

# Hydra Whitepaper 2.0

This whitepaper was released on the 16th of June, 2022. It presents the Hydra 2.0 vision and building blocks, while offering a summarized recap of the milestones achieved in the period from January 2021 until June 2022, herein referred to as Hydra 1.0.

## Hydra 1.0 and the Seed Phase

In this section we will take a closer look at what Hydra 1.0 consists of and what was accomplished as part of it. Everything presented in this section remains highly relevant and makes up the foundation for Hydra 2.0.

### 1. Introduction to Hydra

The Hydra chain was developed with a sound philosophy, founded on the core pillars of permissionless access & operations, unconditional decentralization, and a fully autonomous design that allows it to be self-sufficient regardless of the macro environment.

The network inherits its design from Bitcoin, Ethereum and Qtum chains, of which all three are cutting-edge in their own fields and bring powerful elements to the table. In addition, it utilizes the v3 Proof of Stake consensus mechanism from the BlackCoin project. Hydra filters out the best features of all the above and introduces unique economic features on top, having stakeholders and network participants in mind.

#### **Inherited from Bitcoin:**

- Secure and most proven architecture
- UTXO model with wallet-level scalability
- Core logic for the encryption and working mechanics

#### **Inherited from Ethereum:**

- Ethereum Virtual Machine
- Smart contract functionality

- Account abstraction model for tokens

**Inherited from Qtum:**

- Decentralized Governance Protocol
- Dynamic nature of network settings
- Hybrid operations between UTXO and EVM layers

**Inherited from BlackCoin:**

- Version 3 Proof of Stake mechanism

**Unique Features Built on Top:**

- Fixed transaction fees set in USD equivalent
- Burn on transaction fees
- Gas royalty for smart contract creators
- Flexible supply management via inflationary and deflationary elements
- Various technical optimizations and iterations

*“In essence, Hydra is the result of the cumulative development history of the crypto space since its inception in 2008 and stands on the shoulders of thousands of skilled developers.”*

