

# 10 Years of Ethereum

## Building the World Ledger



By growthepie and Onchain Foundation. August 2025.

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# 1. Executive Summary

Since its inception in 2015, Ethereum has transitioned from a pioneering blockchain experiment to the dominant smart-contract platform underpinning an expansive digital economy. Over the past decade, Ethereum facilitated the creation of entirely new sectors, including decentralized finance (DeFi), NFTs, decentralized autonomous organizations (DAOs), and tokenized real-world assets (RWA), and established itself as a critical infrastructure layer for global financial activity. This decade of foundational work has now set the stage for the next wave of scaling and mass adoption and for Ethereum to become **“a really valuable part of global infrastructure that helps make the internet and the economy a more free and open place”** ([Vitalik Buterin](#)).

## Key Highlights:

- **Iterative progress:** Ethereum Mainnet sustained **uninterrupted operation through 16 major upgrades over the past 10 years**. These upgrades dramatically reduced the network's energy consumption, improved the network's economic sustainability by improving its issuance model, enabled parallel scaling through Layer 2s with sub-cent transaction costs, and set it up for further scaling improvements in the future.
- **Economic significance:** The Ethereum ecosystem now secures **\$154.2 billion in stablecoins** (\$140B on Ethereum Mainnet, \$14.2B on Layer 2s), reinforcing its role as the preferred ledger for onchain finance.
- **Network maturity:** Cumulatively, Ethereum has executed over 2.9 billion transactions across 330 million addresses and generated over \$20 billion in revenue through transaction fees. The broader Ethereum ecosystem (including Layer 2s) executed over 14 billion transactions.
- **Innovation catalyst:** Ethereum's programmable blockchain infrastructure has spawned markets and applications that did not exist five years ago, including zero-knowledge privacy solutions, AI-driven agents, and yield-bearing digital assets.
- **Established companies are choosing Ethereum:** [Robinhood](#), [JP Morgan](#), [Stripe](#), [PayPal](#), [BlackRock](#), [Sony](#), [Deutsche Bank](#), [Shopify](#), [eToro](#), and many more are building businesses and services on top of the Ethereum ecosystem.

## 2. The Foundational Layer, A Decade of Building Trust and Scale

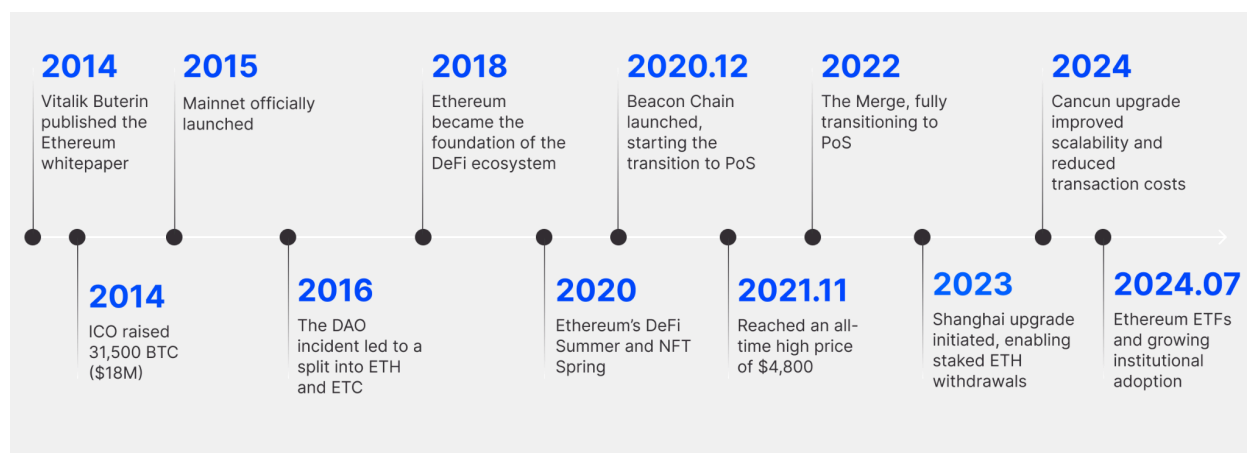
Over the last ten years, Ethereum transformed from an experimental "world computer" into the foundational infrastructure for a decentralized economy. This was not a single event, but a deliberate, multi-year process of solving fundamental challenges in security, sustainability, and scalability. This chapter revisits the key strategic milestones that forged Ethereum into the global ledger it is today.

### 2.1 Forging the World Ledger

The journey to becoming a trusted ledger required more than just code. It required proving resilience, solving critical societal concerns, and paving the way for growth.

#### Key Milestones in the History of Ethereum

*Ethereum went through several critical phases and updates in the past 10 years*



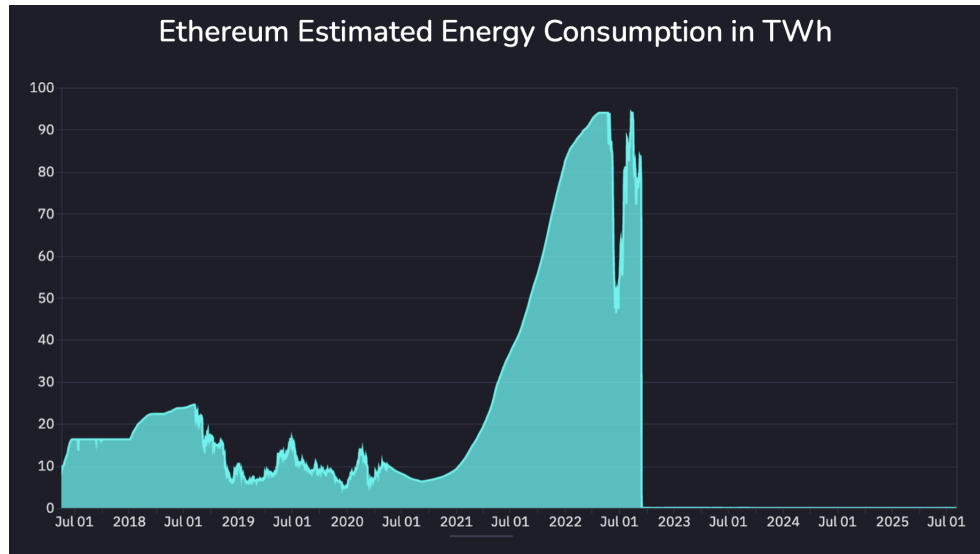
Source: [Onchain](#)

### The Merge, 2022: A Sustainable Foundation, Economically and Environmentally

The Merge in 2022 was a monumental upgrade that addressed both economical and environmental concerns, head-on. By shifting from Proof-of-Work (PoW) to Proof-of-Stake (PoS), Ethereum solved any ESG concerns. It reduced its energy consumption by ~99.8%, moving from the footprint of a small country to that of a university campus and aligning the network with global sustainability goals.

## Estimated Ethereum Energy Consumption in TWh

*Ethereum's energy consumption dropped by 99.84% as a result of the switch to PoS*

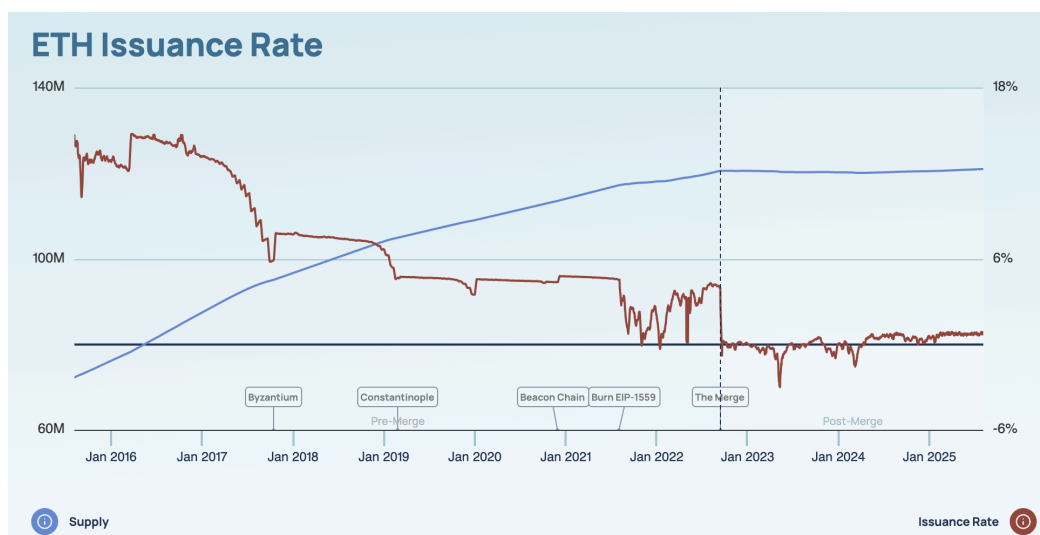


Source: [Digiconomist](#)

In addition, the transition to PoS also created economic sustainability. ETH issuance dropped from roughly 4-5% to 0.6% (and is now capped at [1.51%](#)). This fundamental shift established a sound, long-term economic policy for the network, making its security budget sustainable and predictable.

## Ethereum Issuance Rate and Total Supply

*The issuance rate dropped from 4-5% to roughly 0.6% as a result of the Merge*



Source: [ethismoney.xyz](#)

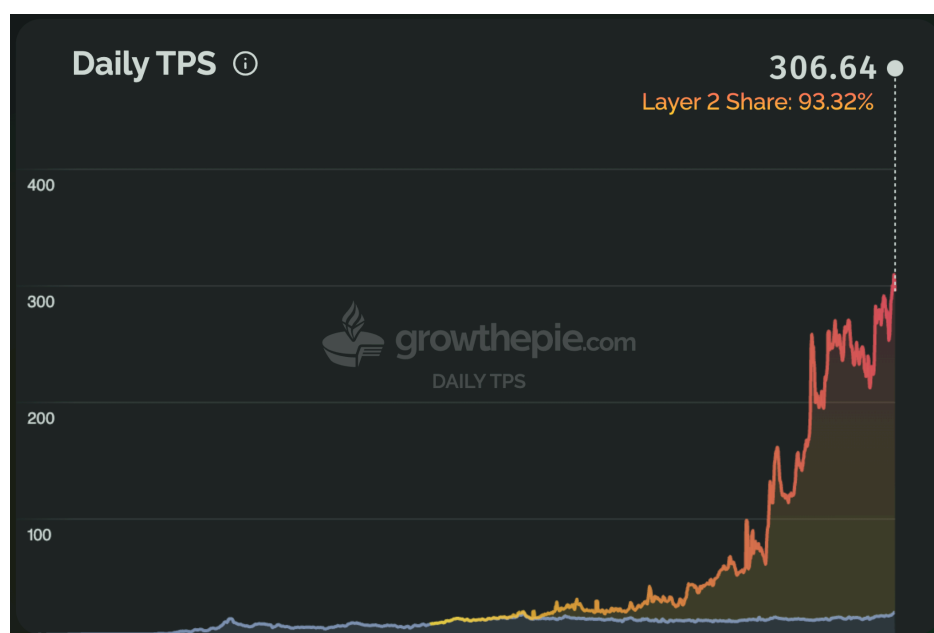
## Dencun Upgrade, 2024: Setting the Stage for Scale & Sub-Cent Transactions

While The Merge secured the foundation, the Dencun upgrade in March 2024 unlocked the path to global scale. This upgrade formally committed Ethereum to the "rollup-centric" future by introducing a dedicated data lane for Layer 2s, known as "blobs".

This innovation enabled [horizontal scaling](#). It dramatically increased data throughput, allowing Layer 2s to post transaction data to Ethereum Mainnet at a fraction of the previous cost and significantly boosted transaction throughput from roughly 15 TPS on the Ethereum Mainnet to over [300 TPS](#) via Layer 2s.

### Ethereum Ecosystem TPS over 10 Years

*Transaction throughput increased by over 20x through Layer 2s*

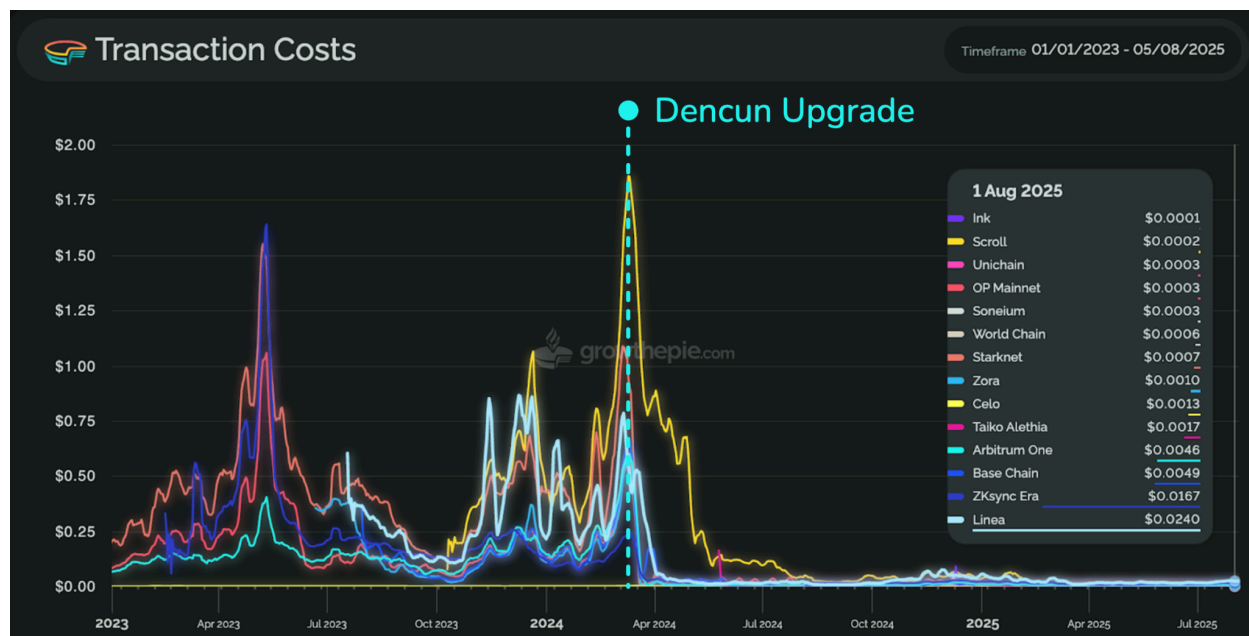


Source: [growthpie](#)

The Dencun upgrade also made mass adoption feasible. Pushing Layer 2 transaction fees to sub-cent levels, unlocking a new design space for high-volume, low-cost applications that were previously impossible on the more expensive Ethereum Mainnet.

