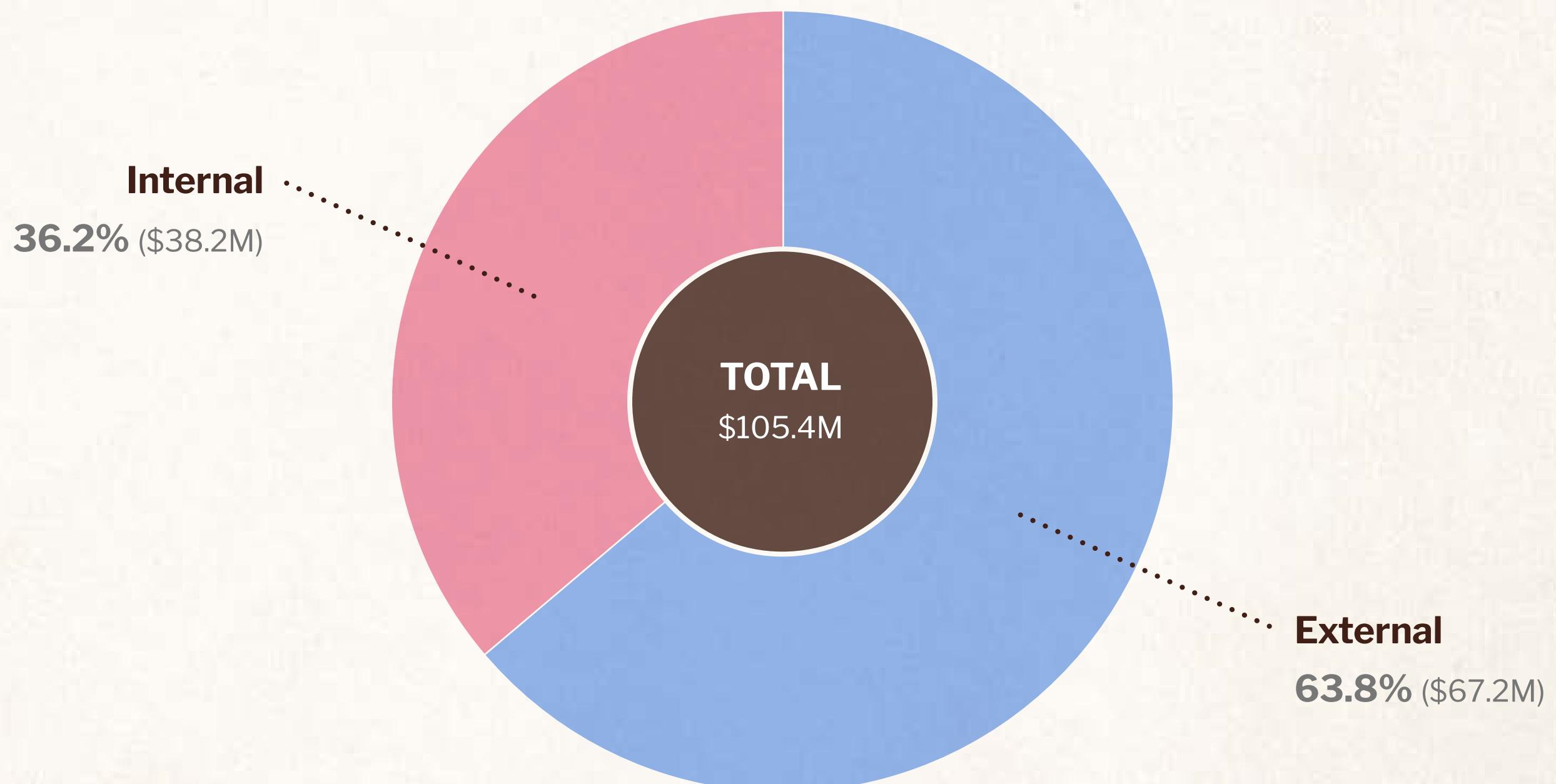
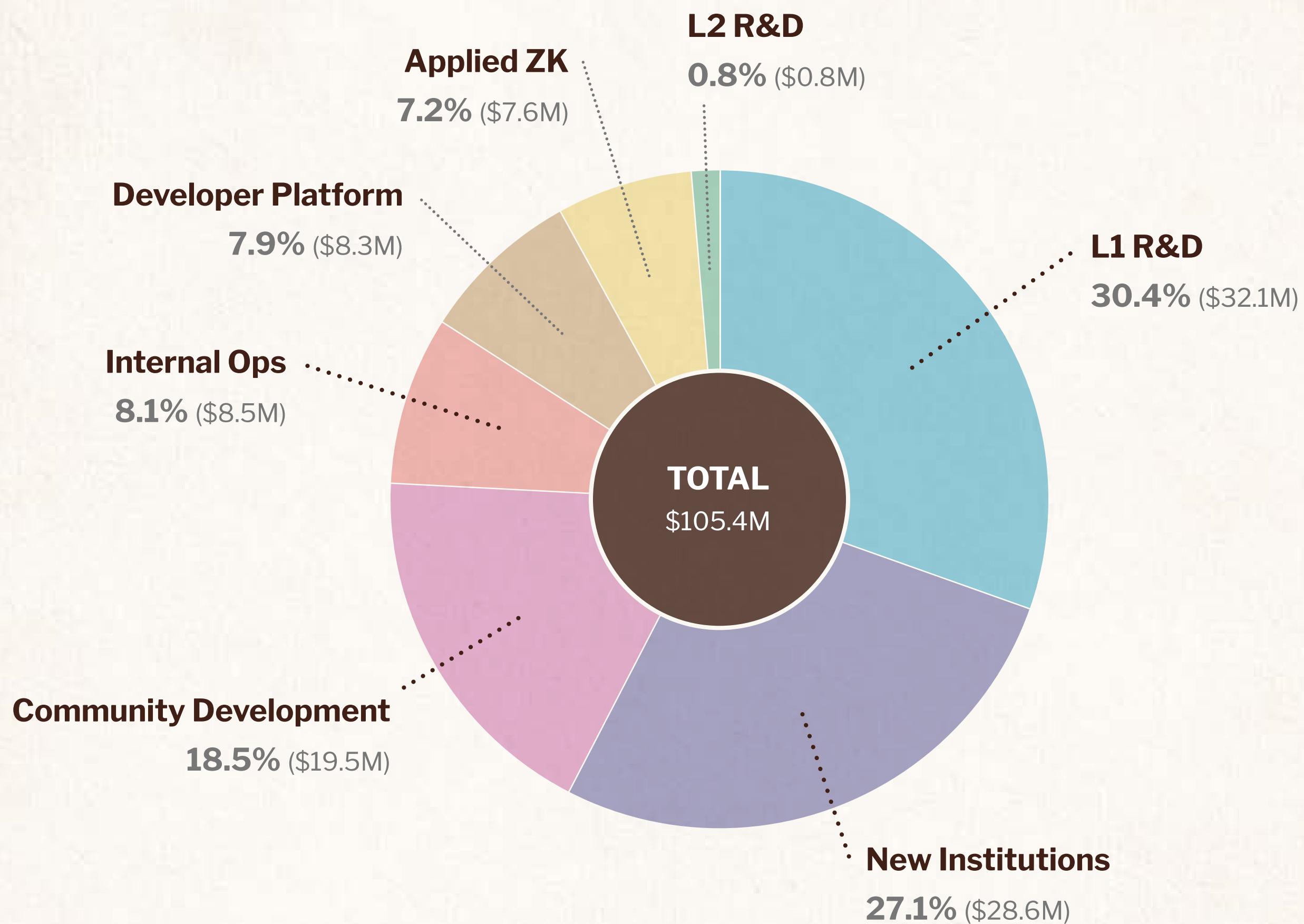
Nomic Foundation

