Interview Series

Enabling the Builders: How Catalysis Is Unlocking the Next Generation of AVSs

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As the restaking narrative rapidly evolves, one thing has become clear: building secure, decentralized services on top of shared security protocols is harder than it looks. From fragmented tooling to high DevOps overhead, today's AVS (Autonomous Verifiable Services) developers are forced to navigate a complex and often messy infrastructure landscape.

Enter Catalysis, a Presto portfolio company founded by Abhishek and Dhruv. Catalysis aims to become the default infrastructure layer for AVSs — abstracting away the operational headaches and enabling teams to build and scale faster across multiple restaking protocols.

To better understand how Catalysis is reshaping the shared security stack, Presto Research sat down with the co-founders to discuss their journey, the biggest pain points facing AVS builders and node operators today, and why "shared security abstraction" might be the key to unlocking the next wave of decentralized networks.

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1. Who are you, and can you briefly introduce Catalysis (in a non-tech way)?

We are Abhishek and Dhruv, co-founders of Catalysis Network.

We've been close friends for eight years and share a deep passion for building products that push the boundaries of decentralization. We are huge believers in an open, decentralized future.

At its core, Catalysis makes it extremely easy to build decentralized networks. We do this by simplifying the UX of building decentralized infrastructure so that it is seamless, fast and easily accessible to developers.

One of the biggest challenges in building decentralized systems is securing them. Instead of reinventing the wheel, shared security allows networks to "borrow" security from larger blockchains like Ethereum and Bitcoin. Catalysis abstracts away the complexity of integrating shared security, so developers can focus on building, not wrestling with infrastructure.

Figure 1: The Restaking Stack (Expanded Version)
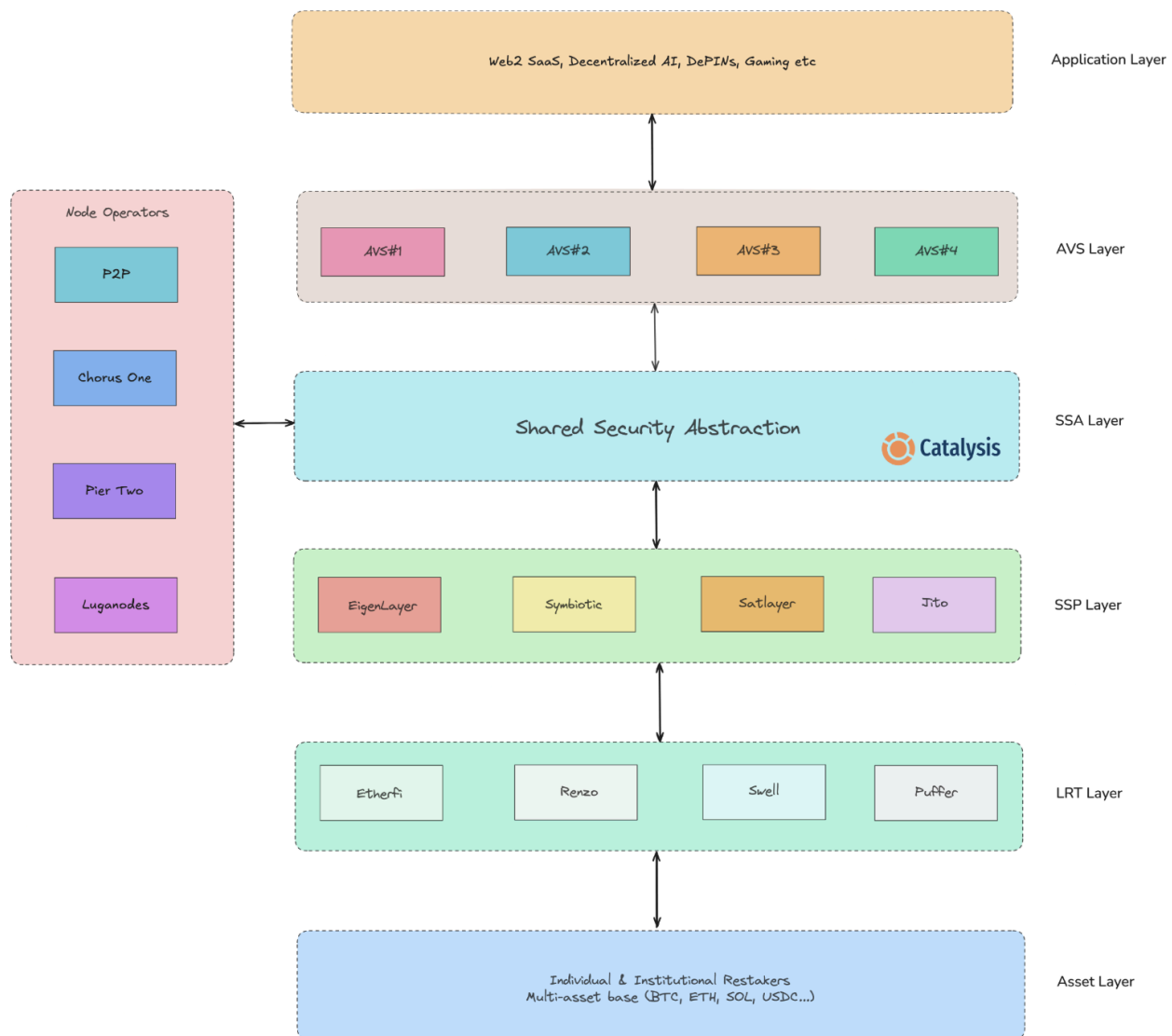
Source: Catalysis