## Median Transaction Costs on Layer 2s

Costs on Layer 2s dropped dramatically after March 2024 and are now mostly sub-cent



Source: [growthepie](https://growthepie.com)

Dencun was the pivotal moment where Ethereum officially became a modular settlement layer, designed to securely anchor a vast ecosystem of execution environments.

All these upgrades taken together, with increasing decentralization and zero downtime in 10 years, made Ethereum Mainnet more resilient and trusted than ever.

## 2.2 The Layer 1 Today: The Secure Hub of Onchain Finance

With Layer 2s handling the bulk of high-frequency activity, Ethereum Mainnet has solidified its role as the high-security hub for transactions that matter most. The following metrics demonstrate its health and dominance as a foundational settlement layer.

### The Epicenter of Economic Security

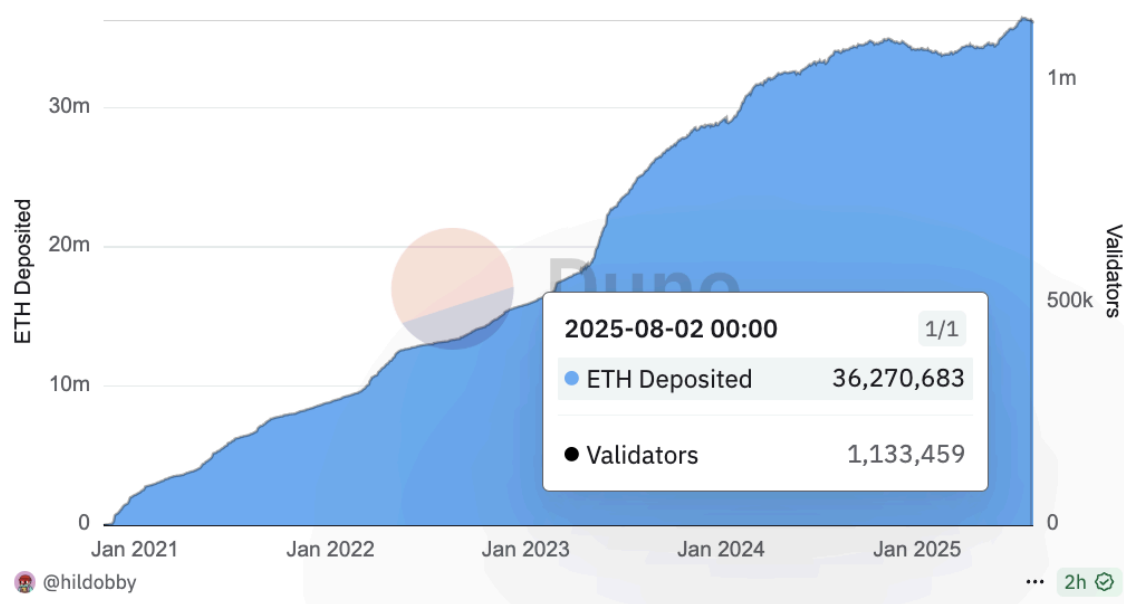
The most critical function of a settlement layer is security. The Ethereum ecosystem is secured by its native asset, ETH. Today, Ethereum is the most economically secure smart contract platform in the world, with over [36 million ETH](#) staked, representing ~29% of the total ETH supply with a staking yield of roughly [3-4%](#). This vast pool of capital, alongside a distributed set of over one [1.1 million active validators](#), creates an economic fortress that is

prohibitively expensive to attack, providing ultimate assurance for the high-value assets and applications built on top.

### Amount of ETH Staked and Number of Validators

Ethereum's staking rate is hovering around 29% and is secured by over 1.1M validators

#### ETH Staked & Validators



Source: [hildobby, Dune](#)

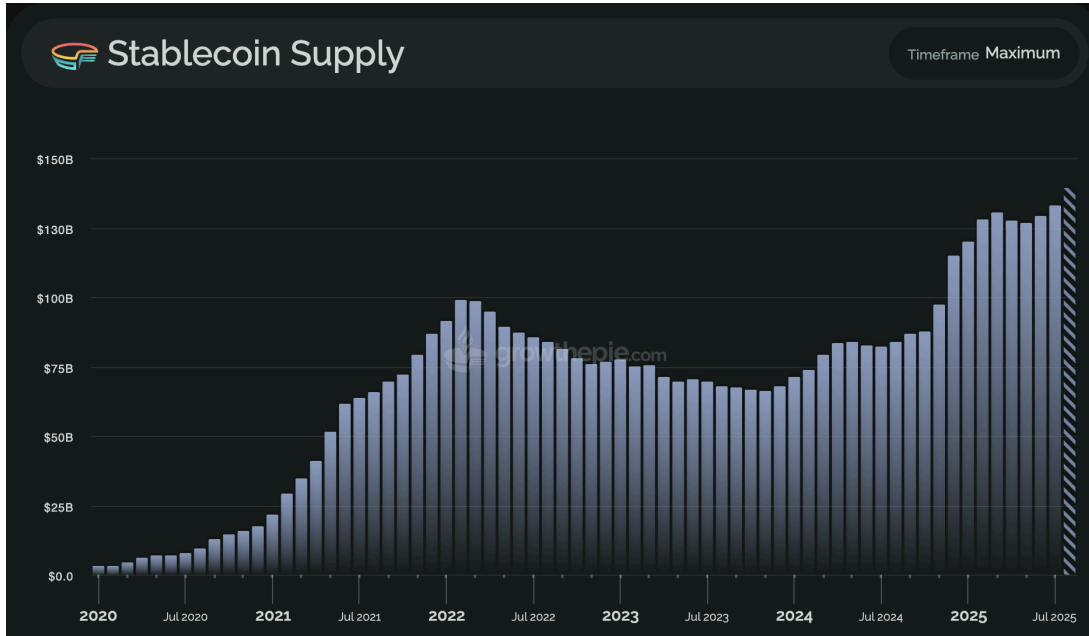
All of this was achieved without sacrificing decentralization, while maintaining a distributed set of staking participants.

### The Leading Ledger for Stablecoins

Ethereum Mainnet alone secures [\\$140 billion](#) in stablecoins, more than all other blockchains combined. This commanding market share is not accidental, it is a direct result of the trust, liquidity, and robust infrastructure that issuers like Circle (USDC) and financial institutions rely on for their onchain initiatives. Recent GENIUS Act legislation in the USA is clearing the way for increased institutional adoption.

## Stablecoin Supply on Ethereum Mainnet

*The stablecoin supply on Ethereum Mainnet reached \$140 billion*

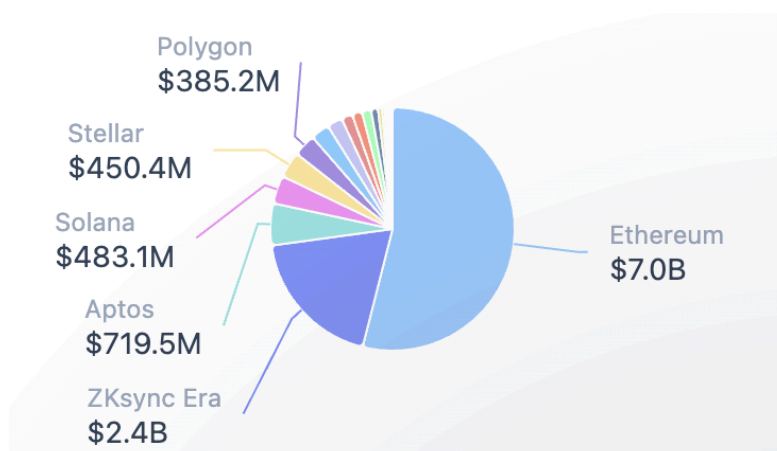


Source: [growthpie](https://growthpie.com)

Ethereum is also making up roughly 60% of onchain real world assets (RWA), excluding stablecoins. This includes onchain treasuries, bonds, stocks, commodities, and similar assets.

## Real World Asset Value per Chain (excluding Stablecoins)

*Ethereum is leading in the RWA section with a market share of roughly 60%*



Source: [RWA.xyz](https://RWA.xyz)

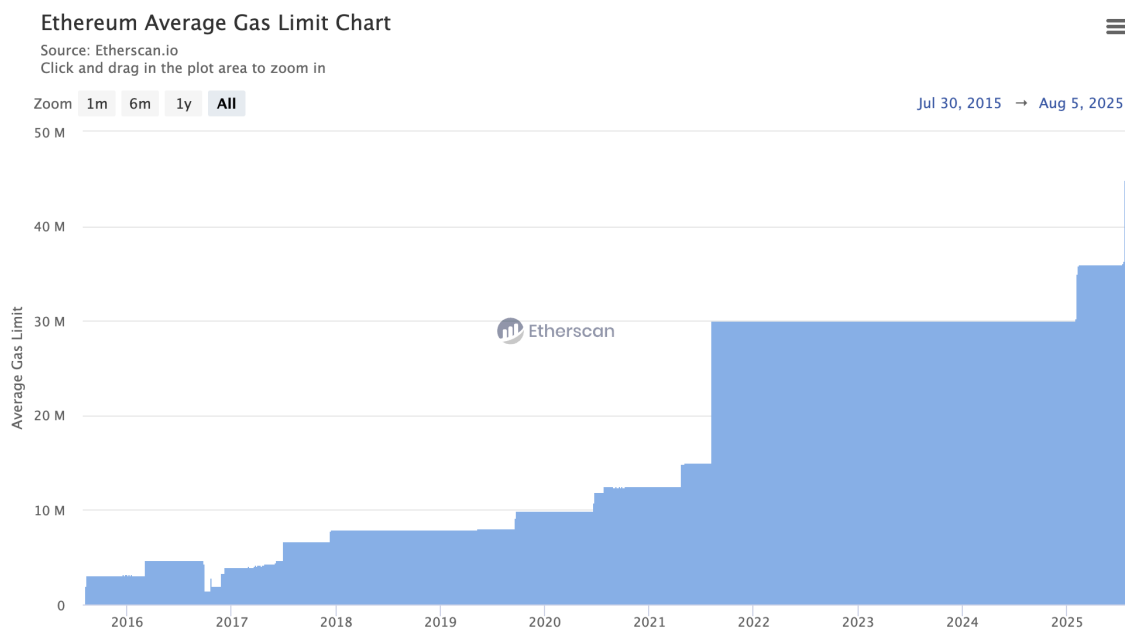
While still a nascent market, this represents the first step in bringing trillions of dollars in traditional assets like real estate and private credit onto a more efficient, global infrastructure.

## Scaling Ethereum Mainnet Isn't Over, It Just Started

In addition to providing a secure ledger and scaling horizontally via Layer 2s, Ethereum Mainnet is also increasing its own throughput. Ethereum Mainnet has been operating at capacity for a very long time. Meaning, that the network is fully utilized and users can only get their transactions in if they are willing to pay more than the current floor price. The gas limit (which defines how many operations can happen within a block) stayed flat at 30M gas since August 2021. Starting last year, initiatives like [pumpthegas](#) helped educate the community about the gas limit and encouraged the distributed set of validators to safely raise their gas limit settings. First to 36M gas in February 2025, and more recently to 45M gas in July 2025.

### Ethereum's Average Gas Limit since Launch

*The gas limit wasn't raised for almost 4 years but now we are scaling again*



Source: [etherscan](#)

This newly created blockspace was instantly filled on Ethereum Mainnet and was just the start to Ethereum Mainnet's scaling roadmap from currently 20 TPS to 10k TPS (more on Ethereum scaling roadmap in [chapter 5](#)). While Layer 2s handle most activity, increasing

the mainnet's capacity, even slightly, signals a commitment to scaling at every level and provides more blockspace for high-value Layer 1 transactions.