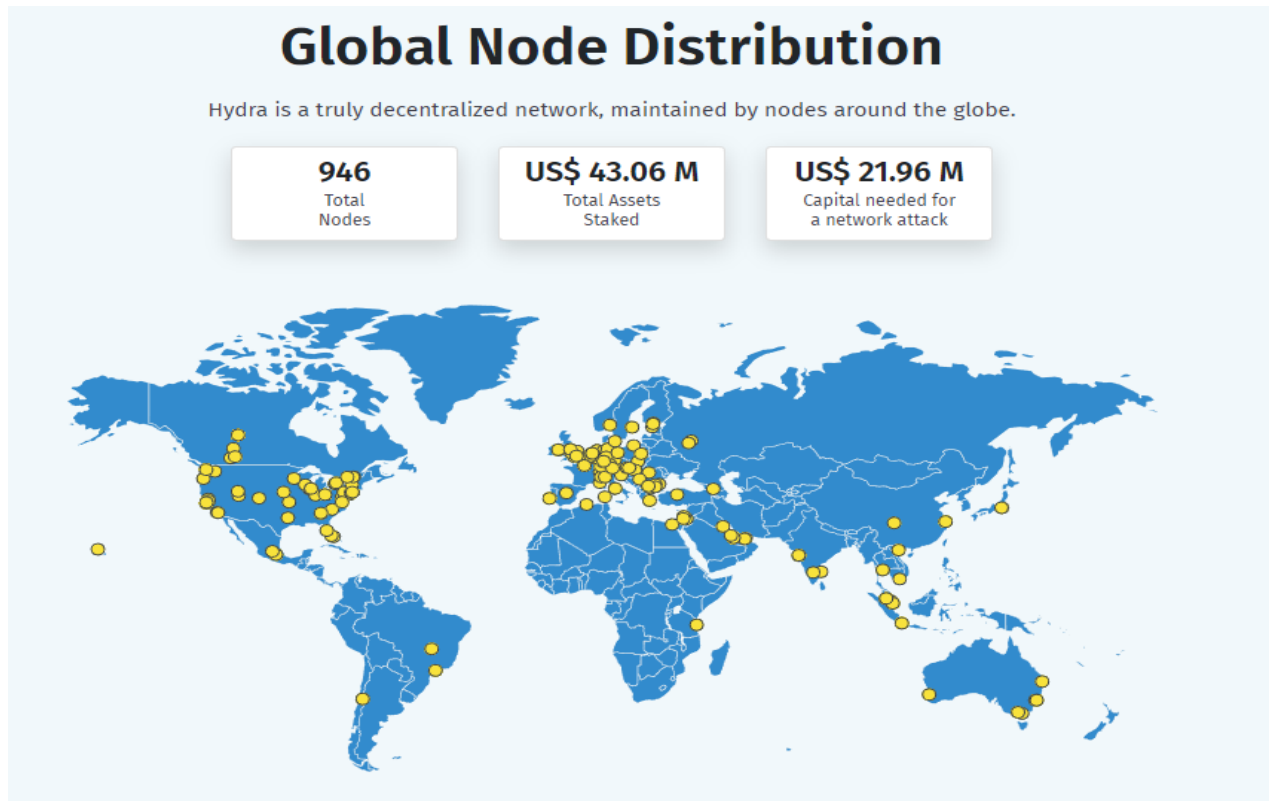
## 2. Successful Seed Phase

The seed phase started in April 2021 with the HYDRA supply distribution and was concluded in March 2022.

In this brief period, Hydra chain quickly grew from a simple network into an ecosystem with a strong community, top tier node coverage across the globe, robust infrastructure and a diverse set of projects building on it.

## 2.1 Global Node Coverage

HYDRA became a truly decentralized blockchain, thanks to more than **900 nodes** being scattered across the globe, with a healthy geographical distribution. This distribution across six continents is essential, as it not only adds redundancy to the network, but also makes it highly resilient against local risks and country-specific restrictions.