The Nomic Foundation is an early-stage non-profit providing open source engineering software which advances the Ethereum ecosystem. Their ultimate goal is to ensure that Ethereum continues to deliver a top-quality, reliable developer experience and by doing so, help Ethereum and the broader decentralized movement achieve their full potential and create a world where increased autonomy and choice are available to millions of people (nomic.foundation).

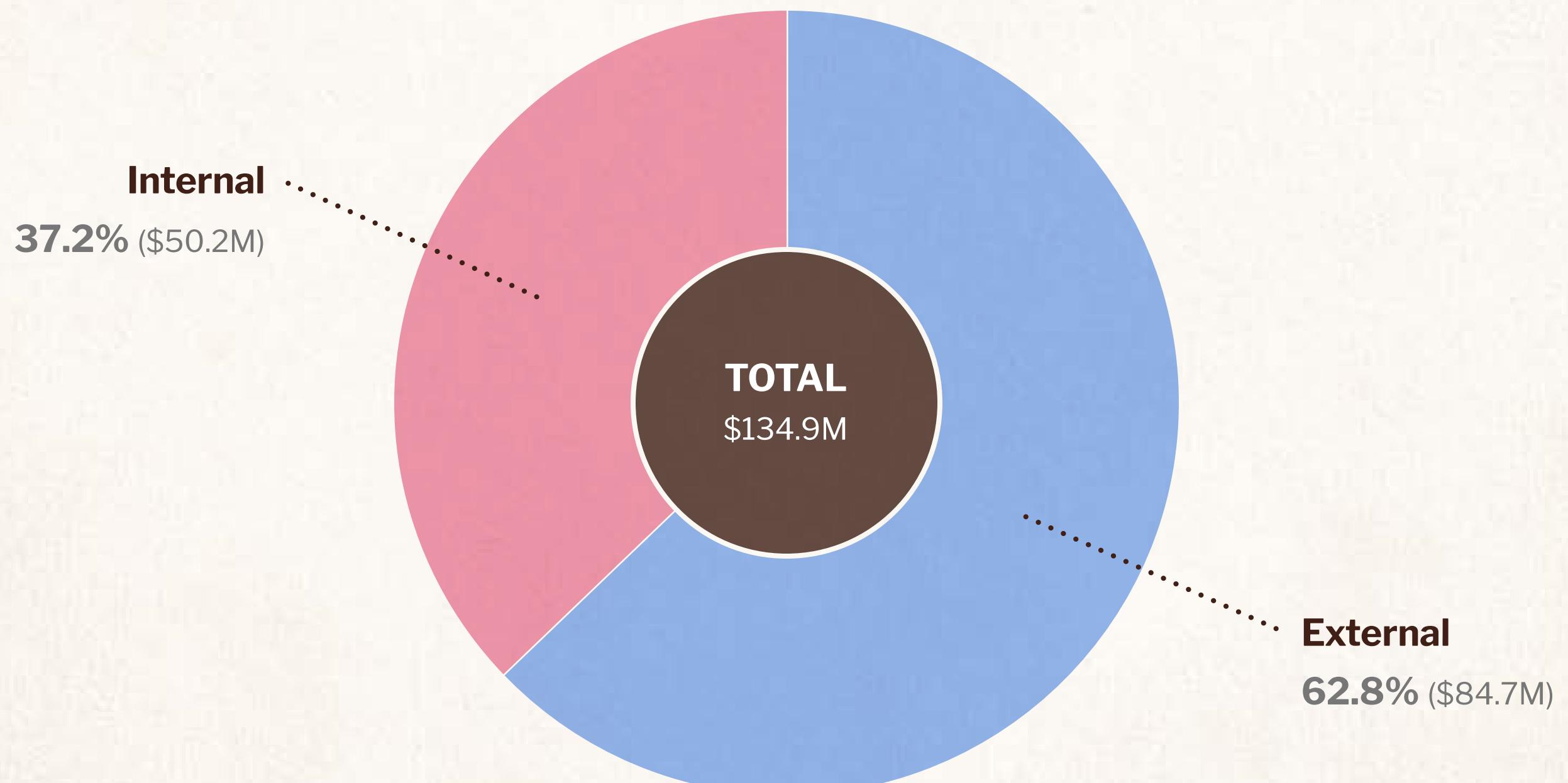
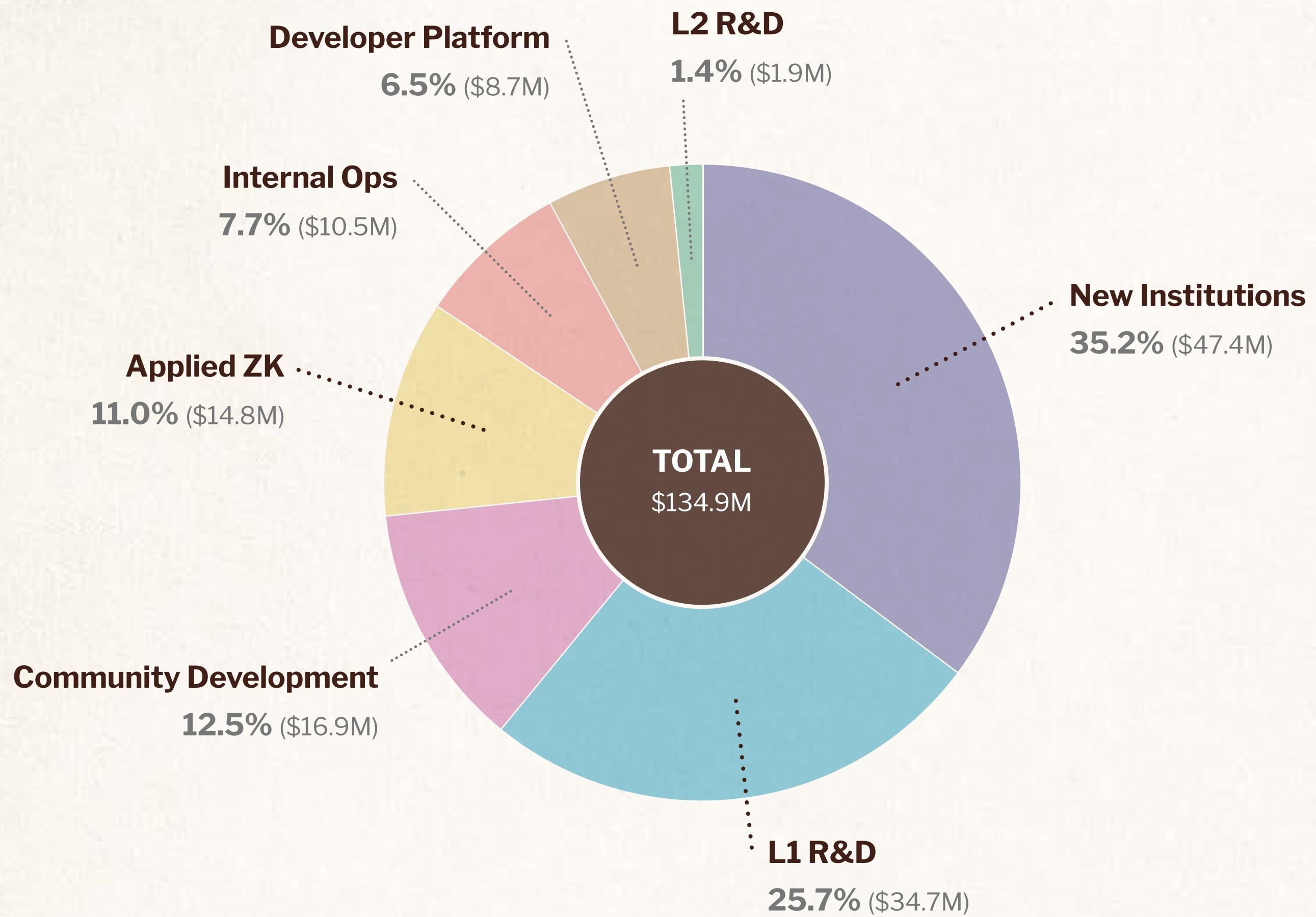
OxPARC