## Ethereum Mainnet is Home to DeFi Applications

A high amount of new paradigms and use-cases emerged on Ethereum Mainnet but the prevailing one is DeFi and token transfers. A glimpse of the most used apps::

- [Uniswap](#): a decentralized exchange that allows users to swap tokens
- [Tether \(USDT\)](#): a stablecoin, which is pegged to the US dollar
- [Banana Gun](#): a Telegram application that allows users to buy tokens
- [1inch](#): a DEX aggregator that routes swaps through the cheapest liquidity route
- [Circle \(USDC\)](#): a stablecoin, which is pegged to the US dollar

## A List of Top Applications on Ethereum Mainnet

*Ethereum Mainnet activity is dominated by DeFi and stablecoin transfers*

Application	Chains	Main Category	# Contracts	Transaction Count	Change	Active Addresses	Change	Fees Paid (USD)	Change
Uniswap	+2 more	DeFi	16	26,601,968	-35%	2,527,003	-16%	\$129,680,451.99	-73%
Tether	+2 more	Token Transfers	2	48,227,304	+32%	9,732,915	+38%	\$51,983,430.77	-62%
Banana Gun	+2 more	DeFi	3	3,984,734	-11%	280,377	+61%	\$39,918,920.63	-62%
Maestro	+2 more	DeFi	1	3,394,660	-17%	125,304	+14%	\$27,985,464.44	-66%
1inch	+2 more	DeFi	9	5,832,292	+27%	919,359	+15%	\$22,833,209.95	-13%
Ox Protocol	+2 more	DeFi	6	5,075,998	+41%	1,058,324	+47%	\$21,835,598.87	-55%
Circle Internet Financ...	+3 more	Token Transfers	5	23,542,729	+131%	5,256,792	+99%	\$21,639,762.59	-43%
Metamask	+2 more	DeFi	4	4,017,615	+9%	1,082,409	+18%	\$20,213,004.27	-62%
Winternute	+2 more	CeFi	2	2,538,222	+135%	410	+177%	\$17,628,251.79	+17%
OKX	+2 more	DeFi	44	3,851,348	+67%	673,358	-49%	\$15,439,911.66	-27%
CowSwap	+2 more	DeFi	4	1,316,669	+105%	49,442	+77%	\$10,030,457.92	-39%
Coinbase	+2 more	CeFi	35	1,369,183	-8%	1,267,604	-67%	\$10,002,408.41	-63%
OpenSea	+1 more	NFT	10	2,252,308	-10%	539,077	-4%	\$7,806,688.54	-75%

Source: [growthpie](#)

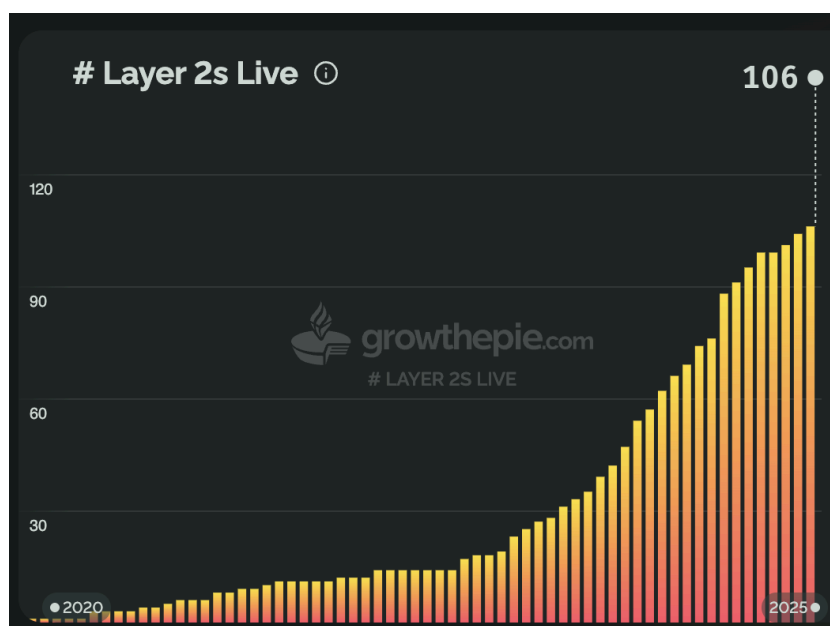
Other notable application categories include lending, staking, derivative exchanges, NFT marketplaces, gaming, governance, and many more.

### 3. The Layer 2 Boom - Scaling & Real-world Adoption

Over the last few years Layer 2s have rapidly matured from experimental scaling concepts into a vital part of Ethereum's scaling roadmap. The number of Layer 2s securing at least \$100K in Total Value has surged to 106 over the last 5 years.

Number of Layer 2s Live on Ethereum (with >\$100k TVS)

*More and more Layer 2s are launching, expanding the Ethereum ecosystem*

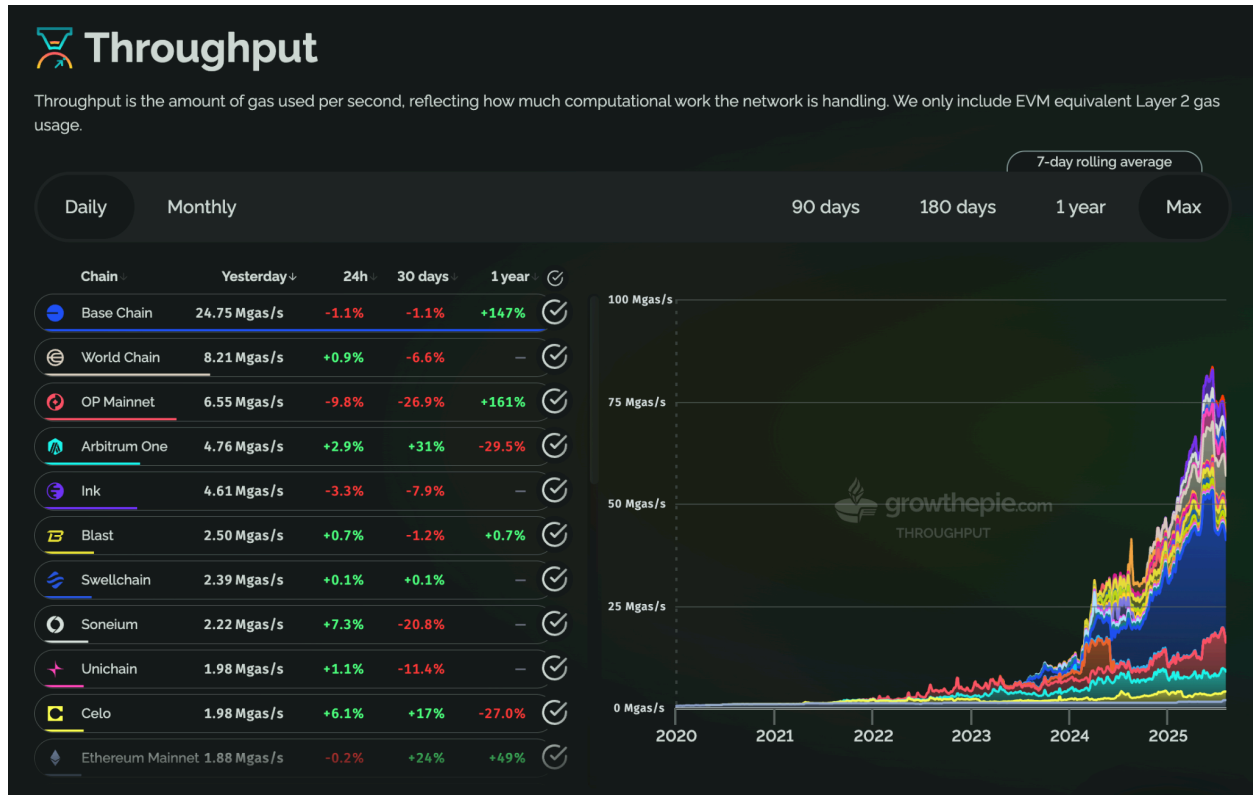


Source: [growthpie](https://growthpie.com)

This growth highlights both user confidence and increased adoption. By offloading computation and transaction execution from Ethereum Mainnet, these solutions maintain the network's decentralization while significantly expanding its capacity. Collectively, Layer 2s have scaled Ethereum's throughput from 0.5 million gas per second to over 75 million gas per second (a simple transaction uses 21,000 gas), delivering on the promise of vastly more transactions without compromising on decentralization. This horizontal scaling approach is laying the foundation for Ethereum's transition into a high throughput, global settlement layer.

## Throughput of Layer 2s, Measured in Gas per Second

*The throughput of Layer 2s has increased rapidly over the past 5 years*



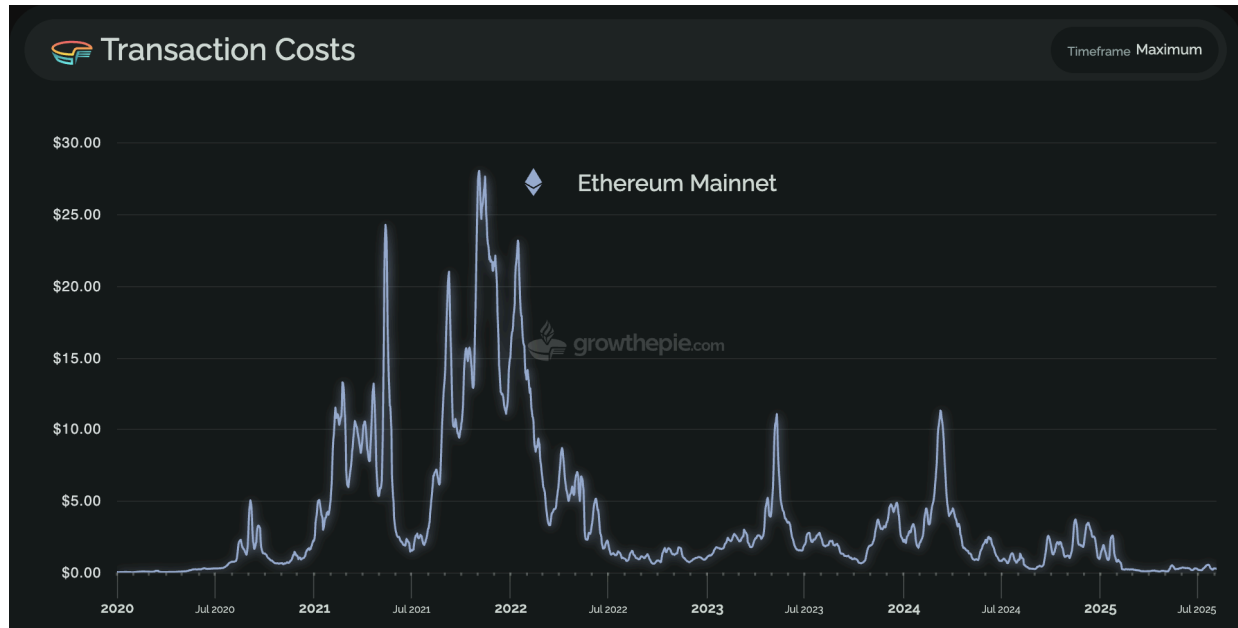
Source: [growthpie](https://growthpie.com)

## 3.1 The Need For Layer 2s

We need Layer 2s because Ethereum Mainnet in its current form was never designed for mass adoption. Limited blockspace and Ethereum's gas auction mechanism drive up the gas fees. During the early DeFi boom, median gas fees often exceeded \$10 for a simple transaction, resulting in limited access especially for retail users who got priced out. While this proves demand for Ethereum's blockspace, it also showcases the scalability bottleneck of Ethereum Mainnet. If Ethereum is to support a billion onchain users, transaction costs must drop to well below a cent.

## Median Transaction Costs on Ethereum Mainnet

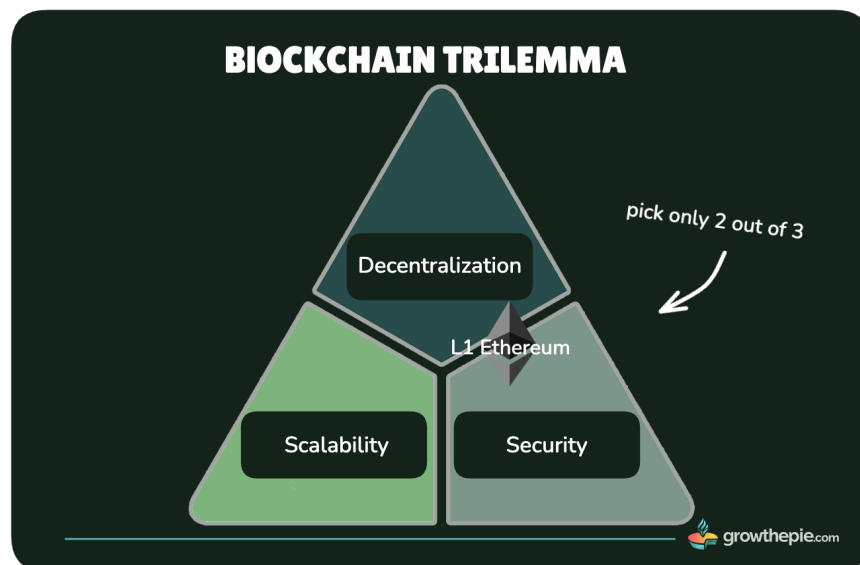
During peak demand, transaction costs could easily reach \$20 or more



Source: [growthepie](https://growthepie.com)

## Blockchain Trilemma

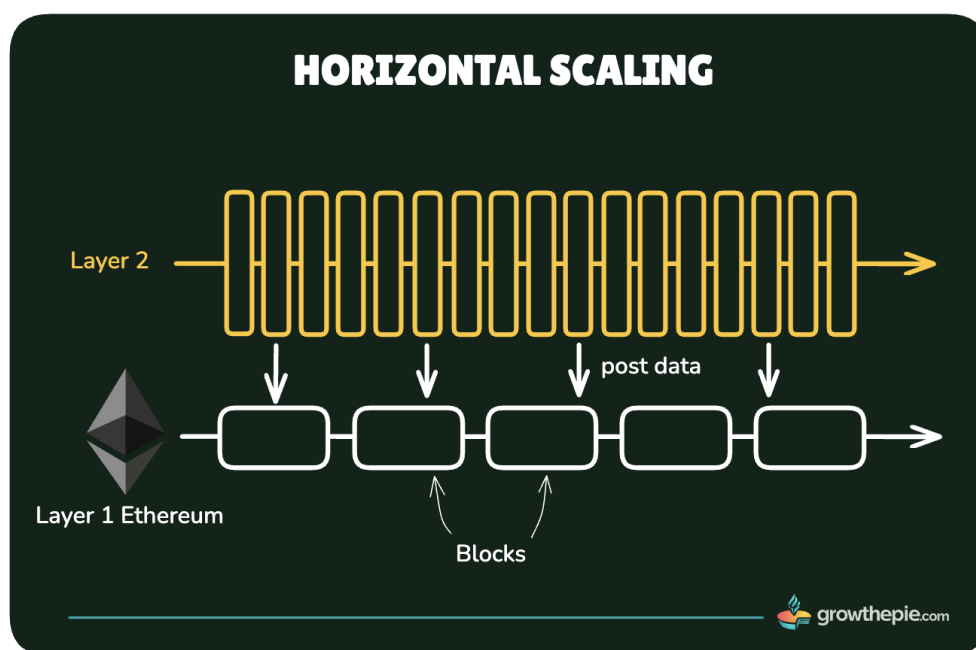
Scaling Ethereum's transaction throughput in a meaningful way is hard and technically challenging. Vitalik Buterin's "Blockchain Trilemma" frames the core issue, a network can optimize for only two of three properties: decentralization, security, and scalability.