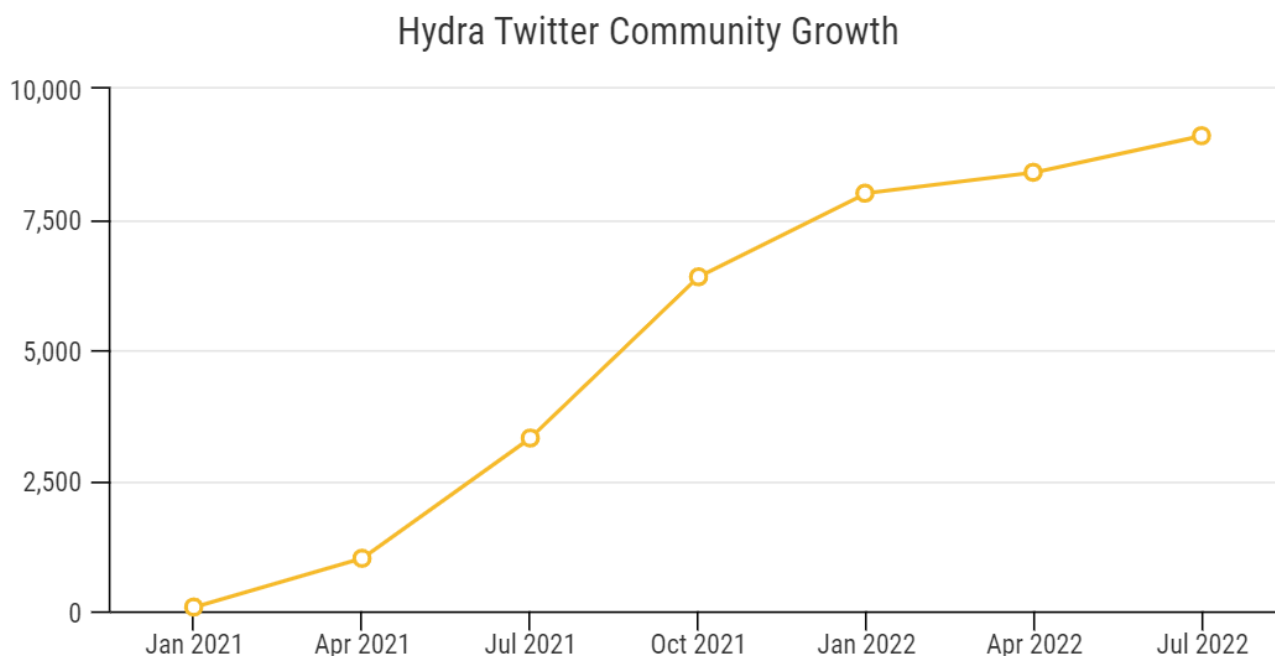


In other words, no single country or continent could endanger the network, even if all individuals came together or were forced to do so. The moment some nodes go offline in a certain region, the reduced network weight will immediately raise the staking APR for everyone else and incentivize the creation of new nodes.

*“When it comes to node count, Hydra ranks among the top tier blockchains - outperforming many of the mainstream players.”*

## 2.2 Community Growth

One of the most valuable assets of Hydra has clearly been its community. From the very first day the engagement and participation was amazing. Even during times of market downturns, we kept reaching new members through events and activities.



The above chart shows the growth of followers for the Hydra Twitter account. What turned out to be even more impressive than the number of followers, was the quality of members participating in the ecosystem.

Anyone who joins our Telegram group will immediately notice that the quality of conversations and respect among members is at its own league when compared to most crypto communities. We view this as the biggest asset of Hydra.

## 2.3 Projects & Infrastructure

**HYDRA becoming a HUB** — With its own unique set of network effect generating projects bringing unique products and services to life.

Within a short timeframe, a number of projects and infrastructure assets have been launched, turning the network into an ecosystem of its own.

Projects Building on Hydra:

- LockTrip
- GoMeat
- ChangeX
- Evedo
- Stray
- Other community projects
- More to come...

Infrastructure completed:

- Hydra DEX
- Hydra Cross-Chain Bridge with Ethereum
- Mobile Wallet App
- Browser Extension Wallet
- Web Wallet
- Hydra Explorer
- Staking Client


Each of these assets help towards building a network effect, where the total value of the network surpasses the sum of its building blocks.

## 2.4 Exciting Outlook and new Opportunities

Thanks to all the work we and our community have put together over the past year, Hydra has consistently been ranked as a top 500 project on CoinGecko ranking. At the time of writing, the exact rank stood at #396.

Coins > Hydra Price

Rank #396

 Hydra (HYDRA)

**\$3.67** ▼2.8%

0.00016240 BTC ▼0.7%

   6,863 people like this

\$3.62 24H Range \$3.84

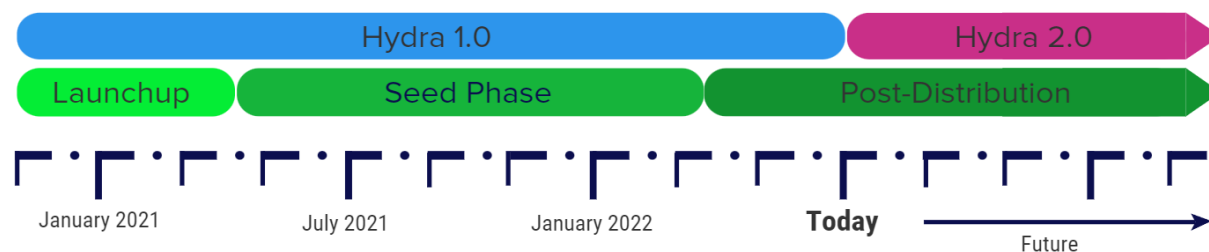
Market Cap  \$45,949,632 Circulating Supply  12,655,902 

24 Hour Trading Vol  \$255,364 Total Supply  ∞

The economy has stabilized and outperformed even many of the flagman projects during its post-distribution period (albeit during a bear-market).