OxPARC accelerates the development and deployment of programmable cryptography. They operate, fund, and support teams working across the full stack. This includes research into zero-knowledge cryptography, multi-party computation, homomorphic encryption, program obfuscation, as well as deployment of these technologies into user applications like autonomous worlds, identity systems, and more (Oxparc.org).

EF Spending 2022



EF Spending 2023



Spending Category Descriptions

L1 R&D

This category includes all R&D related to mainnet upgrades, Geth, internal security research, cryptography R&D, economic modeling and mechanism design, longer term research to achieve the Ethereum community roadmap, and grants to external execution & consensus layer clients. This category also includes many other grants to external parties, ranging from network stress testing to outside research on specialized cryptography.

L2 R&D

This includes internal teams who contribute to L2 research & development, as well as grants to external parties to improve the L2 ecosystem. These grants include educational resources, block explorers, developer tooling, security reviews for external projects, and more.

Applied ZK R&D

This includes funding for Privacy & Scaling Exploration teams ([pse.dev](#)) who work on projects like MACI, Anon Aadhaar, TLS Notary and more. This category also includes many grants, ranging from ZK developer tooling, ZK ceremony design UX, and ZK application proof of concepts.

Developer platform

This category includes all work related to improving Ethereum as a developer platform. This includes projects like Solidity, Remix, developer libraries like Ethers.js and Web3.js, and support for the Python ecosystem.

Community Development

This category includes various work to support different segments of the Ethereum community. This ranges from engaging with core protocol communities (e.g. support for the staking community), Team Next Billion, Devcon and Devconnect, as well as Ethereum.org and other educational resources. It also includes many grants to local and regional Ethereum communities and events around the world.

Internal Operations

This category includes general expenses that support all teams at the EF. This includes all costs related to internal and external legal, accounting, and financial services, and org-wide subscriptions and service providers, ranging from data services, operational tools, and technical infrastructure. It also includes all fees related to individual investments within our treasury management strategy, as well as salaries of all operational and administrative staff.

New Institutions

This category includes grants to help new institutions dedicated to supporting the Ethereum ecosystem. In 2022 and 2023, it includes grants to organizations like the Nomic Foundation, OxPARC, L2BEAT, and others.