Ethereum Mainnet deliberately prioritizes decentralization and security, resulting in de facto limited scalability. Its global network of nodes ensures strong censorship resistance and trust minimization, but increasing throughput would require these nodes to process more data, demanding higher hardware and bandwidth, ultimately pricing out smaller operators and weakening decentralization. While execution sharding was initially explored to solve this, it proved highly complex, requiring a complete redesign of the consensus mechanism across multiple independent shards. Ethereum Layer 1 prioritizes decentralization and security, leaving scalability to be addressed through Layer 2 solutions.

## Horizontal Scaling

Layer 2s scale Ethereum by executing transactions in their own execution environments and posting data to Layer 1 for secure settlement and availability.



By late 2020, Ethereum’s core developers made a strategic pivot - instead of pursuing execution sharding, the efforts would be focused on data sharding, a simpler and more immediate way to scale via Layer 2s. Data sharding doesn’t allow for executing transactions directly on Ethereum Mainnet, instead it adds a second shard to Ethereum where “BLOBS” (short for Binary Large Objects) store raw transaction data from rollups. This data availability guarantees that anyone can reconstruct the state of a rollup and verify its correctness.

Ethereum began rolling out this design with Proto-Danksharding (EIP-4844) in the Dencun upgrade in March 2024, forming the basis of what is now known as the “rollup-centric roadmap”. Under this model, rollups which provide independent execution environments, handle computation and settlement offchain while anchoring their data to Ethereum BLOBS. This architecture allows Ethereum to scale via Layer 2s, without compromising its core values of security and decentralization.

## 3.2 What Businesses Like About Layer 2s

Large corporations are increasingly turning to Layer 2s as a way to leverage blockchain infrastructure without giving up control. In the past year alone, companies like Coinbase, Sony, Robinhood, and Deutsche Bank have announced or launched their own rollups. This trend is driven by the desire to benefit from Ethereum’s neutral and secure base layer, while retaining full ownership of their execution environments. Layer 2s allow businesses to implement tailored functionality such as: chain-level compliance features, subsidized gas fees for select users or direct control over protocol upgrades. Unlike Ethereum Mainnet, where governance is distributed across thousands of validators, **Layer 2s offer enterprises a self-sovereign execution layer.**

### Layer 2 Economics

Data also shows that operating a Layer 2 can be highly profitable. For example, Base (Coinbase’s Layer 2) has earned over \$76 million in onchain profit in the past 12 months, with an average profit margin of 94.3%. This profitability comes from collecting Layer 2 transactions fees while paying Ethereum less for data availability and settlement, enabling sustainable business models.

## Layer 2 Economics Overview

Layer 2s can operate at high margins due to cheap data availability on Ethereum Mainnet

Chain	Data Availability	Chain Revenue	Costs	L1 Costs	Blobs	Loss	Profit	Margin	Blob Data
Base Chain	Blobs	\$81.39M	\$4.99M	10.9%	89.1%	\$76.40M		94.3%	356.35 GB
Arbitrum One	Blobs	\$19.25M	\$2.61M	53.6%	46.4%	\$16.64M		87.8%	104.14 GB
Taiko Alethia	Blobs	\$6.06M	\$8.15M	84.7%	15.3%	\$-2.08M		-30.3%	75.28 GB
OP Mainnet	Blobs	\$5.97M	\$712.49k	29.3%	70.7%	\$5.25M		89.2%	54.48 GB
Linea	Blobs	\$3.94M	\$96.30k	77.2%	22.8%	\$3.84M		97.5%	6.45 GB
World Chain	Blobs	\$2.31M	\$1.79M	11.9%	88.1%	\$523.77k		22.4%	115.81 GB
Scroll	Blobs	\$2.16M	\$698.93k	92.1%	7.9%	\$1.46M		70.0%	7.22 GB
Unichain	Blobs	\$1.48M	\$155.92k	62.5%	37.5%	\$1.32M		88.1%	13.92 GB
ZKsync Era	Blobs	\$1.37M	\$271.71k	83.2%	16.8%	\$1.08M		80.2%	2.81 GB
Starknet	Blobs	\$572.49k	\$167.64k	70.8%	29.2%	\$404.85k		70.4%	5.59 GB
Plume Network	Celestia	\$536.20k	\$6.34k	98.3%	1.7%	\$529.86k		98.7%	3.16 GB
Celo	EigenDA	\$511.78k	\$5.61k	82.8%	17.2%	\$235.26k		52.0%	25.58 GB

Source: [growthepie](https://growthepie.com)

This high margin is possible because Layer 2s collect standard user fees but pay a highly-optimized, bulk fee to Ethereum, demonstrating a sustainable business model for scaling solutions.

## Why Businesses Consider Layer 2s Over a New Layer 1

For corporations who want to move onchain, launching on an Ethereum Layer 2 is increasingly the preferred path. Compared to starting a new Layer 1, Layer 2s offer faster time-to-market, lower complexity and built-in Ethereum-grade security, all without compromising on customizability or value accrual. While Layer 1s require bootstrapping a new validator set and ecosystem from scratch, Layer 2s inherit decentralization and security from Ethereum, drastically reducing operational overhead.

## Comparing Layer 1 vs Ethereum Layer 2 for Blockchain Launch Decisions

Key trade-off comparison between launching a standalone Layer 1 versus building on Ethereum's Layer 2 ecosystem.

WHAT BLOCKCHAIN TO LAUNCH?						
As a business, should we launch a Layer 1 or an Ethereum Layer 2?						
	Time to Market	Complexity	Security Overhead	Customizability	Costs	Scalability
Layer 1	✗ slow	✗ high	✗ high	✓ high	✗ high	⚠ neutral
Ethereum Layer 2	✓ fast	⚠ neutral	✓ low	✓ high	✓ low	✓ high

For most businesses, launching an Ethereum L2 is faster, cheaper, and inherits security - without sacrificing customization and value accrual.

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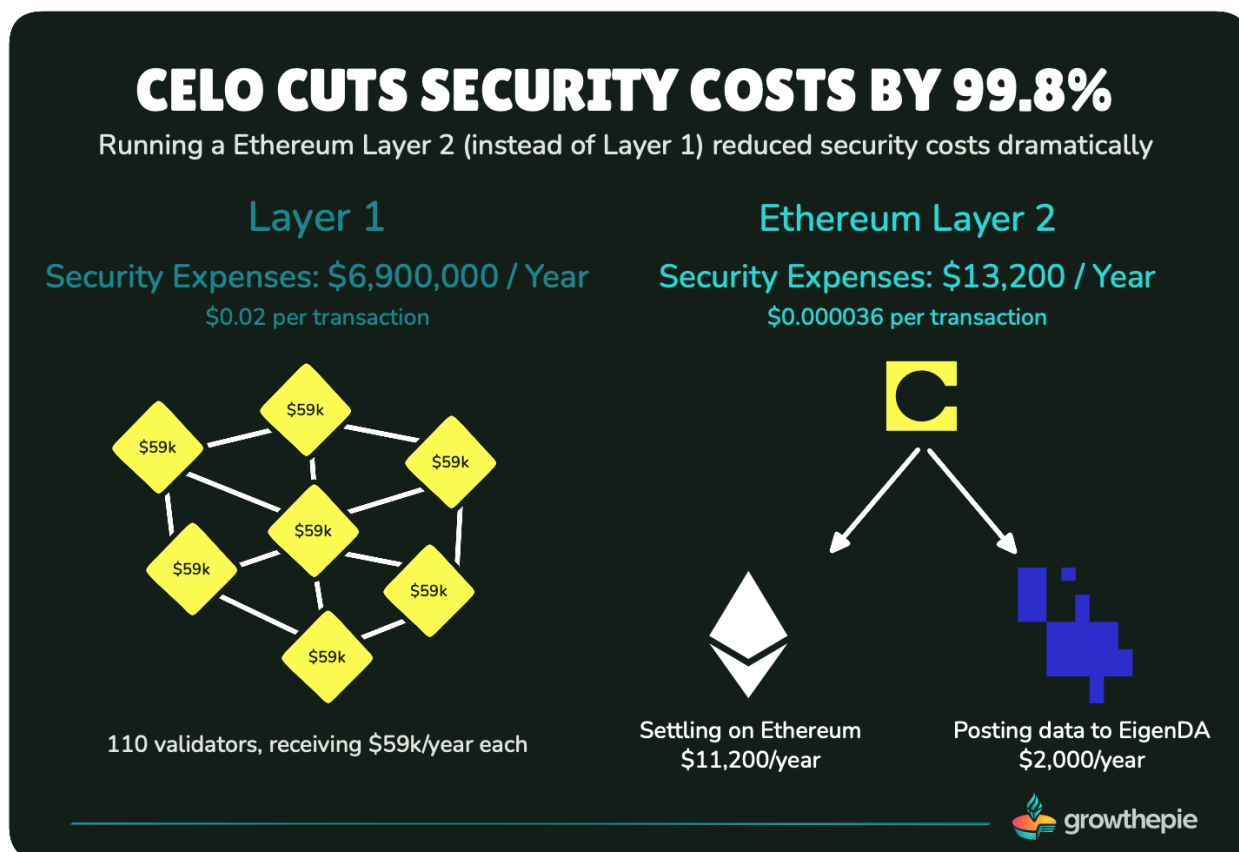
## Celo cut 99.8% of Security Costs by Migrating From a Layer 1 to a Layer 2

After launching as a Layer 1 in 2020, Celo made a strategic migration to become an Ethereum Layer 2 in March 2025. This move was not just technological but also marked a pivotal shift in its economic model, moving it toward long-term sustainability by addressing the high cost of securing an independent network.

As a Layer 1, Celo was responsible for its own security, which required subsidizing its set of [110](#) validators. At a rate of [\\$59,000 per validator annually](#), this amounted to a total security expenditure of nearly \$6.5 million per year. Based on the 320 million transactions processed in 2024, the security cost alone was about **\$0.02 per transaction**.

The economic contrast after becoming a Layer 2 is stark. By inheriting security from Ethereum and using EigenDA for data availability, Celo's direct costs plummeted. From March to July 2025, its combined expenses for settlement and data were just

[\\$5,500](#) (\$4,500 for settling on Ethereum, \$1,000 for posting data to EigenDA). This projects to an annual cost of only \$13,200—a fraction of the previous expense. During this period, the cost dropped to a mere **\$0.000036 per transaction**.



This strategic shift made Celo's security and data availability costs over 560 times cheaper on a per-transaction basis, creating a more efficient and sustainable economic foundation for its ecosystem to thrive.

### 3.3 Adoption Trajectories and Key Growth Metrics

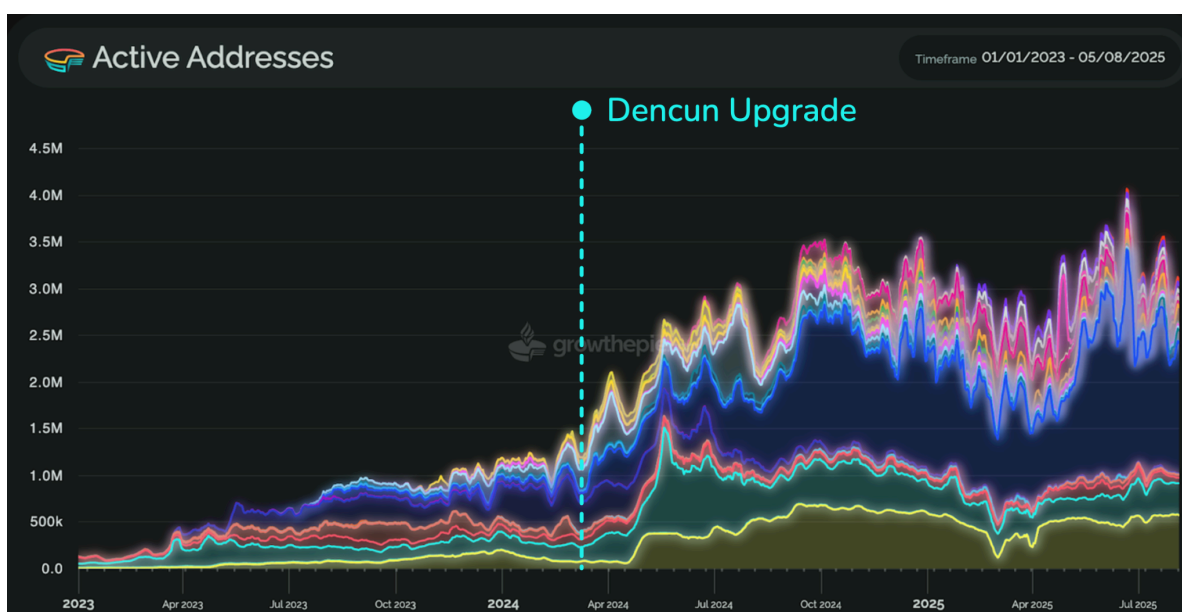
The rollout of data sharding via the Dencun upgrade marked a turning point for Layer 2s. By significantly reducing the cost of posting data to Ethereum, it allowed Layer 2s to lower transaction fees, making sub-cent fees not just a reality but also the status quo.

## Active Addresses in The Ethereum Ecosystem

This drop in cost fundamentally shifted the supply-demand curve: lower fees unlocked use cases that were previously unviable at \$10+ per transaction. As a result, weekly user engagement has surged, with more affordable interactions enabling broader use cases and sustained onchain activity. This led to a sharp increase in active addresses, from around 300,000 to over 3.5 million per day in just two years.

### Active Addresses in the Ethereum Ecosystem (Addresses Initiating Transactions)

*The number of active addresses surged after the Dencun upgrade*



Source: [growthpie](https://growthpie.com)

This shows that transaction cost is a primary barrier to adoption. By making transactions cheaper via Layer 2s, Ethereum unlocked a new wave of user activity that was previously priced out.