*“This comes as a strong validation to the idea and vision of Hydra, and encourages us as the founding team to present the next phase of the ecosystem — **Hydra Chain 2.0.**”*

## Presenting HYDRA 2.0 Vision



**HYDRA 2.0 is a vision for taking current knowledge on blockchain to the next level.**

The trilemma of blockchains is commonly known as striking the balance between decentralization, security and performance. We believe that this equation misses one

important component for long-term sustainability, which is economy. We therefore propose ...

*“... the new quadrilemma:  
Decentralization, Security, Performance and Economy”*

One of the main differences between Hydra 1.0 and Hydra 2.0 is that the above equation is enriched by the component of economy.

We introduce this component, because the economy plays significantly into the other areas such as decentralization, security, growth and liquidity as well. With the integration of this new component as a core pillar to the protocol, HYDRA 2.0 will be equipped with previously **unseen protocol features** that not only safeguard, but also ensure the economic layer is expanded to its true potential.

The high level plan for the HYDRA 2.0 release consists of a set of feature upgrades that are generally planned to take place in Q3 2022 - Q1 2023.

**Stage 1a - Performance Boost** - Achieving top grade performance without sacrificing decentralization.

**Stage 1b - Usability Boost** - Introducing new critical features to make interaction with HYDRA a seamless experience

**Stage 2 - Interoperability Boost** - Improving connectivity with external ecosystems and an overall boost in terms of SDK and Web 3.0 compatibility

**Stage 3 - Economic Boost** - Transforming the Liquidity and economic core of HYDRA to the next level

## 1. Network Performance & Delegated Staking (Stage 1 of Rollout)

### 1.1 Network Performance

**32 Sec block time** — Among the many features that are currently in the pipeline, we are happy to disclose that the 32 sec block time upgrade has been completed in terms of development and has been deployed for more than 2 months with vigorous internal

testing. This change is radical as it impacts not only the performance but also the overall user experience of the network.

With a 32 sec block time, on average a user making a trade on the Hydradex.org will only have to wait for ~16 seconds until confirmation. Quick confirmation times are not only important for arbitrageurs to operate efficiently, but also for organic traders who want to secure a certain price level under volatile market conditions.

### ✔ **Significantly improved experience with DAPPs and on-chain games**

The block time reduction also radically reduces the standard deviation of nodes (luck factor), as it increases the block production frequency by a factor of 4. Thanks to this, the recommended minimum amount for creating a private node will come down from 1,000 to 250 HYDRA. This will reduce the entry barrier for small stakers and encourage the deployment of more nodes.

At the same time it will improve the regularity of block rewards for bigger stakers as well.

### ✔ **Significantly lower entry barrier for node deployment and more regular block mining income**

Block Height	Block Time		Reward	Mined By	Block Size	Txs
465729	2022-05-29 23:20:40	16s	5.48259515 HYDRA	HSLYG3B8g3Y3q9mVbpiD5bFrnXEktYHwXf	571	2
465728	2022-05-29 23:20:32	28s	5.48259070 HYDRA	HNiyL7AoCQGBYvLcd9hMDai1HDxczQB9HU	571	2
465727	2022-05-29 23:19:04	64s	5.48258625 HYDRA	H7UYP1Rbfyrfba92Z3t9UdVpXRiADAaikw	571	2
465726	2022-05-29 23:18:00	14s	5.48258180 HYDRA	H82zCw62r9KBjmbieDychU7x3JCS8QC1V5	571	2
465725	2022-05-29 23:17:56	8s	5.48257735 HYDRA	HSLYG3B8g3Y3q9mVbpiD5bFrnXEktYHwXf	571	2
465724	2022-05-29 23:17:48	4s	5.48257290 HYDRA	H7UYP1Rbfyrfba92Z3t9UdVpXRiADAaikw	571	2
465723	2022-05-29 23:17:44	20s	5.48256845 HYDRA	H7UYP1Rbfyrfba92Z3t9UdVpXRiADAaikw	571	2