2. What motivated you to create this project?

When we set out to build our own AVS, we expected to move fast. But we quickly ran into a wall. The tooling available was rigid, tied to a specific restaking protocol and not built for flexibility. Even beyond that, the process was full of unknowns:

- Which restaking protocol should we use?
- How much security do we need?
- How do we structure modular AVS software?
- How do we manage deployment, rewards, delegations, slashing?

None of this was standardized. Every team was rebuilding the same pieces from scratch —

slowing everyone down and killing rapid experimentation. As a small team, we didn't have months to spend reinventing infra. But that's exactly what we ended up doing.

We validated this with other AVS teams — everyone was facing similar friction. Tooling was either too rigid or too barebones. There was no clear path to plug-and-play shared security, let alone optimize across protocols.

On top of that, we realized economic security was *fragmented*. EigenLayer was leading, but Symbiotic, Kernel, SatLayer and others were coming fast. We asked ourselves a simple question:

"As an AVS builder, do I really care where my security is coming from — or do I just want the best security for my network, delivered in the easiest way possible?"

That first-principles thinking led us to Catalysis.

Catalysis was born to solve exactly these pain points — abstracting away the complexity, standardizing AVS tooling and giving AVS developers a fast, flexible and modular way to build and scale regardless of any specific restaking protocol.

We're building what we wish we had, so the next generation of AVSs don't have to go through what we did.

2-1. Based on your user surveys, what are the biggest pain points for AVS developers, node operators, and restaking platforms that Catalysis aims to address?

We spoke to dozens of AVS teams, node operators and restaking protocols and the pain points were strikingly consistent across the board. Here's what we found:

For AVS Developers:

- *High time and cost overhead*: Teams spend significant time and resources just to get their AVS up and running. Most of that effort goes into low-level infra and solving the same problems over and over.

- *Lack of modular tooling*: Most of the tooling out there is rigid and opinionated. Developers want a modular, customizable stack - so when it's time to move fast or experiment, you're not stuck fighting the framework instead of building your product.

- *Limited flexibility across protocols*: Today, launching on a new restaking protocol often means rebuilding everything. What teams really need is protocol-agnostic tooling — build once, deploy anywhere.

- *Hard to earn trust*: Without robust, standardized AVS software, it's harder to inspire confidence,

whether from LRT curators or node operators who need reliability before they commit to running your network.

For Node Operators:

- *Infrastructure overhead*: Each restaking protocol has its own tooling and infra requirements. Operators need to spin up custom setups to support a new restaking ecosystem, which doesn't scale.