Ethereum Foundation Treasury

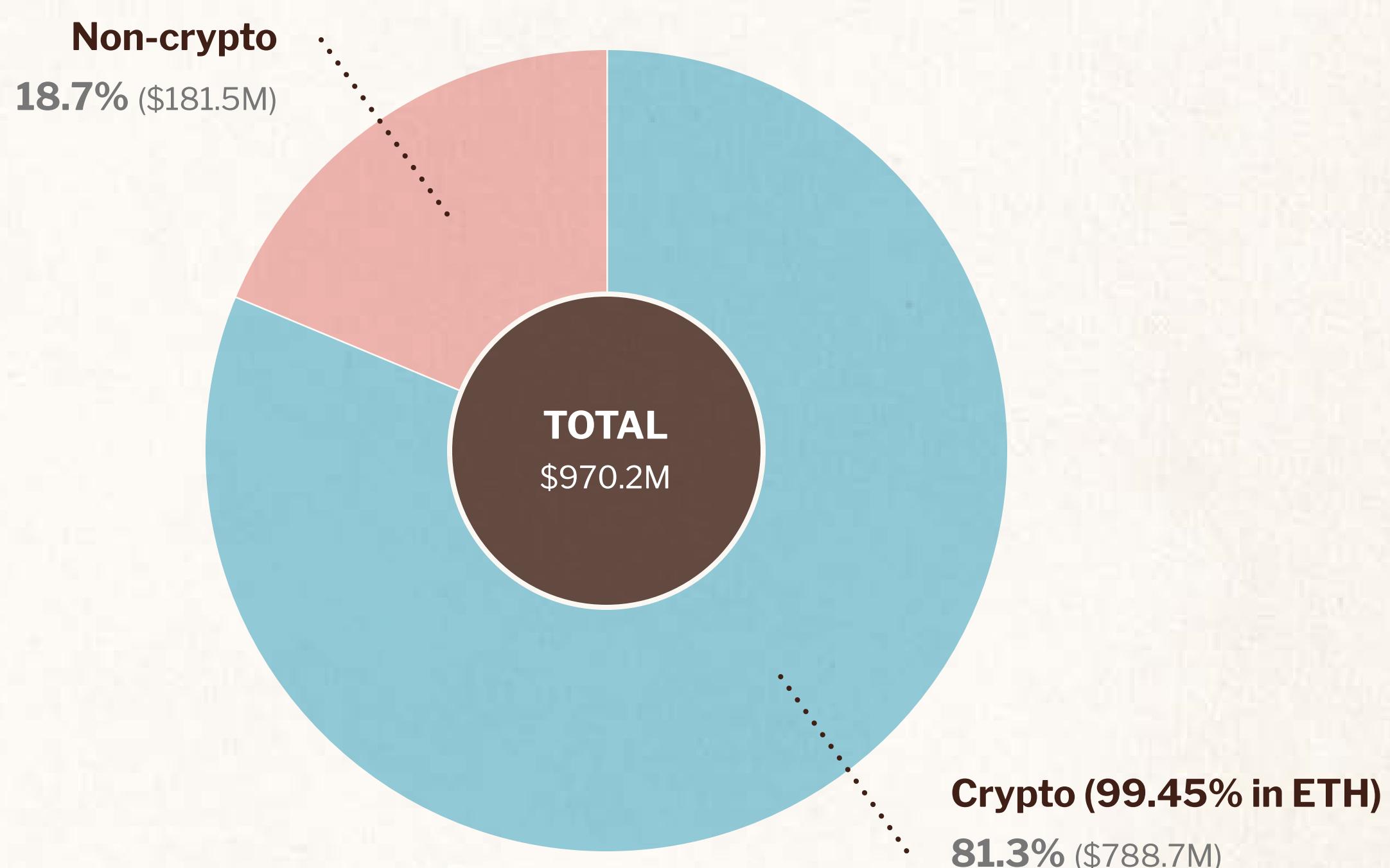
As of October 31 2024, the EF's treasury is approximately \$970.2 million split between \$788.7 million in crypto*, and \$181.5 million in non-crypto investments and assets.

The vast majority (99.45%) of our crypto holdings are held in ETH. This ETH represents 0.26% of the total ETH supply on October 31 2024.

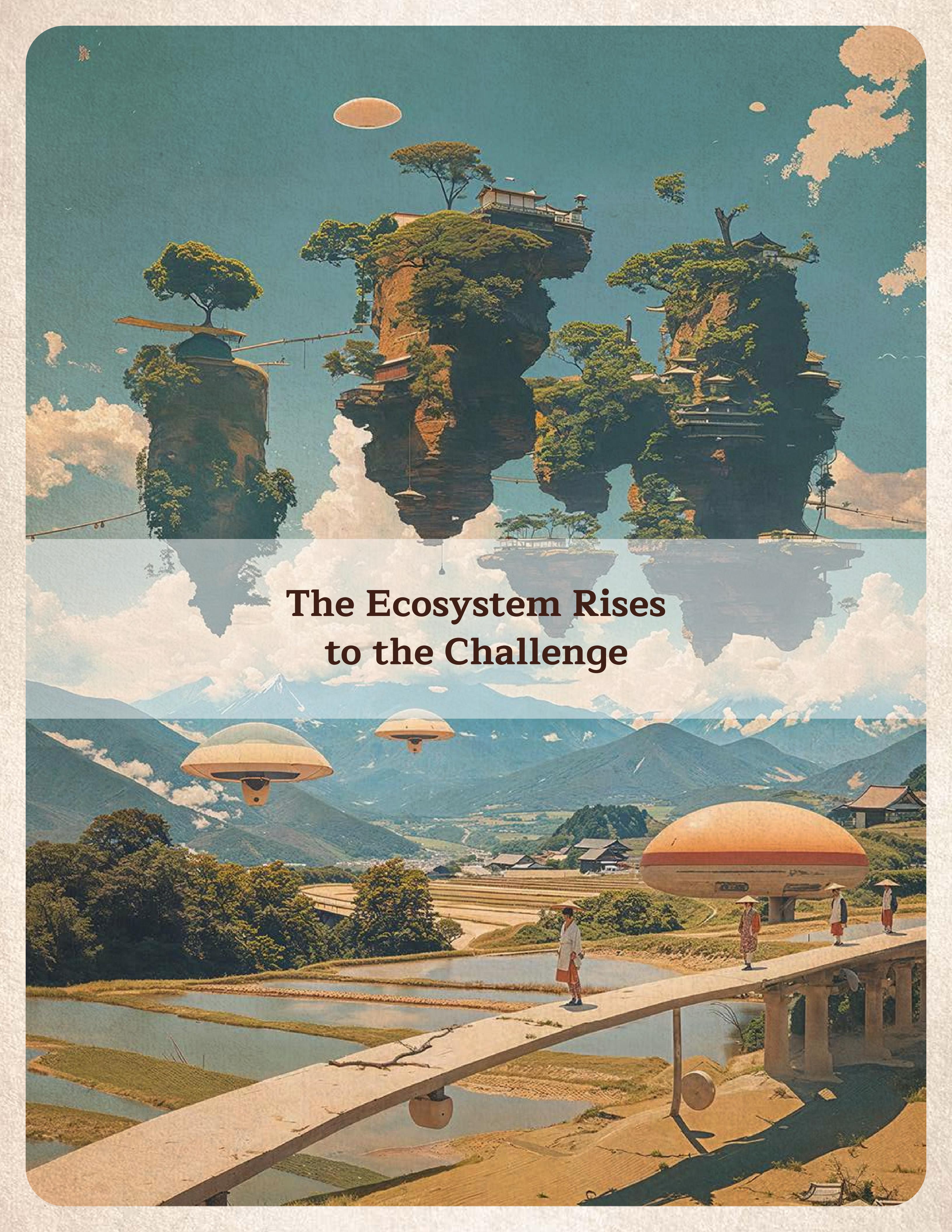
We choose to hold the majority of our treasury in ETH. The EF believes in Ethereum's potential, and our ETH holdings represent that long term perspective.