**Peak TPS of 2,000** — Because of the new architecture, the granularity between blocks has also been reduced by 4 times. What was previously a 16 seconds minimum time interval is now lowered to 4 seconds. This effectively means that HYDRA will be capable of reaching a peak capacity of 2,000 TPS in the event where dynamic elasticity is required — and 300 TPS in standard mode (up from 500 and 75 respectively).

**Hardware Resources Optimization** — The new HYDRA 2.0 staking client release utilizes all CPU cores in a more effective way. This is achieved by a series of improvements.



**Staying True to Decentralization** — All of the performance improvements are achieved without sacrificing the permissionless design of the HYDRA blockchain.

**Ecologically Sustainable Future** — The carbon footprint of a single Ethereum transaction as of December 2021 was 102.38 kg of CO<sub>2</sub>, which is the equivalent to the carbon footprint of *(one of the below)*:

- 226,910 VISA transactions or
- 17,063 hours of watching YouTube or
- the power consumption of an average US household for 8 days

*“A single BTC transaction as of 2022 releases 1,207 kg of CO<sub>2</sub>. The total annual carbon footprint of Bitcoin is 114 Megatons of CO<sub>2</sub>, which is equivalent to the Czech Republic's nationwide energy consumption for a full year.”*

With HYDRA, POS can be run on **Raspberries** and even **free tiers** of AWS. A Raspberry is capable of mining HYDRA blocks with as little as **5W** of power consumption.

For every block mined via HYDRA and not Bitcoin, approximately 2.5T CO<sub>2</sub> carbon waste is being saved (based on 1.2T CO<sub>2</sub> per transaction / 2,000 average transactions per block).

## 1.2 Delegated Staking

### **Improved Security for Node Operators**

With the introduction of the delegated staking functionality, the entire experience for block validators will be transformed. At the current state of the network, one of the core tasks of node operators is to safeguard their staking environment, which can be a challenge to some.

Even though we have made available numerous guides and security recommendations, not everyone has the time or technical understanding to become an expert in security. As a result, some HYDRA holders ...

- ... take the risk with a low-security setup
- ... avoid setting up their own node altogether

- ... prefer to use staking-pools on exchanges
- ... ask for help from professionals or friends with a better know-how

While nothing can replace a secure environment, the delegated staking feature will enable a simple and strong security layer that doesn't require any technical know-how from the node-operator. In simple terms, stakers can delegate their HYDRA to themselves and keep their main wallet offline during the staking process.

### **Here is how it works:**

1. Staker creates two wallets (one delegator and one superstaker wallet)
2. The HYDRA to be staked are sent to the delegator wallet
3. From the delegator wallet, a delegation is made to the superstaker wallet
4. The superstaker starts staking the HYDRA, while the delegator wallet is kept offline from then onward

This way, even in the event of a security breach to the superstaker wallet, the attacker will not be able to steal the HYDRA. This is because the superstaker wallet can't redeem the HYDRA, which means that an attack on the superstaker wallet becomes futile.

### ***Unlocking Mobile Staking and Potential to Integrate with Mainstream Mobile Apps***

Aside from the security benefits, being able to delegate the physical part of the staking process unlocks a new level of convenience and corresponding use cases.

Among the most impactful use cases is the potential for secure mobile staking. Mobile wallets will be capable of delegating the staking process to a third-party super staker, which on its own would create a seamless experience even for the most inexperienced users.

The primary goal is to integrate the delegated staking feature to the current Hydra Mobile Wallet App, by introducing a "Stake" tab and unlocking support for one-click staking.