- *No standardization*: With AVSs being built in wildly different ways, that means onboarding is slow, ops are messy and you're constantly guessing how to get things running reliably.

- *High DevOps costs*: Debugging and maintaining each AVS takes serious effort. DevOps time adds up fast, especially when you're chasing obscure bugs with zero visibility or standardized tooling.

- *Scaling concerns*: With hundreds (soon thousands) of AVSs on the horizon, node operators need a unified, scalable way to manage them all without burning out their engineering teams.

For Restaking Platforms:

- *Onboarding bottlenecks:* Attracting high-quality AVSs is tough when the tooling is fragmented and infra setup is complex. Without a smoother path, most builders stick to the dominant players.

- *Feature parity*: Every restaking protocol wants to offer competitive features and security guarantees but without a shared layer to build on, it's hard to match what others are doing across ecosystems.

Figure 2: Current Challenges in the Restaking Ecosystem
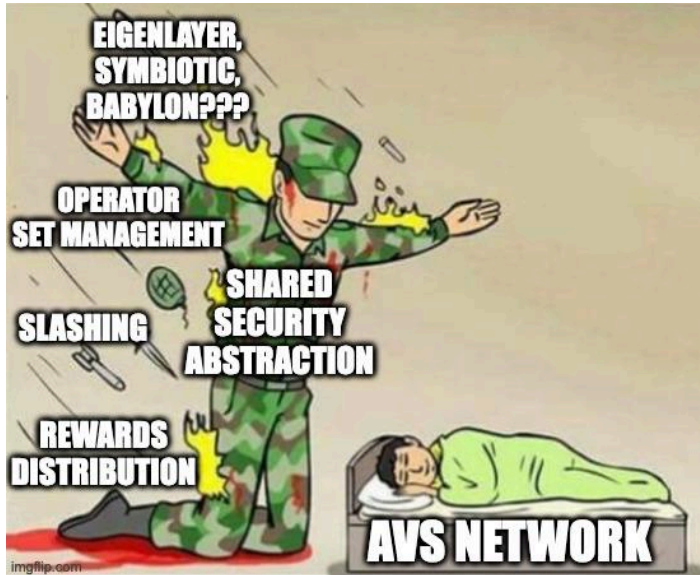
Source: Catalysis X

3. What are the biggest misconceptions people have about restaking in crypto today?

There are a couple of misconceptions about re-staking today:

"It's all hype, no substance."

- While we understand the skepticism, we are still early but not empty. 100+ AVSs are already in development.
- Restaking isn't about replacing existing models — it's about expanding the design space for verifiable systems.

"Restaking is free security."

- Not true. AVSs pay for the economic security they consume.
- This comes with real rewards for restakers and real slashing risks that require thoughtful design and careful implementation.

"Protocols lose sovereignty."

- Not the case. AVSs borrow economic security but retain full control over their logic, rules and governance.
- It doesn't mean giving up control.

"There's no value accrual for my AVS token."

- Not true. Dual staking models allow you to tie your native token directly into the security layer,

enabling value accrual from Day 1.
- It's a simple, effective way to bootstrap utility while aligning your token with the core function of the network..
- This gives your token immediate economic relevance, even as you figure out additional utility or use cases later as the network scales.

"Restaking is too risky."

- Like any shared infrastructure, risks exist — but they can be mitigated with proper risk analysis, effective safeguards and well-tested slashing conditions.
- Risk frameworks from teams like Gauntlet, Yieldnest and MEV Capital are already helping AVSs quantify and mitigate these risks.

"L2s are better."

- Different tools for different problems. L2s solve for scalability. Restaking solves for security and coordination.
- They are not competitors, not complementary.
- In fact, restaked rollups are emerging as a powerful new category that combines both

Restaking isn't a shortcut — it's a new foundation for trust and verifiability in decentralized systems.

4. Could you explain the concept of 'Shared Security Abstraction' (SSA) and its significance for AVSs?

Shared Security Abstraction (SSA) is the idea that AVSs shouldn't have to worry about where their security comes from.