At the same time, the goal of the EF's treasury is to fund important public goods for the Ethereum ecosystem for years into the future.

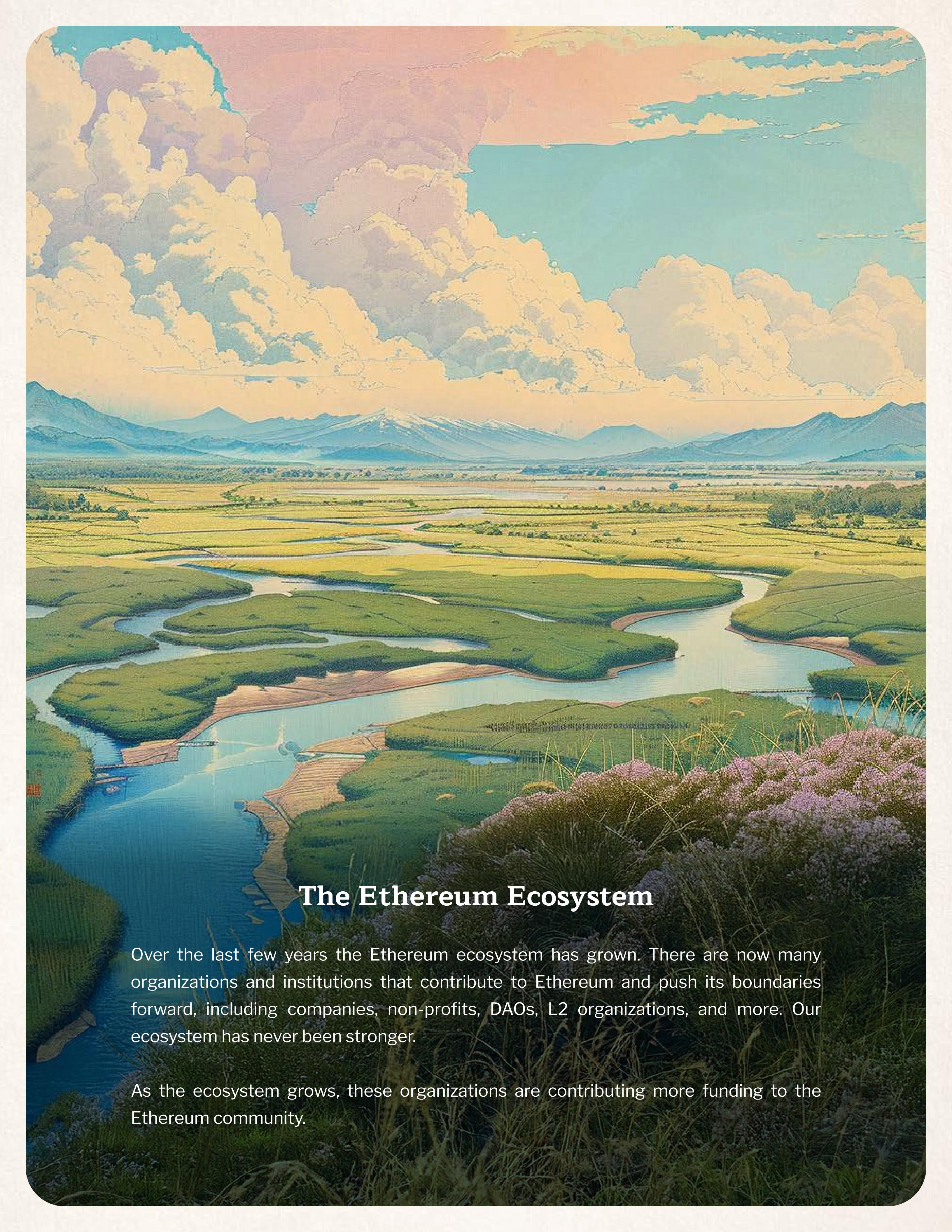
To achieve this goal we must follow a conservative treasury management policy that ensures we have sufficient resources even in the case of a multi-year market downturn. This requires periodically selling ETH to ensure sufficient savings for future years, and programmatically increasing our fiat savings in bull markets to fund spending in bear markets.



* These ETH figures include the remaining 26,701 ETH already committed to the Client Incentive Program.