Once that works, the same functionality could be extended to any other mainstream app or website.

### ***Unlocking Decentralized Staking Pools***

An exciting new feature that will be unlocked via delegated staking is the possibility to create decentralized staking pools. Here is how that would work:

1. Pool operator offers superstaking with a fee of 100%
2. Participants delegate their HYDRA to the superstaker (pool operator)
3. As the pool mines blocks, the rewards are distributed among the participants proportionally to their contributions (share of the pool)

Step 3 can be either automated via a pool token, or the distribution can be made manually by the operator.

While this system is not 100% decentralized, it is to 99% (last 1% being step 3). What's great with this strategy is that you don't entrust your principal to a third party. This is because the superstaker can't do anything else with the delegated HYDRA than staking them. There is no risk for theft and therefore no need for trust. Or in other words, a non-custodial staking pool.

The only part that requires some minimal trust is the distribution of staking rewards. However, participants would quickly spot fraud once the first scheduled payment doesn't arrive. Some pool operators may get creative and add special bells and whistles to their service, in order to attract more users.

*“Through this feature, there will be for the first time an option for staking pools that doesn't rely on centralized exchanges and through which stakers can remain the owners of their coins at all times.”*

## 2. Interoperability and Compatibility (Stage 2 of Rollout)

We strive towards enhancing interoperability in an effort to make HYDRA a more user-friendly experience for developers. The trajectories of work include:

**EVM Standard compatibility** — In order to enable fast-paced development, it is important to have high compatibility with the latest EVM version. It usually has the most advanced tooling and best evolved Web 3.0 application ecosystem. Therefore our priority will be in closing the gap with Ethereum's Solidity version. The plan is for the Hydra EVM to match the current London version of Ethereum by Q4 2022.

**Web 3.0 compatibility via Metamask** — One of the key focus areas will be to establish Web 3.0 connectivity through Metamask. We as a team understand how important it is for developers to be capable of connecting and broadcasting transactions using their known tooling. Besides, having out-of-the-box compatibility would make forking of Ethereum-based applications a much more straightforward process. One trajectory in which we are looking into is a concept, where we have a plugin in addition to MetaMask that would most likely work in a separate browser tab and require additional confirmation.

### 3. Economic Upgrade (Stage 3 of Rollout)

*The Economic Rollout is a combination of Layer 1 Protocol Upgrades combined with Smart contract DeFi tools.  
It will be a joint engineering teamwork by HYDRA's DeFi and Core Blockchain teams.*

**Single Sided Liquidity** — To allow project developers to deploy liquidity mining budgets along with parts of their treasury as a core pillar to their growth strategy, while at the same time incentivizing/attracting additional liquidity providers. Work is in the final stages of front-end development and soon will enter the phase of security auditing.

**New Product “Initial Liquidity Offering”** — Where a project can **launch** entirely through a single-sided liquidity mining campaign, deployed on the Hydra DEX. Liquidity mining rewards boost demand for the underlying token through dynamically adjusting APR, which creates a network effect. Distribution takes place via airdrop to liquidity providers, who initially have to buy the TKN side to participate, therefore boosting its price and market activity as a 2-in-1 impact.

**Hydra Bridge Defenders** — Introducing the first-in-the-industry “defender” nodes in addition to observer nodes. As a response to multiple security incidents affecting cross-chain bridges on popular blockchains, we have worked on a solution that would further enhance the security design of the Hydra bridge.

Defenders are isolated wallets that have the only task of independently monitoring the lockup activity on each chain. When a discrepancy between the locked up and voted

amount is detected, defenders will have the authority to drop a transaction, even after observers voted for it. Through this mechanism, we are essentially adding a significant defensive layer that is pre-organized to intercept and react in a “denial of service” manner to attackers.

Once deployed, this would make the Hydra bridge arguably as the safest bridge in existence.