Catalysis abstracts away the complexity of integrating with shared security protocols so builders can focus on what matters - shipping their core application, not managing infra.

For AVSs, SSA means:

- Launch faster and cheaper - cutting AVS development time and cost by up to 80%.
- Build once, deploy anywhere across Ethereum, Bitcoin, Solana, and more — no vendor lock-in.
- Access deep, multi-protocol economic security at the most cost-effective price.
- Rebalance and allocate economic security across multiple restaking protocols to reduce security costs and spread network risk.
- Increased resilience by avoiding reliance on a single restaking provider.

In short, SSA simplifies onboarding, reduces fragmentation and makes it radically easier to build and scale AVSs, irrespective of any restaking protocol.

Figure 3: Visual Explainer for Shared Security Abstraction
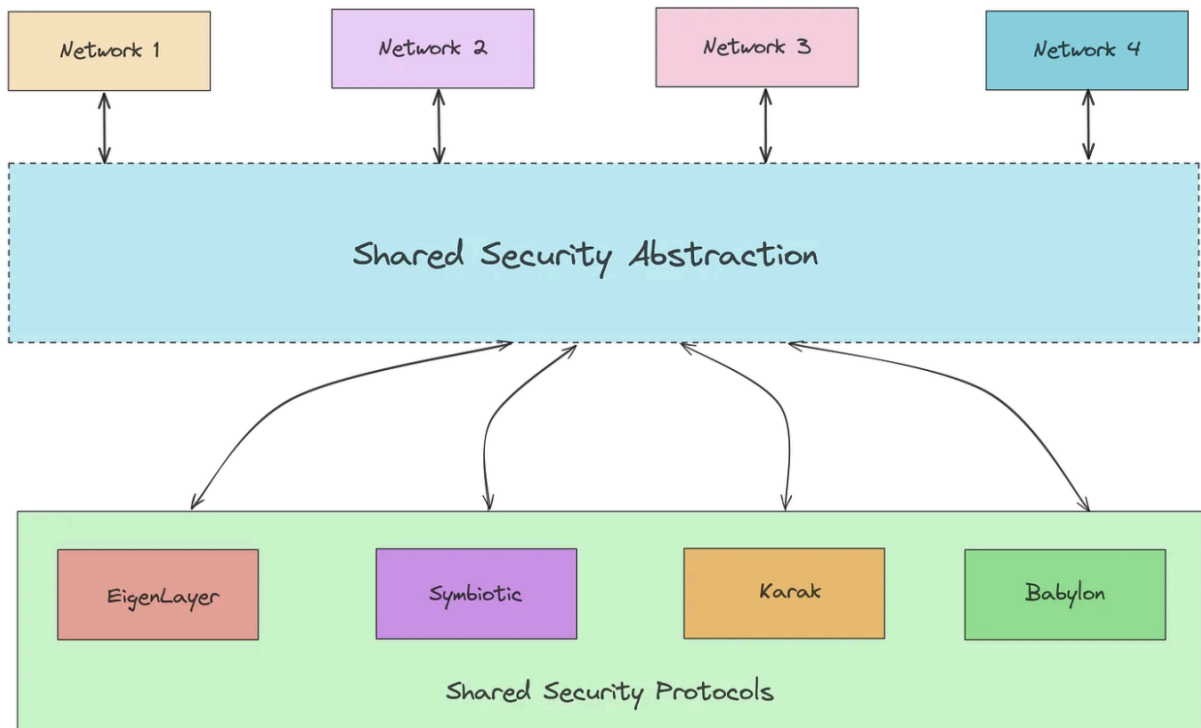
Source: Catalysis

5. How do you envision the future of shared security, and what role do you see Catalysis playing in that landscape?

Shared security is going to be foundational to how decentralized networks are built. It offers the most scalable path to verifiability and decentralization — without needing every network to bootstrap its own validator set. The market opportunity is massive and even extends beyond web3 to web2 services but the key challenge is accessibility.

For shared security to reach its potential, it needs to be composable, simplified, capital-efficient and developer-friendly. That's where Catalysis comes in.