The Ecosystem Rises
to the Challenge

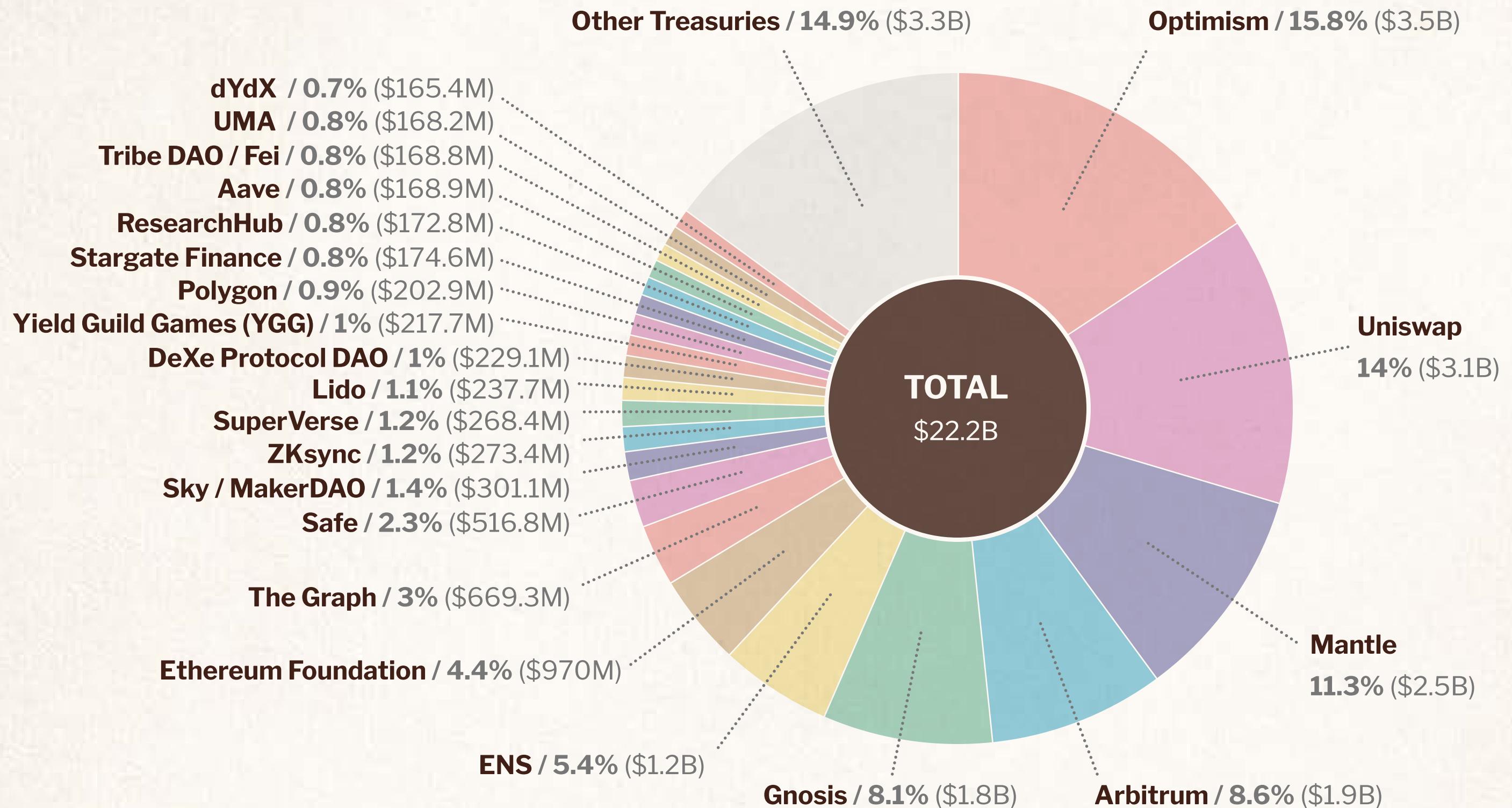
The background of the slide is a vibrant, scenic landscape. In the foreground, there's a lush green field with a winding blue river. To the right, there's a cluster of purple flowers. In the middle ground, there are more green fields and a range of mountains under a bright blue sky filled with large, white, fluffy clouds.

The Ethereum Ecosystem

Over the last few years the Ethereum ecosystem has grown. There are now many organizations and institutions that contribute to Ethereum and push its boundaries forward, including companies, non-profits, DAOs, L2 organizations, and more. Our ecosystem has never been stronger.

As the ecosystem grows, these organizations are contributing more funding to the Ethereum community.

Treasury Totals Across the Ethereum Ecosystem



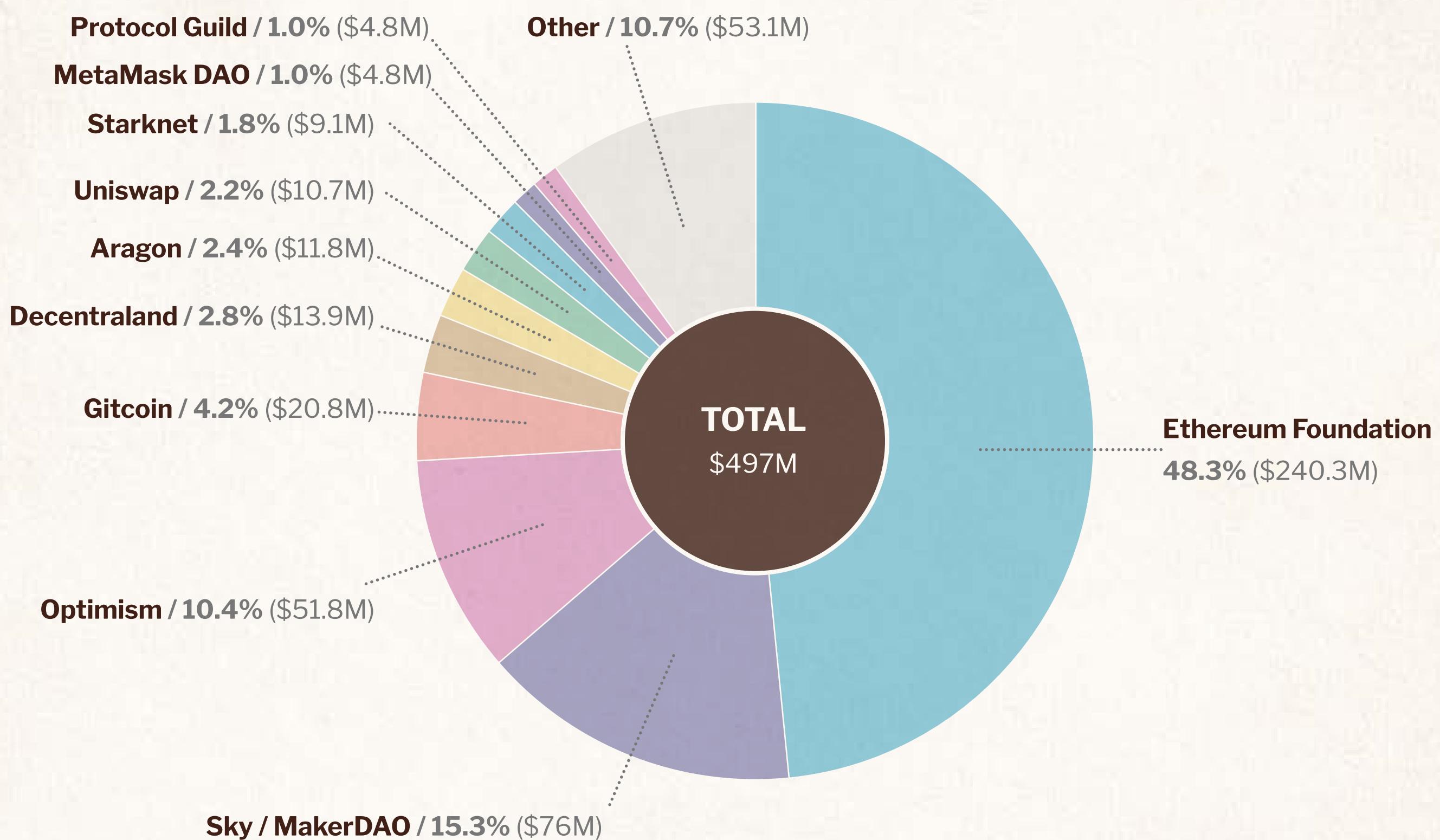
In 2024, the Ethereum ecosystem is supported by billions secured in treasuries belonging to foundations, organizations, and DAOs.