**Dex with Info Backend** — Deployed and pending integration with CMC and CG. Growing volumes and utility, with assets such as WBTC, ETH, DAI, LOC, and GOMT already being deployed. EVED and CHANGE tokens to be added in the near future. Support for multi-hop trades in between all pools has recently been deployed.

**Liquidity Mining** — To expand towards Single-Sided Liquidity as soon as the security auditing has been completed

## 4. HYDRA Super DAO: Democratizing operations and empowering community crowdsourced projects of all sizes and shapes

**Liquidity Fund Size and Future Income** — The current size of the LM fund reached roughly 40% relative to the market cap of Hydra, which stands as a fundamental pillar for future community growth. As the market cap grows, so would the DAO fund. In addition, it will continue to be funded by 20% of block rewards, making the DAO financially independent from external factors and sustainable indefinitely.

**Sample Projects that can be Executed** — Aside from managing liquidity budgets, the Hydra DAO will have the important task of managing and awarding funds to project developers with certain goals. Some of these that could quickly be launched are:

- SDK Improvements
- Marketing Campaigns
- Collaborations with Third-Party Projects and Blockchains
- Exchange Deals

These are task-specific projects that can each yield important achievements and long term value to the ecosystem.

**Proposed Eligibility Criteria for DAO Members** — Snapshot-based in order to remove the “cost” of voting and reduce friction

**Unlocking the Project's Future** — One of the long-term goals is to reduce the influence of the founders and enable HYDRA as a truly decentralized organization. Community sub-groups to be formed according to interests and skills, with an execution team that would be responsible for the implementation. Such groups could be focusing on “Engineering, Marketing, Business Development, Liquidity, Economy and Launchpad”

**HYDRA Strategic Projects Launchpad** — Will identify key areas of interest. Potential options for the early stage could be:

- **Lending Market** —> Grant of up to \$50,000 for security audited fork of AAVE/Compound
- **NFT Marketplace** —> Grant of up to \$50,000
- **Gaming** —> Grant of up to \$50,000
- **Other High-Transaction Projects** —> Grants of up to \$50,000

High transaction potential projects have a unique synergy with HYDRA and because of this, they would be a particular area of interest

**Governance Votes for Whitelisting Projects** — Votes will only be held for projects that pass the preliminary review based on a certain set of criteria. Whitelisted projects will enjoy certain benefits, such as being featured/promoted within the Hydra ecosystem, being added to the Hydra DEX short-list, etc.

## 5. Introducing second core asset **LYDRA** — *Liquid*HYDRA

Inspired by the beauty of a system where *HYDRA* (Greek mythological beast that is impossible to kill), which is safeguarding the infrastructure and guarantees the network, forms a never-ending relationship with LYDRA — the ‘noble one’, which breaks barriers and empowers the entire ecosystem.

From Greek **Ludia**, 'the beautiful one' or 'noble one'

LYDRA is designed to unlock a world on its own and completely transform the economy through a new concept that we call **Liquid Staking**. While HYDRA created a major economy with its own ecosystem, LYDRA will be enabling a second core-economy in parallel and as an asset unlocking unique synergies to the existing capabilities of HYDRA.

## 5.1 LYDRA Liquid Staking

With this whitepaper we are introducing the concept of liquid staking. Through this mechanism, users will essentially be able to stake their HYDRA while at the same time keeping their liquidity for other purposes. Sounds too good to be true? Let's dive into it then!

How it works is that the staked HYDRA will be **dynamically converted** into a collateralized asset without interrupting the staking process. Upon delegating to a super staker, the protocol will mint back LYDRA to the delegator on a 1:1 basis. Then through LYDRA, the user has the choice to unlock liquid staking, where one can move and utilize the staked assets in a fluid and composable way.

For example let's consider a user who delegates 100 HYDRA and moves the automatically received LYDRA out of his (delegator) wallet. This translates to borrowing the LYDRA from the protocol, and collateralizing it with the underlying HYDRA while it continues to be staked **without interrupting** the process.