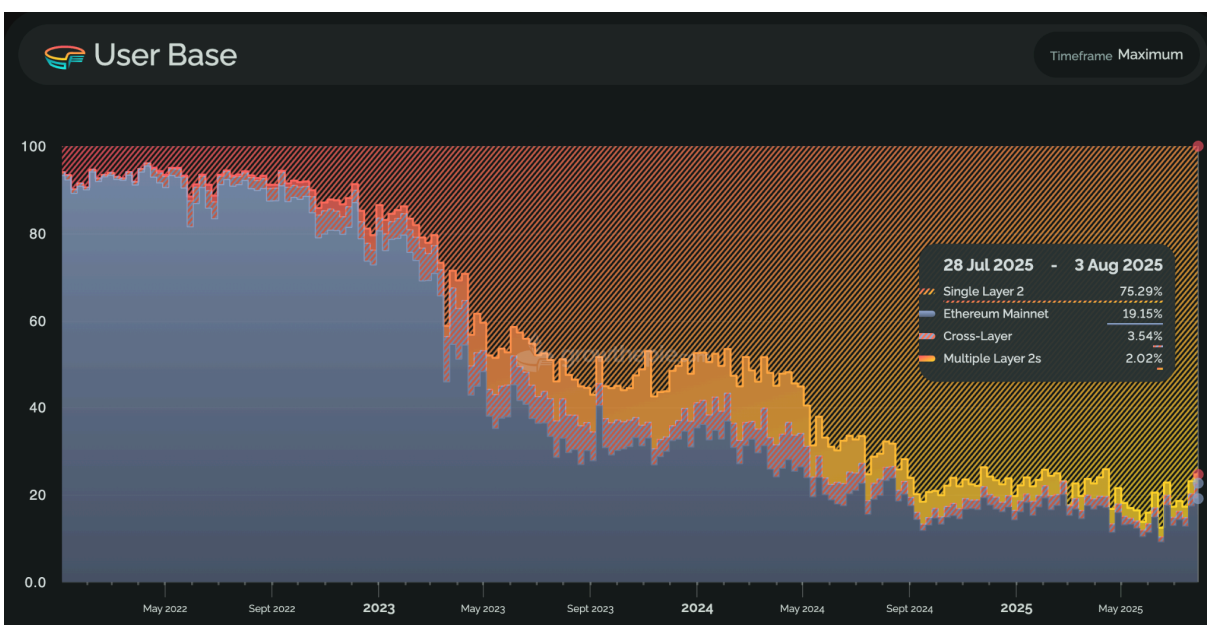
## Composition Split of Ethereum Weekly User Base

The growth of Layer 2s has fundamentally reshaped how users enter the Ethereum ecosystem. Platforms like Base have emerged as dominant gateways, with many other L2s also capturing meaningful market share. Today, an estimated 75% of active addresses interact exclusively on Layer 2s, bypassing Ethereum Mainnet altogether. This showcases that onboarding is now happening at the L2 layer by default. Only 19% of users remain

L1-only, while a small 5.5% operate across multiple chains. These numbers also underscore a key challenge ahead: making cross-L2 and cross-layer usage more seamless.

### Breakdown of Ethereum's Weekly engagement, Categorized by Interaction Type

Most users are active on Layer 2s and only very few are active across layers



Source: [growthpie](https://growthpie.com)

## 3.4 Real World Use-Cases in the Ethereum Ecosystem

Blockchains enable many new use-cases, while also being more transparent and efficient than the status-quo, especially in finance.

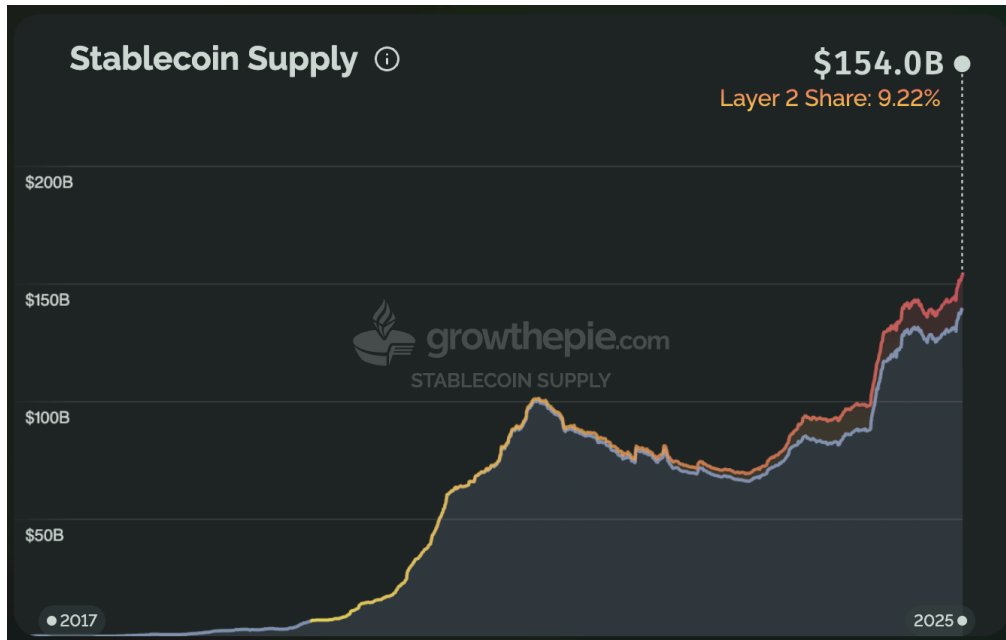
### Settlement

Stablecoins have become a core pillar of onchain activity, with total USD-denominated stablecoin supply reaching an all-time high of [\\$268.6 billion](#) as of August 6, 2025, of which [\\$154.2 billion](#) reside within the Ethereum ecosystem. Ethereum therefore holds a market share of approximately 56% of the total stablecoin supply.

Currently, stablecoins account for around **1.2% of the global M2 money supply**, which stood at \$22,020.8 billion as of June 2025. Stablecoins within the Ethereum ecosystem are steadily shifting toward Layer 2s, now at a 9.23% share, where low-cost, high-speed transactions make them more practical for everyday use.

## Ethereum's Stablecoin Supply

*Ethereum stablecoin supply is growing quickly and Layer 2s are gaining at a higher rate*



Source: [growthepie](https://growthepie.com)

Compared to traditional finance, where settlement is slow, expensive and often constrained by geography or banking access, **stablecoins enable near-instant, borderless USD transfers**, even for users without a bank account or those residing outside the US. In particular, emerging markets facing high inflation and currency instability could see increased demand for stablecoin-based alternatives.

For example, sending \$500 from the EU to the Philippines through traditional remittance services can take several days and cost between \$5 and \$30, whereas the same transfer via a stablecoin on a Layer 2 network settles in seconds and costs less than a cent. Large-scale integrations are accelerating this shift: in June 2025, Shopify announced a partnership with Coinbase and Stripe to enable USDC payments on Base, aiming to bring frictionless, secure stablecoin payments to merchants worldwide. With major payment processors entering the space, stablecoins are increasingly positioned as the backbone of next-generation settlement infrastructure.

## Stablecoin Payment Comparison (Europe - Philippines)

*Traditional cross-border payment rails are inferior than stablecoin rails*

<b>STABLECOINS PAYMENT EXAMPLE</b>		
Sending an international payment of \$500 from Europe to Philippines		
	Traditional (Wire transfer, PayPal, Wise)	Stablecoin (USDC, EURC, USDT, etc.) 
Time	1-5 days	Seconds
Transfer Fees	\$5-\$30	~\$0.01
Amount Received <small>after FX rates</small>	\$473.22	\$499.99
Availability	Banking hours	24/7
Transparency	Low	High (onchain)

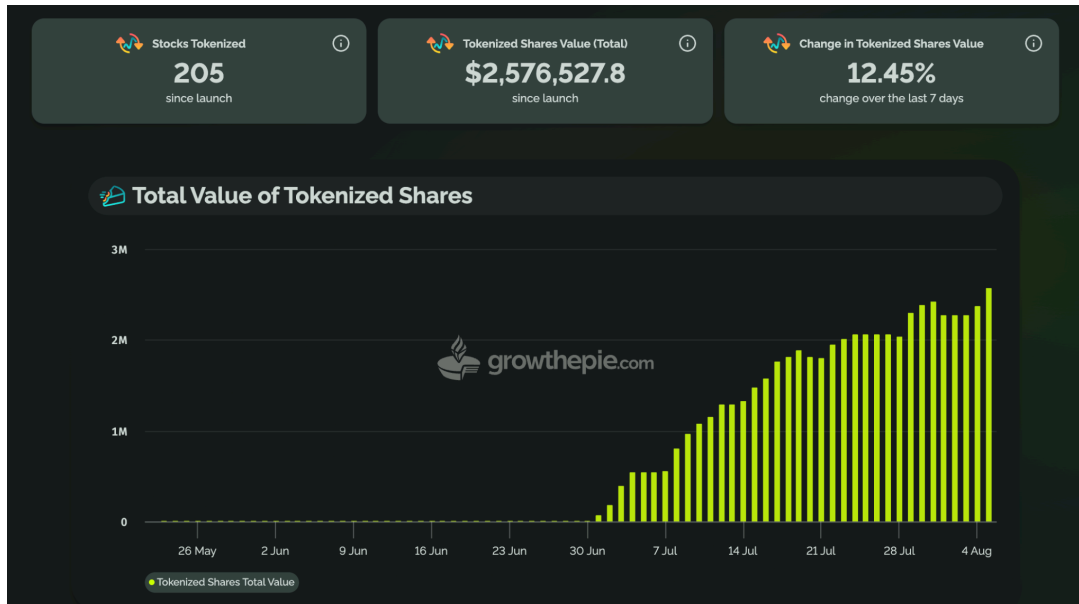
## Tokenization

Tokenization is emerging as another key trend in the Ethereum ecosystem, offering a faster, cheaper and more flexible alternative to traditional asset infrastructure. In legacy systems, the custody and movement of assets remains slow, fragmented and costly. Tokenization not only streamlines these processes but also opens up entirely new markets by enabling the trading of previously illiquid or non-traditional assets, such as pre-IPO equity or digital content. This shift is creating the foundation for new business models and more inclusive financial participation.

In June 2025, Robinhood announced plans to tokenize pre-IPO stocks such as OpenAI and SpaceX, making high-growth equity more accessible to retail investors. While full regulatory clearance is still pending, Robinhood has already rolled out tokenized U.S. stocks to its EU customer base, with approximately \$2.5 million currently tokenized on Arbitrum One. The company aims to expand this offering to thousands of stocks and has even stated its long-term ambition to replace traditional markets like the New York Stock Exchange with an onchain alternative.

## Robinhood Tokenized Stocks

*Total value of 205 US tokenized stocks on Arbitrum One and their growth over time.*



Source: [growthepie](https://growthepie.com)

This initiative by a major regulated brokerage is a powerful proof-of-concept, validating Ethereum's Layer 2 ecosystem as a viable and efficient infrastructure for traditional capital markets. While the value is currently nascent, this step lays the foundation for a future where financial assets are not confined to siloed legacy systems but can trade 24/7 on a global, programmable, and more accessible settlement layer.

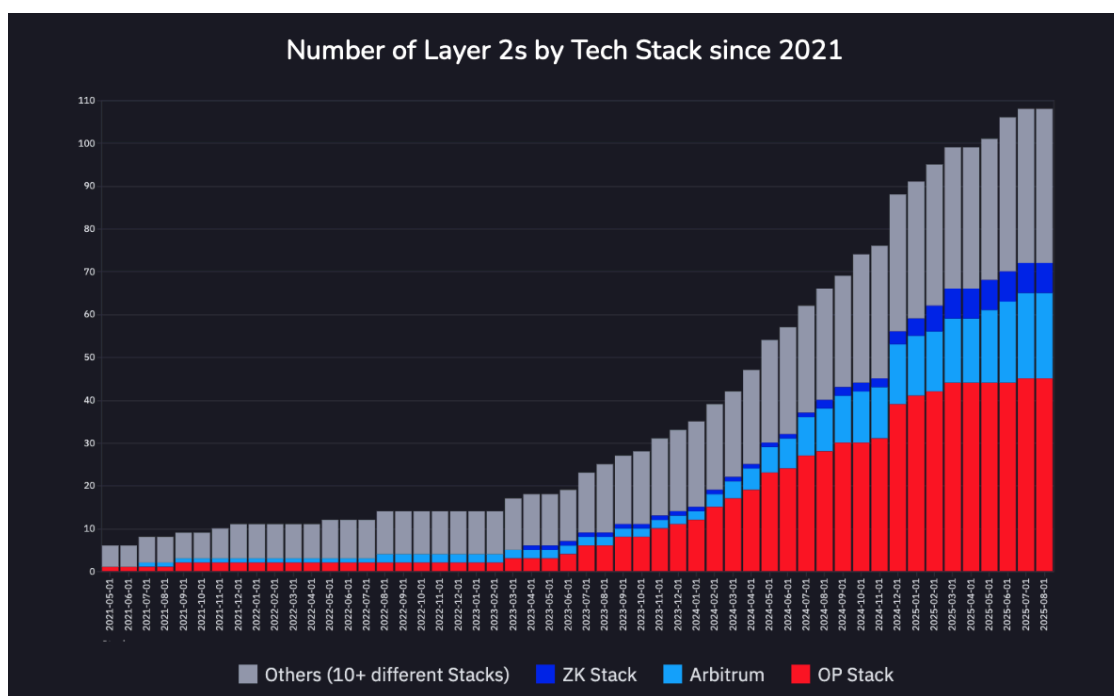
## 4. Inside Ethereum's Most Influential Layer 2 Ecosystems

The Technologies Used in the Ethereum Ecosystem are Maturing and Consolidating

The Ethereum ecosystem currently counts over 100 Layer 2s. Most of these Layer 2s make use of shared standards and technologies. In 2021-2023, the ecosystem was mostly still experimenting with different stacks/technologies. Since 2024 a clear trend towards a maturing and consolidating ecosystem is visible.