This graph shows total value held in project treasuries. This includes amounts that are liquid and available to the project as well as amounts that are still vesting. All non-EF data was sourced from Deep DAO (deepdao.io/organizations) on October 17 2024.

Most project treasuries are mainly composed of that project's native token. This means that the total value of a project treasury is much greater than the total value that could be deployed immediately in fiat terms. If a project tried to sell a significant portion of their treasury, it could have a large impact on the price of the underlying token.

Instead, this graph shows us the depth of resources available to the Ethereum ecosystem in the long term. Even a small fraction of this capital deployed gradually over the next 10 years will provide significant resources to grow and maintain the Ethereum ecosystem.

Total Funding Deployed Across the Ethereum Ecosystem 2022-2023



In 2022 and 2023, organizations across the Ethereum ecosystem collectively deployed more than \$497M to support projects across the community.

NOTES:

We have used a broad definition of ecosystem funding when collecting this data. This includes funding that goes to Ethereum public goods (like the Protocol Guild) and also funding that goes towards funding projects within specific ecosystems within the larger Ethereum ecosystem (e.g. products that receive grants for building on a specific L2). This data does not include equity investments or similar funding, nor does it include airdrops from token generation events.

USD values are calculated using the applicable asset price at end of year, or the specific date of the grant where that information is known.

This information was collected through research into publicly available information and reaching out to 94 organizations across the Ethereum ecosystem. However, the available data is fragmented and some projects did not respond to our inquiries. This data also does not include internal spend by many orgs, which often contributes to Ethereum public goods. This data should be treated as incomplete.

We have included data on grant distribution platforms (like Gitcoin). The funding associated with these platforms typically comes from donations from other organizations, like the EF. Where possible we have de-duplicated the data to avoid double counting.



Appendix

Ethereum Foundation Team Descriptions

Account & Chain Abstraction

The Account & Chain Abstraction team works on the research and development of various components and standards of account abstraction, chain abstraction and cross-L2 communication. This includes ERC-4337 and other standards, as well as protocol level changes on L1 as well as L2s. This team also supports entities in the ecosystem that are building on top of these standards, while advocating for their overall adoption in the space through education, conferences, grants, and other growth strategies.

Applied Research Group (ARG)

The Applied Research Group (ARG) bridges the gap between theory and practice by applying a broad skill set of analysis and engineering expertise to identify how best to move solutions from idea to production. ARG focuses on protocol security, scalability and sustainability, including topics like the consensus staking protocol, interactions with MEV, expanding Ethereum's data layer, and protocol support.

Consensus R&D

The Consensus R&D team focuses on both short and long term research and development projects that aim to improve Ethereum's security, sustainability, and scalability while retaining strong decentralization. This includes proof-of-stake consensus design, crypto-economic mechanism design, software simulations and experiments, spec writing, security assessments, testing, and more.

Cryptography Research

The Cryptography Research team investigates cryptographic protocols that are useful to the future development of the Ethereum consensus protocol, and more generally to the Ethereum community. They provide support for the core research team, publish and review research papers, give presentations at a wide variety of events, participate in standards processes, and do outreach to the wider academic community.

Devcon

The Devcon team hosts and supports events like Devcon to foster collaboration and education, and to promote Ethereum's values and mission. As the community has grown, the team has expanded its reach with projects like the community-driven gathering Devconnect, support for non-EF events worldwide, and regional initiatives like the Road to Devcon Grants Program, amplifying Ethereum's global impact (devcon.org and devconnect.org).

Developer Growth

The Developer Growth team is committed to Ethereum developer education. Through [BuidlGuidl](#), they onboard, educate, and inspire builders while promoting core Ethereum values with their curriculum and global in-person workshops. Beyond teaching, Developer Growth builds the infrastructure supporting their mission with Scaffold-ETH 2. They foster high-impact, emerging talent while remaining credibly neutral and free from VC capture.

Ecodev Coordinators

The Ecodev Coordinators team serves as a resource within the Ethereum Foundation. Their main focuses are project management, cross-team support, ecosystem connectivity, strategic initiatives, and short term tactical fixes. They have established proactive grant programs, facilitated collaboration among non-EF ecosystem organizations, organized and led major protocol-focused conferences, and produced comprehensive reports on critical topics.

Ecosystem Support Program (ESP)

The ESP team provides an open inquiry and application process for external teams and individuals building within the Ethereum ecosystem. They allocate funds, provide advice and feedback to builders and community organizers, direct builders to communities and resources in the ecosystem, and communicate to the public about grants and grantees' work. Internally, the ESP team houses the infrastructure to manage grant application pipelines, manage grant disbursement, and maintains a database of grantee and applicant contacts. ESP records all EF grants and processes all grant agreements, including those allocated by other EF teams (esp.ethereum.foundation).

Ethereum.org

Ethereum.org is a public, open-source resource that aims to be the best portal for Ethereum's growing community. The site has a small team dedicated to developing, maintaining and translating the site, but welcomes contributions from any community member (ethereum.org).

Geth

The Geth team develops and maintains go-ethereum (geth), the Go implementation of the Ethereum protocol. Community members use the geth client and related libraries to access the Ethereum blockchain. Geth is the most popular Ethereum client and an integral part of the Ethereum software ecosystem (geth.ethereum.org).

Ipsilon

The Ipsilon team's core concern is the execution environment of Ethereum (the EVM), including both Mainnet and L2s. Ipsilon creates change proposals (EIPs), provides implementation and analysis of other relevant proposals, and develops and maintains supporting tooling. Ipsilon also organises the yearly EVM Summit (ipsilon.xyz).

JavaScript

The JavaScript team provides core Ethereum protocol implementations mainly meant to be used in a development context. JavaScript implementations are an integral part of Ethereum developer tools like Hardhat and Remix, and are used as building blocks for decentralized applications' browser UIs.

Next Billion

Team Next Billion works to identify and support human stories of Ethereum through the Next Billion Fellowship Program so that more people can tangibly understand Ethereum's values. The team also works to address under-representation in the Ethereum community through initiatives like the Devcon/nect Scholars Program (nxbn.ethereum.foundation).