We're building the default infrastructure layer for building and running AVSs — making it simple to plug into shared security across restaking protocols, without dealing with fragmented tooling or operational overhead. AVS developers can build faster and node operators can manage and run AVSs seamlessly.

In the long run, we see Catalysis becoming the security abstraction layer powering most of the shared security ecosystem — bootstrapping and scaling the next 1,000+ AVSs across ecosystems.

6. How do you balance pragmatism vs. ideology when building in crypto, especially when it comes to decentralization?

We see decentralization as a means to an end — not dogma, but a powerful tool for resilience, permissionlessness and credible neutrality. We prioritize **practical decentralization** — real distribution of power and security guarantees over ideological purity.

Ethereum is the gold standard; sidechains aren't wrong, they just serve different trade-offs. That's what makes AVSs and shared security so compelling. It gives you modular, controllable decentralization that can evolve with your needs.

But at the core, the ideology still matters. It's what keeps us grounded. Without it, we risk drifting back to the very systems we set out to change — rebuilding web2 with tokens.

7. If you weren't working on Catalysis, what's another problem in the crypto industry you'd be most excited to solve?

Anything that pushes the boundaries of decentralization while making the UX radically simpler gets me excited.

Outside of crypto infra, we think a lot about the centralization of AI. A handful of private entities controlling superintelligent systems is a future we don't want to live in. If we weren't building Catalysis, we'd be working on decentralizing AI — ensuring that humanity, not corporations, stays in control.

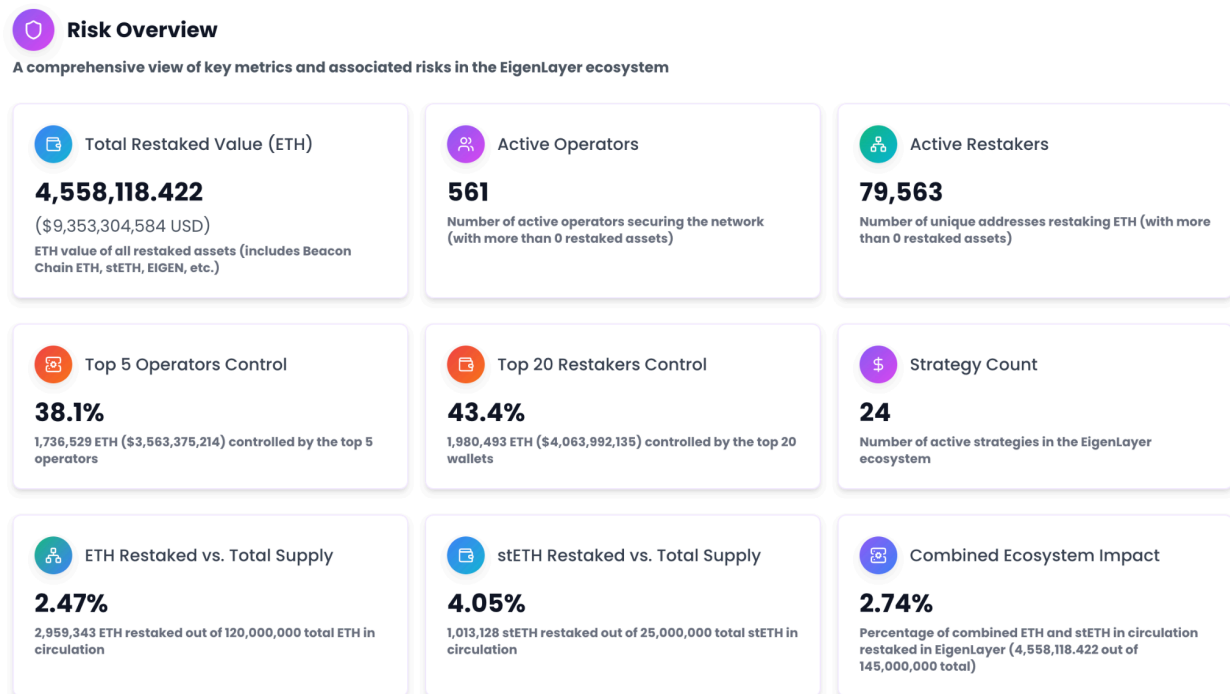## 8. What are some of the best Twitter accounts or articles to follow on restaking and shared security?