Number of Layer 2s by Tech Stack

*Most Layer 2s are using one of the major stacks (OP Stack, Arbitrum Orbit, ZK Stack)*



Source: [growthpie](https://growthpie.com), [L2BEAT](https://l2beat.com)

Most Layer 2s launching today are making use of one of the bigger, battle-tested tech stacks. The 3 biggest stacks are:

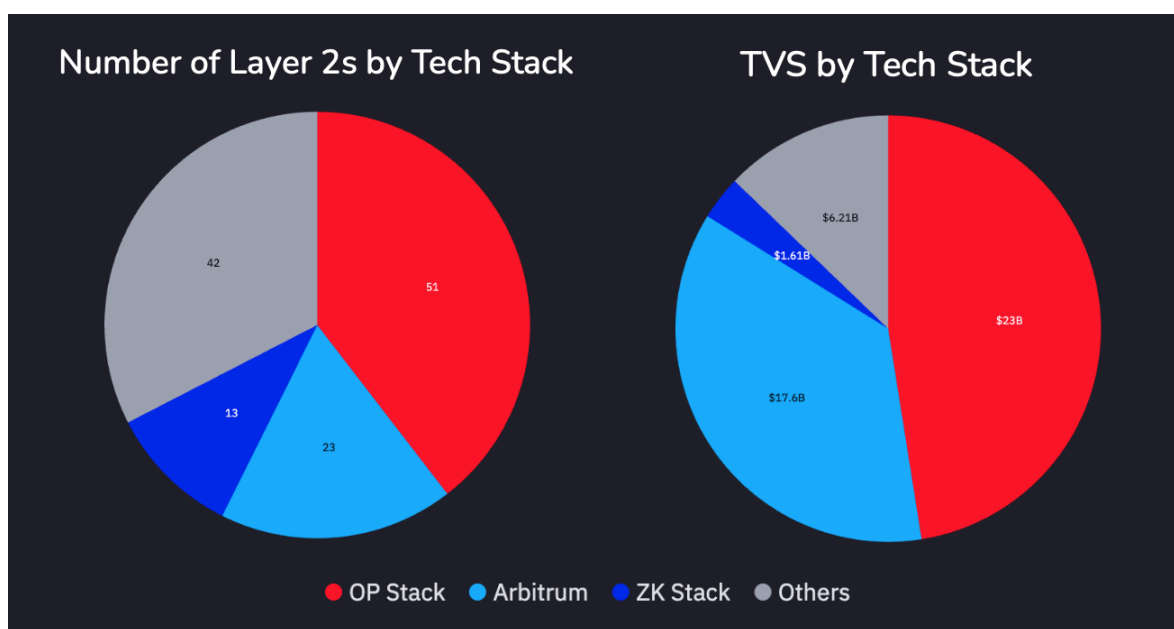
- **OP Stack**, by Optimism / OP Labs (optimistic, use of fraud proofs)
- **Orbit Stack** by Arbitrum / Offchain Labs (optimistic, use of fraud proofs)
- **ZK Stack** by ZKsync / Matter Labs (ZK, use of validity proofs)

## Using Shared Standards Brings Many Benefits

Comparing the number of chains using a tech stack to the Total Value Secured (TVS) by different tech stacks, it also shows that users favor and trust battle-tested stacks more with their assets. Hence, we see an even stronger TVS gravitation towards bigger stacks.

### Number of Layer 2s and TVS by Tech Stack

*Aggregated by TVS, we see an even stronger consolidation of tech stacks*



Source: [growthpie](#), [L2BEAT](#)

Using a shared technology standard has multiple benefits for chains, app developers, and users:

- Benefit from shared R&D as well as upgrades
- Aligned tech standards allows for better interoperability down the line (“clusters”)
- Easier for application developers to deploy to multiple chains of the same stack
- Wallets and other tooling can easier be integrated with the same stack

Most chains don’t just adopt a shared technology stack, they also agree to go one step further and form so-called “clusters”. This means that they agree to additional agreements within these clusters and usually also implement some type of revenue/profit share mechanism with the team that predominantly invests in R&D and implementations that benefit the whole cluster.

The most-well known clusters are:

- **Superchain** (by Optimism -> OP Stack chains)
- **Arbitrum Orbit** (by Arbitrum -> Orbit Stack chains)
- **Elastic Network** (by ZKsync -> ZK Stack chains)

In the following chapters the major Ethereum stacks / clusters are analyzed more.

## 4.1 Superchain by Optimism

From early on, the Superchain, which was born out of Optimism (now OP Mainnet), was a main driver in the formation of chain clusters.

### Optimism's Superchain is Onboarding a Variety of Big Players

A few notable names that were onboarded to the Superchain and either already launched their Layer 2 or are about to launch a Layer 2 are:

- **Coinbase**: launched **Base Chain** in July 2023 and is now one of the leading Layer 2s
- **Celo**: which launched as Layer 1 in 2020 and became a Layer 2 in March 2025
- **Sony**: launched **Soneium** in January 2025
- **Kraken**: launched **Ink** in December 2024
- **World**: launched **World Chain** in October 2024 with native Account Abstraction and strong focus on verifying personhood (HumanID)
- **Uniswap**: launched **Unichain** in February 2025 aiming to become the liquidity hub of the Superchain

### Example: Celo - A Mission-Driven L2 for Real-World Adoption

While many Layer 2s focus on general-purpose scaling, Celo stands out as a mission-driven ecosystem focused on bringing blockchain technology to real-world use cases, particularly in emerging markets. After launching as a Layer 1 in 2020, Celo made a strategic migration to become an Ethereum Layer 2 in March 2025, joining the Optimism Superchain. This move amplified its ability to leverage Ethereum's security and liquidity while doubling down on its core focus: building a more inclusive and accessible financial system.

### The Stablecoin Engine: MiniPay & Global Payments

At the heart of Celo's real-world adoption is MiniPay, a non-custodial stablecoin wallet launched by Opera. It serves as a powerful gateway to Web3, achieving staggering growth:

- Massive User Base: MiniPay has surpassed [8 million activated wallets and processed over 200 million transactions](#).
- Global Reach: It introduces users in over 50 countries to the benefits of stablecoins for savings, spending, and peer-to-peer transfers, often for the first time.

This success is enabled by Celo's diverse ecosystem of 25 native stablecoins, which includes not only G7 currencies like USDT and USDC but also emerging market currencies like the Brazilian Real (BRL) and Kenyan Shilling (KES).

#### Token Transfers: Stablecoins vs. Non-Stablecoins on Celo

*Stablecoin transfers have outpaced non-stablecoin transfers on Celo and keep growing*



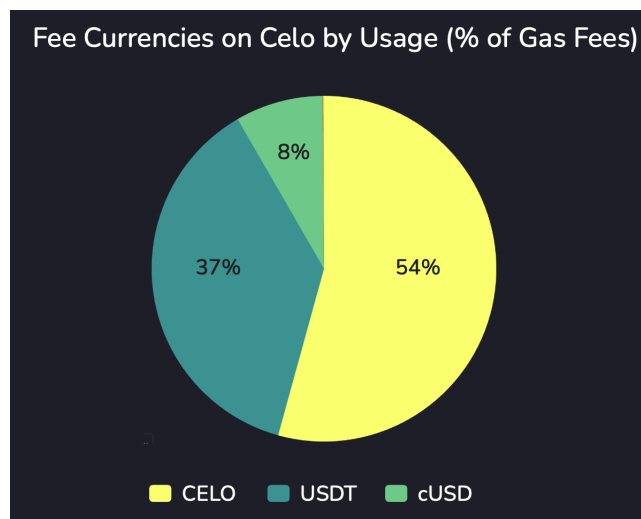
Source: [Dune](#)

#### Removing Friction: Gas Payments in Stablecoins

A key innovation driving this adoption is native fee abstraction. Celo allows users to pay for transaction fees directly with stablecoins like USDT, removing the need for users to acquire and hold the native network token (CELO) just for gas. This significantly lowers the barrier to entry and has proven immensely popular, with stablecoins now accounting for nearly 50% of all gas fees paid on the network. It's a prime example of user-centric design that makes blockchain technology practical for everyday people.

### Fee Currencies used on Celo in July 2025

Paying gas fees in stablecoins is becoming more and more the standard on Celo



Source: [growthpie](https://growthpie.com)

### Innovating for the Future: Identity

Celo continues to push the boundaries of what's possible on a Layer 2 with privacy-preserving identity solutions like Self Protocol. Self launched in early 2025, is a privacy-first identity solution using ZK-proofs to verify personhood and credentials. With partners like [Google Cloud](https://cloud.google.com/), it provides a critical tool for compliance, sybil resistance, and combating AI bots.

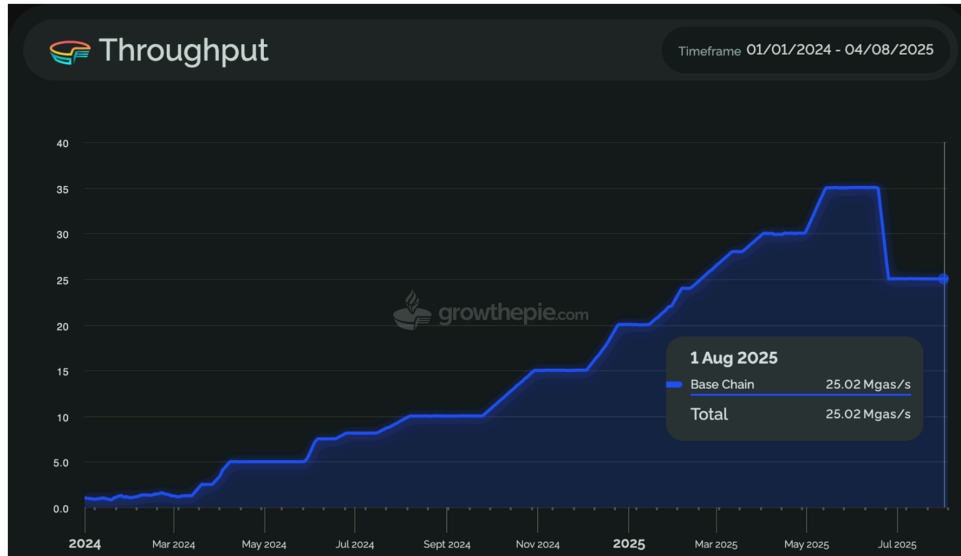
Celo's journey demonstrates the power of the modular L2 thesis: by building a specialized, mission-driven execution environment on top of Ethereum, it can achieve remarkable real-world adoption and financial inclusion, all while benefiting from the security and decentralization of the world's settlement layer.

### Example: Base Chain, on the Road to 1 Giga Gas

Base joined the Superchain early on and is aggressively scaling vertically, aiming to provide an abundance of blockspace at sub-cent fees for the average user. This scaling trajectory has been working well over the past 1.5 years. Throughput has increased over 10x and lots of initiatives are underway to allow for further scaling (i.e. pushing Ethereum Mainnet to increase its available Blob space so that Base can keep posting all of its data to Ethereum).

## Throughput in Gas per Second on Base Chain

Throughput has been increased iteratively, until elasticity was increased in late June

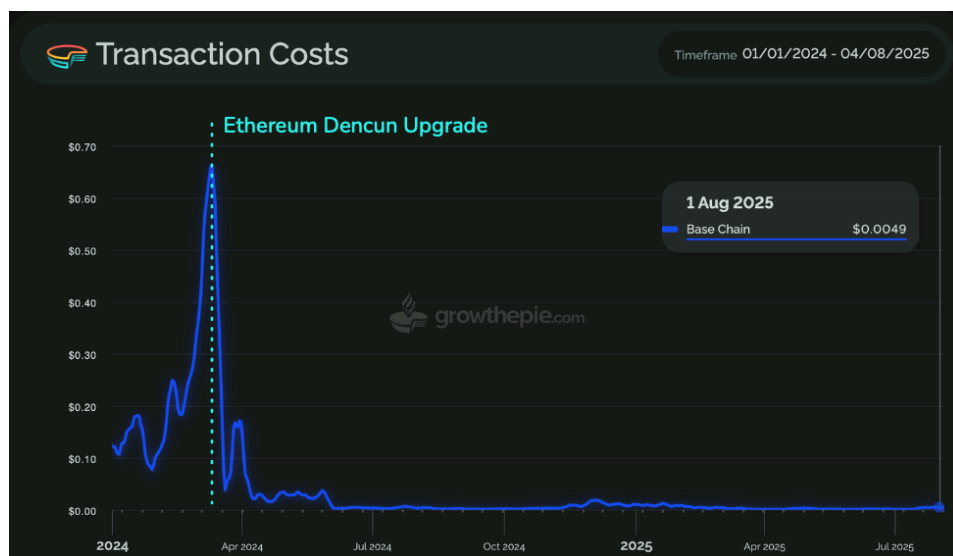


Source: [growthpie](https://growthpie.com)

With the Dencun upgrade, Base Chain was able to post data much cheaper to Ethereum which allowed it to succeed on its promise to offer sub-cent transaction fees to the average user. Currently, median transactions costs are hovering around \$0.002 and \$0.010

## Transaction Costs on Base Chain

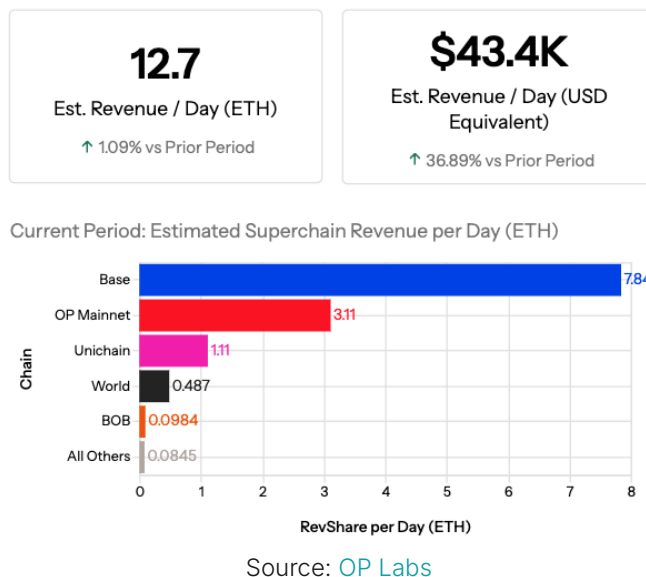
Median transaction costs are well below 1 cent



Source: [growthpie](https://growthpie.com)

## Revenue Share Between Superchain Chains and the Optimism Collective

With the aforementioned revenue/profit share agreements in place, the Optimism Collective is generating revenue when the chains in its cluster are thriving. Therefore, creating a positive reinforcement loop where chains as well as the OP Collective are aligned to improve technology, user experience, and developer onboarding across the Superchain.