PandaOps

PandaOps is a specialized DevOps team within the Ethereum Foundation focused on enhancing Ethereum's infrastructure through open-source tools. Their primary focus is on testing and supporting Ethereum upgrades, as well as providing tools for testing and analysis to enhance these processes. PandaOps also develops and maintains Xatu: a data collection, archival, and analysis tool that offers insights into Ethereum's network and upgrades, enabling deeper research and understanding of the ecosystem (ethpandaops.io).

Portal

The Portal team pursues research and development leading the cross-functional effort to design and build out the Portal Network. Internally, the team works on Trin, which is a portal client written in Rust (github.com/ethereum/portal-network-specs).

Privacy and Scaling Explorations

Privacy & Scaling Explorations (PSE) is a research and development lab advancing cryptography to enable more secure, resilient, and private digital collaboration. Since 2019, they have worked to bridge the gap between cutting-edge cryptographic research and real-world applications. PSE builds open, free tools with technologies like zero-knowledge proofs, multi-party computation, and homomorphic encryption. They operate, fund, and collaborate with driven teams including MACI, TLSNotary, ZK Email, Semaphore, Cursive, Anon Aadhaar, OpenPassport, and ZKP2P ([pse.dev](#)).

Protocol Security Research

The Protocol Security Research team focuses on protecting Ethereum's integrity. Through coordination, meticulous code reviews, research, developing advanced tooling, and real-world simulations, they focus on securing the network and its critical components. Their hands-on approach includes managing the bug bounty program, continuously monitoring the network, and collaborating with client teams. They are committed to identifying and mitigating risks to Ethereum mainnet.

Protocol Support

The Protocol Support team helps ensure Ethereum has the right people, processes, and perspectives to support its long term maintenance. They help facilitate network upgrades through AllCoreDevs, attract and retain protocol contributors through initiatives like the [Ethereum Protocol Fellowship](#) and interop events, and bootstrap adjacent projects such as Summer of Protocols and Protocol Guild.

Remix

The Remix team has developed and maintains a rich tool set including Remix IDE, a comprehensive smart contract development tool available for web and desktop that requires no setup. Remix Plugin Engine and Remix Libraries are low-level tools for wider use. Remix IDE can be used for the entire journey of contract development by users of any knowledge level and as a learning lab for teaching and experimenting with Ethereum ([remix.ethereum.org](#)).

Robust Incentives Group (RIG)

The Robust Incentives Group is a research team dedicated to the study of mechanism design and cryptoeconomics for Ethereum, mapping the ways that incentives directly or indirectly affect users and protocol stakeholders. Where possible, they propose mechanisms to recover incentive compatibility and system optimality. RIG also engages academic and general audiences with diverse formats of grants, publications and talks ([rig.ethereum.org](#)).

Snake Charmers

The Snake Charmers team maintains Ethereum Python developer tools, provides user support, and creates educational resources to empower those users. The Snake Charmers collaborate with STEEL to aid in EIP implementation and testing, and provide ongoing maintenance support for other python libraries written by EF members, like the staking-deposit CLI ([snakecharmers.ethereum.org](#)).

Specifications and Testing for the Ethereum Execution Layer (STEEL)

The STEEL team consists of two projects: Ethereum Execution Layer Specification (EELS) and Ethereum Execution Specification Tests (EEST). EELS is responsible for the main protocol reference specification written in Python, which provides a prototyping framework for new updates. EEST handles protocol reference tests which are used by clients to detect consensus issues during hard-fork implementations and regressions. STEEL also takes care of maintaining and improving tooling, frameworks, documentation, and guidance for client developers during testing.

Ethereum Foundation Conflicts of Interest Policy

In order to serve the Ethereum ecosystem the EF must have high integrity. This means that our actions must be sincerely motivated by the long term interests of the Ethereum ecosystem.

To preserve that integrity, this year the EF has introduced a conflict of interest policy. The purpose of this policy is to help guide and set some boundaries for EF team members (“EFers”) on how they navigate certain relationships with the broader Ethereum ecosystem, where such relationships may affect the EF’s integrity or reputation for integrity.

The most important way in which we preserve the EF’s integrity is for the EF to hire people who personally have high integrity, and for them to exercise good judgment. This policy is intended to support EFers in exercising such good judgment, by providing clearer guidance, establishing a process by which EFers can discuss specific circumstances, and setting some boundaries we believe are necessary to deal with extreme cases.

After one year of using this “v 1.0” policy, we will review how it has performed, collect input and feedback, and consider changes.

Summary of EF Conflict of Interest Policy v 1.0

- **EFers can invest in liquid crypto assets without limits**
 - But must tell the EF about investments above \$500K (other than ETH)
 - In some cases, extremely high exposure might require recusal from decisions that relate to the conflict, or other mitigations
- **For other potential conflicts of interest, EFers must consult with an internal discussion group composed of EF leadership, that EFer's team lead, EF legal and EF people ops**
 - The goal of the discussion group is for the EFer and others to together think through the risks, downsides, and upsides of the opportunity
 - The EFer shares responsibility for considering how a potential conflict could impact the EF's integrity
 - In some cases, the discussion group might require mitigations like recusals on certain decisions relating to the potential conflict, or deny the opportunity entirely

Examples of specific categories of potential conflicts of interest:

- **EFers can take on work outside the EF**
 - But must tell the EF before starting and consult their team lead
 - If the total value of the outside work is above \$25K annually, it must be reviewed by the discussion group
- **EFers can make angel investments**
 - But must tell the EF before investing, and each investment must be reviewed by the discussion group
 - Subject to limits of \$100K per cheque and \$400K total per year
- **EFers can invest in funds**
 - But must tell the EF before investing, and each investment must be reviewed by the discussion group
- **EFers can co-found projects while at the EF**
 - But must tell the EF before co-founding, and it must be reviewed by the discussion group
 - Must be regularly re-assessed for material changes, which may result in future mitigations
 - EFers must understand and accept the risk that co-founding a project could develop into a situation that is incompatible with staying at the EF
- **EFers cannot take on work outside the EF and get paid in illiquid assets with an unknown market value**
 - E.g. some advisorship token packages for pre-launch projects
 - This is prohibited up front, but allowed in rare exceptions

Additional notes:

- This COI policy applies only to potential conflicts within the crypto and web3 ecosystem
- EFers need to annually update their internal conflict disclosures to EF leadership
- This policy applies to all full and part-time EFers, including contractors and employees
- However, this policy does not apply to EF interns, fellows, grantees, or certain advisory roles