https://x.com/i/lists/1897108689322213644/info
1. Sreeram (Eigenlayer)
2. Nader (Eigenlayer)
3. Abhishek (Catalysis)
4. Felix (Symbiotic)
5. Dhruv (Catalysis)
6. Mike (Etherfi)
7. Luke (Satlayer)
Sreeram SBC Talk: https://www.youtube.com/watch?v=YSuG2kXjLNA [Technical]

Intro Articles:

- https://chorus.one/articles/the-evolution-of-shared-security

- https://x.com/Shoalresearch/status/1866919619111555120

- https://x.com/poopmandefi/status/1809848249098072129?s=46

- https://www.galaxy.com/insights/research/the-risks-and-rewards-of-staking

- https://www.galaxy.com/insights/research/the-risks-and-rewards-of-restaking

-https://www.coinbase.com/en-sg/developer-platform/discover/protocol-guides/guide-to-eigenlayer

Figure 4: The EigenLayer Ecosystem by the Numbers

Risk Overview

A comprehensive view of key metrics and associated risks in the EigenLayer ecosystem

Total Restaked Value (ETH)	Active Operators	Active Restakers
4,558,118.422	**561**	**79,563**
($9,353,304,584 USD)	Number of active operators securing the network (with more than 0 restaked assets)	Number of unique addresses restaking ETH (with more than 0 restaked assets)
ETH value of all restaked assets (includes Beacon Chain ETH, stETH, EIGEN, etc.)		

Top 5 Operators Control	Top 20 Restakers Control	Strategy Count
38.1%	**43.4%**	**24**
1,736,529 ETH ($3,563,375,214) controlled by the top 5 operators	1,980,493 ETH ($4,063,992,135) controlled by the top 20 wallets	Number of active strategies in the EigenLayer ecosystem

ETH Restaked vs. Total Supply	stETH Restaked vs. Total Supply	Combined Ecosystem Impact
2.47%	**4.05%**	**2.74%**
2,959,343 ETH restaked out of 120,000,000 total ETH in circulation	1,013,128 stETH restaked out of 25,000,000 total stETH in circulation	Percentage of combined ETH and stETH in circulation restaked in EigenLayer (4,558,118.422 out of 145,000,000 total)

Source: Restake.watch

9. What are the key milestones for Catalysis in the next 12 to 24 months?

Over the next 12–24 months, we're focused on scaling Catalysis across major ecosystems and moving from testnet to mainnet:

- Testnet I – Q2 2025 (May): Launching with integrations across EigenLayer and Symbiotic on Ethereum, and Kernel on BSC.

- Testnet II – Q3 2025 (August): Expanding to Bitcoin with Babylon and SatLayer integrations.

- Mainnet Launch – Q4 2025 (November): Catalysis goes live.

Looking ahead, Catalysis v2 kicks off in Q1 2026 — aiming to build a permissionless restaking

infrastructure where any stakeholder (AVS, Operator, Curators etc) can join the Catalysis Network, powered by built-in governance and incentive mechanisms at the protocol level.

10. Any alpha or final thoughts you'd like to share?

The restaking landscape is moving fast but infra is still catching up. In just one year, we've seen over 100 AVSs launch — and that's just the beginning. Catalysis is here to help enable the next 1,000.

It feels a lot like the early days of rollups — initially hard to launch, but now spinning up a new L2 is seamless. We believe the same shift is coming for AVSs and we are happy to play a significant role in making that happen.

We're launching our first testnet in May 2025. If you're building an AVS on EigenLayer, Symbiotic or Kernel, we'd love to support you. Check out our docs to get started: https://docs.catalysis.network. Or, shoot us a DM on telegram - we're always around.

Follow along as we build: https://x.com/xenowits

That's all! Thank you very much Abhishek and Dhruv. I really appreciate your time, a lot of exciting things are coming from Catalysis.

About Presto

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