## 4.2 Arbitrum Orbit

Arbitrum, which is well known for its thriving DeFi ecosystem and decentralized nature through DAO governance, also successfully created a thriving ecosystem of chains that share the same tech standard as well as agreeing to a revenue/profit sharing agreement.

### Arbitrum Orbit, the Home of DeFi and Gaming

The Arbitrum Stack now covers over 50 chains, 29 of which are so-called Layer 3s. Chains that settle on other Layer 2s (like Arbitrum One, Base Chain, Arbitrum Nova) instead of settling onto Ethereum directly. This weakens the security profile of these chains (since their settlement is now also dependent on a Layer 2, not just Ethereum) but in turn, allows them to offer even cheaper transactions and higher scale. This is ideal for use cases such as gaming and gambling (i.e. Sanko, Xai, WINR chain).

It's not just Layer 3s that chose Arbitrum, the most notable addition to the Arbitrum ecosystem is Robinhood, which started tokenizing equity on Arbitrum One and has plans to launch their own Layer 2 later this year.

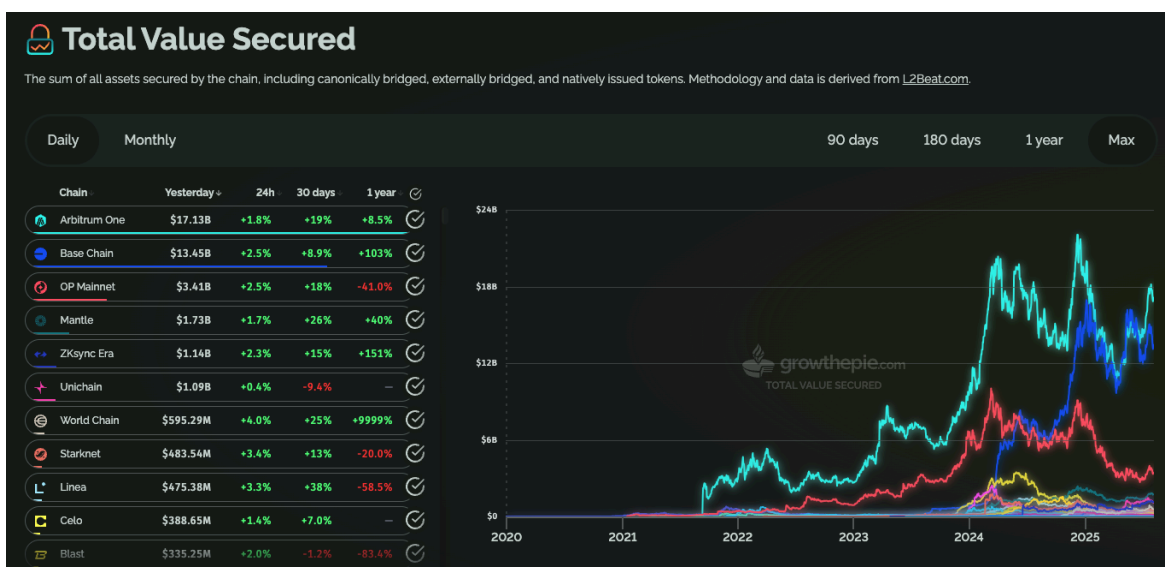
### Example: Arbitrum One, A Thriving DeFi Chain

Since its launch in August 2021, Arbitrum One has consistently been one of the top chains in the Ethereum ecosystem. This consistency paired with its decentralized governance structure allowed it to gain trust over the past 4 years and mature into a thriving DeFi ecosystem with over \$17B in “Total Value Secured” (the total amount of assets that are locked on the chain) by the chain.

Note: Roughly \$4.6B in TVS are stablecoins that are locked in the Hyperliquid bridge, meaning that these assets currently aren't in use in the Arbitrum One ecosystem.

### Total Value Secured by Layer 2s

Arbitrum has consistently been a leader in this category, reflecting the trust in this chain

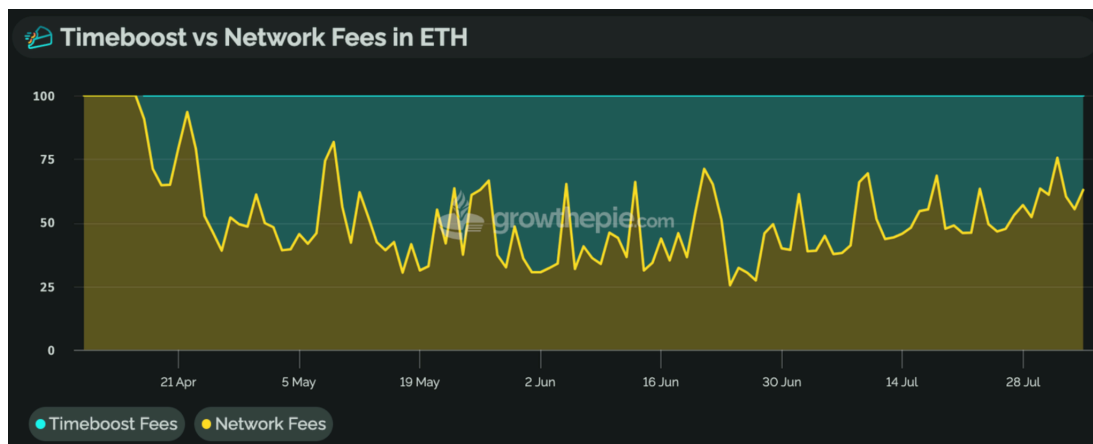


Source: [L2BEAT](https://l2beat.com), [growthpie](https://growthpie.com)

### Timeboost, Priority Lane Access for Users

In April 2025, Arbitrum introduced Timeboost, which allows users to bid on priority slots which helps them get their transactions in through an express lane and, in addition, also helps the Arbitrum DAO to generate a significant amount of revenue which was previously

hard to capture. To date, almost [\\$3B](#) was captured in additional revenue and it makes up roughly 50% of the Arbitrum DAO revenue at this point.



Source: [growthpie](https://growthpie.com)

## 4.3 Elastic Network by ZKsync

Another notable cluster in the Ethereum ecosystem is the Elastic Chain by ZKsync. ZKsync has been using validity proofs from the start, making it one of the top contenders in the Zero Knowledge rollup space. It also uses modular smart accounts at the protocol level, improving UX for end users. In addition, the Elastic Network allows bundling verifications without the need to increase hardware requirements or increase costs when the chains in the network scale.

### Institutions And Other Industries Looking Into Adopting ZK Stack Technology

In December, 2024, [Bloomberg](#) announced that Deutsche Bank is building a Layer 2, powered by ZKsync technology. Benefitting from the high level of customization, privacy and security that the ZK Stack has to offer.

In addition to institutions, crypto native social networks, like [Lens](#), are also building on the ZK Stack and launched their Layer 2 in April 2025.

Another interesting use case is [Space and Time](#), which is building a decentralized data-warehouse.

## 4.4 Other Notable Ecosystems

### Linea: A ZK-EVM Pioneer by Consensys

Developed by Consensys, the team behind core infrastructure like MetaMask and Infura, Linea is a major contender in the ZK-rollup space, notable for its deep integration with the Ethereum ecosystem's most widely-used developer tools. Its primary distinction is its "Type 2" ZK-EVM architecture, which aims for bytecode-level compatibility with Ethereum, making it exceptionally easy for developers to migrate existing dApps.

Reinforcing this, Linea has outlined a strategy of unwavering Ethereum alignment, taking concrete steps to weave its economy directly into Ethereum's. In July 2025, it introduced several pioneering initiatives: native ETH yield for users on the network, a protocol-level ETH burn that permanently removes 20% of all transaction fees from circulation, and an Ethereum-native Consortium to manage one of the largest ecosystem funds in the space.

### Taiko: The Purist's Approach with a Based Rollup Design

Taiko is distinguished in the Layer 2 landscape by its pursuit of being a "Type 1" ZK-EVM, an architecture that strives for perfect bytecode equivalence with Ethereum itself. This makes it a uniquely seamless environment for developers, but its most profound innovation is pioneering the concept of a "based rollup". This design outsources the critical task of transaction sequencing directly to Ethereum's L1 validator set, fundamentally solving the problem of centralized Layer 2 sequencers. By entrusting its core operations to Ethereum's established consensus, Taiko directly inherits the decentralization, censorship resistance, and liveness of the Ethereum Mainnet, representing one of the most direct and purist expressions of the Ethereum-aligned scaling vision.

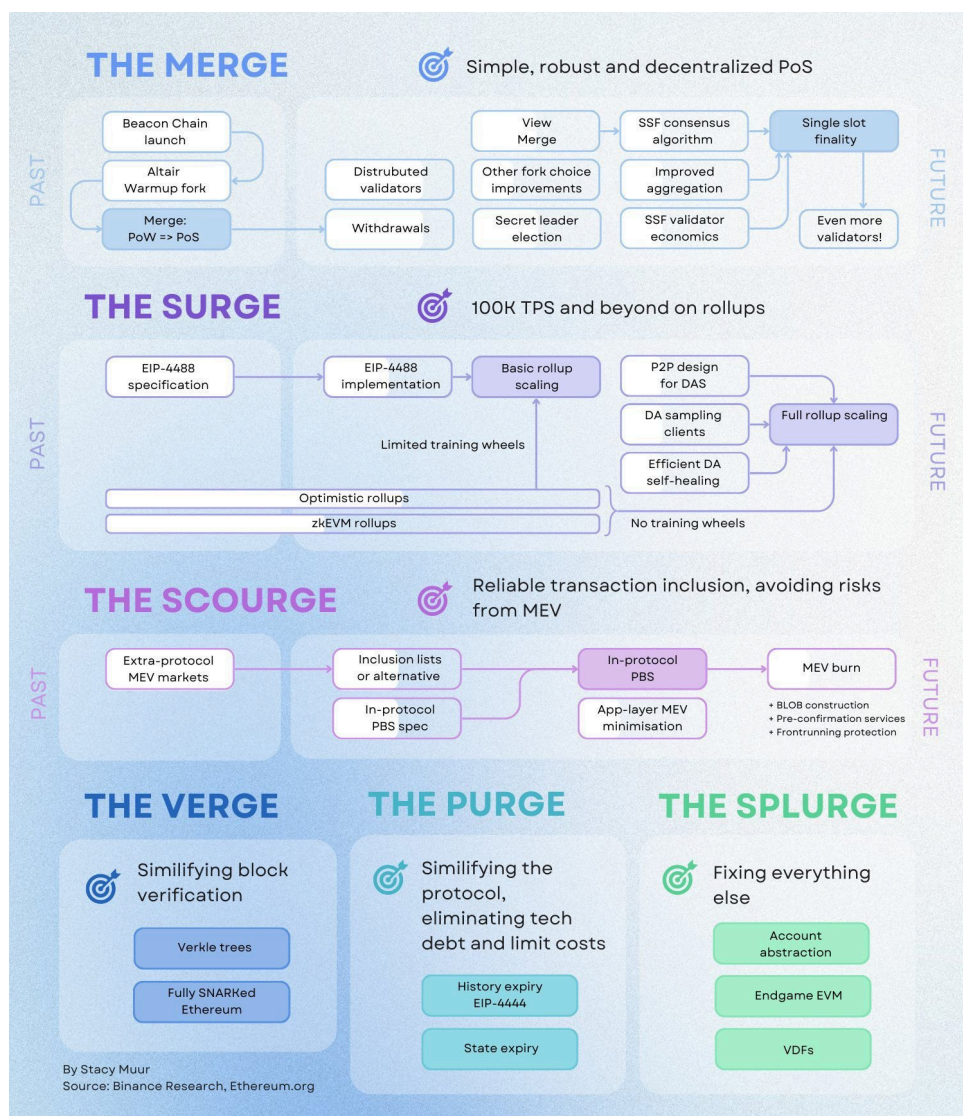
### Starknet: Scaling with a Custom Tech Stack

Starknet, developed by the pioneering cryptography firm Starkware, is a Layer 2 network that forgoes EVM-compatibility in favor of its own powerful Cairo programming language and STARK proof system. This unique architecture, while requiring developers to learn a new language, is purpose-built for massive computational scale and unlocks powerful user experience features like native Account Abstraction. As one of the earliest and most technologically distinct ZK-rollups, Starknet has established itself as a hub for applications demanding extreme scalability, such as high-performance games and sophisticated DeFi protocols, pushing the boundaries of what can be built onchain.

## 5. Ethereum Roadmap - What's Next

After a decade of pioneering blockchain innovation, Ethereum stands at a pivotal juncture. The network has evolved from experimental technology to institutional-grade infrastructure processing over [\\$1 trillion in annual stablecoin volume](#) and supporting [13.5 million daily active addresses](#) across its Layer 1 and Layer 2 ecosystem. The next phase focuses on completing its ambitious technical roadmap while cementing its position as the world ledger.

### The Ethereum Roadmap



Source: [Stacy Muur](#)

## 5.1 Ethereum's Six-Phase Evolution Continues Beyond 2025

Unlike traditional software development, Ethereum's roadmap represents a unique approach to upgrading a decentralized protocol. Rather than sequential releases, multiple development teams worldwide work on different aspects simultaneously, coordinating through Ethereum Improvement Proposals (EIPs) and regular core developer calls. Dozens of teams work on different components in parallel, shipping protocol upgrades through hard forks across two layers:

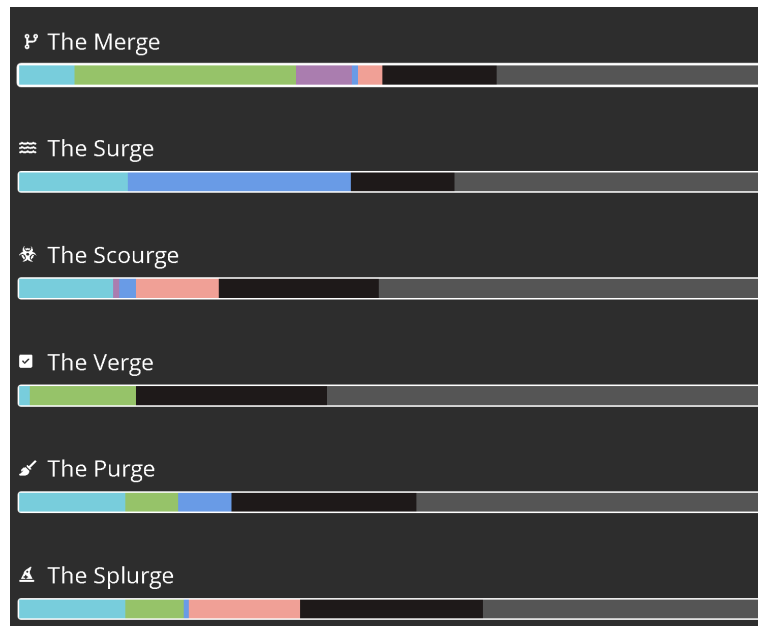
- **Consensus Layer Hard Forks** adjust how validators secure the network. They influence staking, finality, signature schemes, and long-term resilience.
- **Execution Layer Hard Forks** define how Ethereum processes transactions, stores data, and manages smart contracts.

The roadmap is structured into six long-running streams:

- **The Merge:** Secured the network via Proof-of-Stake, drastically cutting energy use and new token issuance.
- **The Surge:** Aims for massive scalability by providing abundant data space for Layer 2s, enabling sub-cent transaction fees.
- **The Scourge:** Guarantees network fairness and credible neutrality by mitigating censorship and centralization risks from MEV.
- **The Verge:** Simplifies block verification using Verkle trees, making it far easier for anyone to run a node and boosting decentralization.
- **The Purge:** Reduces the data storage burden for node operators by pruning old history, keeping the network cheap to run.
- **The Splurge:** A catch-all for key user and developer upgrades, such as Account Abstraction for more powerful, user-friendly wallets.

Each stream progresses independently but contributes to Ethereum's broader mission: a secure, scalable, and decentralized settlement layer for internet-scale applications.

## Ethereum Roadmap Progress Bar Chart



Source: [Ethroadmap](#)

Ethereum Mainnet's next major upgrades are scheduled for late 2025 and will come as a coordinated fork across both layers:

- **Osaka** (execution layer)
- **Fulu** (consensus layer)

## PeerDAS – Scalable Data Availability for Rollups

The main upgrade in Fusaka (Fulu–Osaka) will be PeerDAS.

**PeerDAS (Peer-to-Peer Data Availability Sampling)** allows validators to verify data blobs without downloading them entirely. This drastically reduces hardware requirements while unlocking:

- Higher blob throughput
- Lower fees for rollups
- Better decentralization of validator participation

PeerDAS strengthens Ethereum's role as a scalable, neutral data layer for thousands of execution environments. In addition, [11 other EIPs](#) are scheduled for inclusion, which contain a variety of scaling and UX benefits.

## 5.2 Toward Stateless Ethereum (2026)

Planned for 2026, the Amsterdam-Gloas fork series will significantly simplify how Ethereum nodes store and access data. Before diving into the solution, it's important to understand 'state', the ever-growing ledger of all account balances and smart contract data on Ethereum. Today, nodes must store this entire history, creating significant hardware requirements:

- **Verkle Trees:** Replace Merkle-Patricia Trees with a more efficient structure that reduces state proof size by over 90 percent. This enables mobile wallets and lightweight clients to directly verify Ethereum blocks.
- **Stateless Execution Foundations:** Introduces gas repricing and preimage retention mechanisms. These changes prepare Ethereum for a stateless model, where even full nodes do not need to store the entire chain state.

### Why this Matters:

- Ethereum becomes more accessible to mobile devices and embedded clients
- Full nodes become easier and cheaper to run
- The protocol becomes more censorship-resistant and decentralized

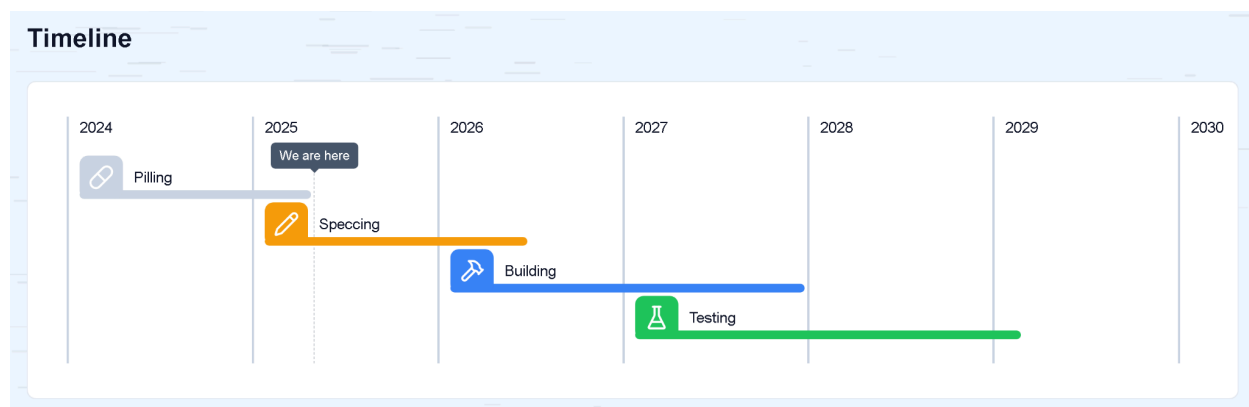
Amsterdam focuses on execution-layer improvements like Verkle integration and stateless design. Gloas will support the consensus-layer upgrades needed to validate this new structure.

## 5.3 Looking Ahead: The Lean Ethereum Vision (2026 to 2030)

The upgrades from Osaka to Amsterdam and from Fulu to Gloas lay the foundation for Ethereum's long-term transformation. The next stage of the roadmap focuses on a more modular and minimal protocol design, based on three ideas: Lean Consensus, Lean Data, and Lean Execution.

In July 2025, Ethereum researcher Justin Drake introduced a bold framework for Ethereum's next decade: **Lean Ethereum**.

## Lean Consensus R&D Progress



Source: [Leanroadmap](#)

Inspired by the principles of minimalism, modularity, and provable security, Lean Ethereum proposes three reimagined layers:

- **Lean Consensus:** Beacon Chain 2.0 with fast finality and hash-based aggregate signatures, replacing BLS and resisting quantum attacks.
- **Lean Data:** Post-quantum blobs, granular blob sizing, and real-time sampling systems for highly scalable data layers.
- **Lean Execution:** A minimal, zk-SNARK friendly instruction set (possibly RISC-V), enabling efficient zero-knowledge proving without losing EVM compatibility.

Lean Ethereum isn't just a research track. It's a design ethos for how to make Ethereum future-proof. The core idea: Ethereum should run on phones, survive quantum threats, and settle billions of transactions without losing decentralization. According to the latest R&D roadmap, specifications are being drafted now, with active development starting in 2026 and testing extending into the late decade.

## Strategic Takeaways: How to Navigate What's Coming

Taken together, Ethereum's roadmap reveals a clear strategy: aggressively scale the ecosystem through Layer 2s while deliberately hardening the mainnet as a minimal, secure, and decentralized settlement layer. Near-term upgrades like PeerDAS directly fuel L2 growth, while long-term initiatives like Verkle Trees and the 'Lean Ethereum' vision ensure the core protocol becomes more accessible, resilient, and future-proof against quantum and centralization risks.

## 6. Conclusion: The Deliberate Evolution of the World Ledger

Ethereum's first decade was a story of relentless, open-source innovation. What began as an experiment in programmable money has become the backbone of a digital economy, securing over \$154.2B in stablecoins and anchoring the world's largest ecosystem of decentralized applications.

### Staying Credible in a Multi-Chain, Modular World.

Ethereum is no longer the only smart contract platform. In a world of competing Layer 1s and modular stacks, its enduring advantage is not its head start, but its credible neutrality and reliability (zero downtime in 10 years). This is the hard-won trust that the network's rules are transparent, its evolution is deliberate, and its purpose is to serve as a fair and open foundation for everyone.

The roadmap reflects this ethos. It is not a race for the highest TPS on a single chain, but a strategic decision to become the most secure and reliable world ledger while also acting as a decentralized settlement layer for a thriving ecosystem of Layer 2s. Ethereum is choosing to be the bedrock, the ultimate source of truth and security, on which thousands of other chains and applications can build with confidence.

**Ten years in, Ethereum's evolution is far from over. By methodically removing friction, lowering costs, and preparing for the technological horizon, it is not just scaling a network. It is building the permanent, trustworthy foundation for a new digital economy, designed not to divide the market, but to grow the pie.**

## Glossary

### **DAO (Decentralized Autonomous Organization)**

An organization represented by rules encoded as smart contracts on a blockchain. DAOs are often governed by their members, who vote with tokens to make collective decisions.

### **DeFi (Decentralized Finance)**

A broad category of financial applications built on blockchain technology that operate without traditional intermediaries like banks, enabling activities like lending, borrowing, and trading.

### **EIP (Ethereum Improvement Proposal)**

The formal process and document standard used by developers to propose new features, improvements, or changes to the Ethereum protocol.

### **ETH**

The native cryptocurrency of the Ethereum network. It is used to pay for transaction fees (gas) and serves as the primary economic asset within the ecosystem.

### **Ethereum Ecosystem**

The entirety of the Ethereum network, including its base layer (Mainnet), Layer 2 scaling solutions, and the thousands of decentralized applications (dApps) built on top.

### **Ethereum Mainnet**

The primary, public Ethereum blockchain, also known as Layer 1. It serves as the ultimate ledger, settlement, and security layer for the entire ecosystem.

### **Gas**

The complexity of a transaction is defined in gas. Every operation within a transaction costs gas. The simplest transaction is the transfer of native ETH which uses 21,000 gas.

### **Gas Price**

The gas price is denominated in ETH and specifies the price per unit gas to be paid for block inclusion of a transaction. Gas prices fluctuate based on network demand, while unit gas depends on the complexity of the transaction.

### **Layer 2 (L2)**

A separate blockchain built "on top" of Ethereum (Layer 1) to provide greater scale and

lower transaction costs. L2s process transactions independently but post data back to Layer 1, inheriting its security guarantees.

**MEV (Maximal Extractable Value)**

The maximum potential profit a block producer (validator) can extract by arbitrarily including, excluding, or reordering transactions within a block. The Ethereum roadmap includes plans to mitigate the centralizing risks of MEV.

**Proof-of-Stake (PoS)**

A consensus mechanism where network participants lock up a stake of cryptocurrency (ETH) to become validators. These validators are chosen to create new blocks and confirm transactions, earning rewards for honest behavior. It is significantly more energy-efficient than Proof-of-Work.

**Proof-of-Work (PoW)**

A consensus mechanism that requires participants ("miners") to solve complex computational puzzles to propose new blocks. This process is energy-intensive. Ethereum successfully transitioned from PoW to PoS in 2022.

**Real-World Assets (RWA)**

Digital tokens on a blockchain that represent ownership of a physical or traditional financial asset, such as real estate, private credit, stocks, or bonds.

**Rollup**

A primary type of Layer 2 scaling solution. Rollups execute transactions off-chain, then "roll up" the data into a single, compressed batch that is posted to the Ethereum Mainnet for security and finality.

**Settlement Layer**

A foundational blockchain (like Ethereum Mainnet) that provides high security and verifiable finality for transactions. Other chains (like Layer 2s) can use it as a trusted "court of law" to settle disputes and anchor their own state.

**Smart Contract**

A self-executing program with the terms of an agreement directly written into code. They run on the blockchain and automatically execute when predetermined conditions are met, forming the basis for dApps and DAOs.

**Stablecoin**

A type of cryptocurrency designed to maintain a stable value by pegging it to a reserve asset, most commonly the U.S. dollar (e.g., USDC, USDT).

**Staking**

The act of depositing and locking up ETH to participate in network validation under the Proof-of-Stake consensus mechanism. Stakers earn rewards for helping to secure the network.

**Throughput**

A measure of a network's capacity, expressed in gas per second. It indicates how much activity the network can process in a given time.

**Tokenization**

The process of converting rights to an asset into a digital token on a blockchain. This can apply to both real-world assets (RWA) and digital goods.

**Total Value Secured (TVS)**

A metric measuring the total value of assets locked on a Layer 2 chain. It includes assets that have been bridged from Ethereum as well as assets natively issued on the L2.

**TPS (Transactions Per Second)**

A common metric for a network's throughput, indicating the number of individual transactions it can process each second.

**Validator**

A participant in a Proof-of-Stake network (like Ethereum) who has staked ETH to help secure the chain. Validators are responsible for processing transactions and creating new blocks in exchange for rewards.

## About the Authors

This report was a collaborative effort by a dedicated team of researchers and analysts from growthepie and Onchain Foundation.



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