The protocol will allow the redemption of the collateralized 100 HYDRA **only under the condition** that the full 100 LYDRA is back in the same wallet address that had delegated the 100 HYDRA. Through this mechanism, 1 LYDRA is always backed by 1 HYDRA, which makes it highly liquid and risk-free.

If a user never moves out the LYDRA from his wallet, then he will never know the difference from the normal delegated staking as the process of unstaking will be seamless. This is so because the redemption is taking place fully automatically in the background together with the mint/burn features of the LYDRA token.

## 5.2 Unlocking Protocol-Powered Leveraged Staking

The synergies and strategies that LYDRA makes possible are borderless. One that stands out is the capability for users to use existing HYDRA as collateral to buy additional HYDRA and through this mechanism achieve a leveraged position.

It essentially means that by locking out current HYDRA assets in the background, you are creating additional liquidity that can be utilized. A strategy that may favor long-term oriented holders, and boost their APR without causing an increase in the system-wide minting rate.

### **Here's an example of how the strategy would work:**

**Step 1)** User Delegates 100 HYDRA to a super staker and staking begins with standard network APR

**Step 2)** Protocol issues 100 LYDRA to the user that represents ownership to the delegated 100 HYDRA. LYDRA is technically an HRC20 token that will be fully compatible with the Hydra DEX and DeFi.

**Step 3)** User moves the LYDRA out of the delegator wallet and through that process locks the HYDRA while staking (unlocking possible at any time).

**Step 4)** The user can move the LYDRA and trade it, or even exchange it for more HYDRA. The newly bought HYDRA can be staked again, which would yield more LYDRA and complete the cycle. This way, the effective staking APR can be increased beyond network-APR through leverage.

Multiple strategies can be utilized both for maximizing income as well as for hedging against market risks. LYDRA can for example be sold for stable coins, which would result in hedging against a price drop, as that translates to a short position on LYDRA in exchange for a long position on e.g. DAI.

**Step 5)** LYDRA being technically a derivative of HYDRA allows for trading between the two instruments without the risk of liquidation. This is so because when HYDRA price increases, so does the price of LYDRA. And vice versa, when HYDRA price drops, so does LYDRA's. The rate of LYDRA:HYDRA is not likely to exceed 1:1 as the fundamental value of LYDRA is driven by the underlying HYDRA and any spike above that would pose an arbitrage opportunity.

*“LYDRA unlocks leveraged positions without liquidation risk.”*

### **Talking in Numbers:**

- 1) A user buys 100 HYDRA and delegates them to a super staker for an APR of 45%
- 2) The protocol mints 100 LYDRA to the delegator wallet



- 3) The user moves the 100 LYDRA out of the delegator wallet and sells the LYDRA for more HYDRA at a rate of 0.8:1
- 4) The user receives back 80 HYDRA and stakes them again (again receiving 80 LYDRA)
- 5) As a result of this leveraged strategy, the user has now 180 HYDRA staked that generate 81% APR

Because of the automatic daily compound, the 81% APR translates to a staggering 124% APY relative to the base 100 HYDRA investment. And while executing the strategy, the user would've locked up 2% of the swapping volume out of circulation because of the 1% spread fee on the core HYDRA:LYDRA DEX pool.

### 5.3 Lending Market Opportunity

The introduction of the LYDRA token does not only open the door to a new set of strategies, but also leads to a paradigm shift in terms of opportunity cost. Since the HYDRA would be staking as a parallel process, there is no longer an opportunity cost of utilizing LYDRA in secondary markets.

Users can take LYDRA and utilize it in a plethora of new ways. One of those is through decentralized lending markets. Since HYDRA will be yielding a high APR in the background, the utilization factor of LYDRA is expected to be very high. Essentially the lack of opportunity cost will make it much more worthwhile to deploy into low-interest and low-risk opportunities.

Even a 5% APR on LYDRA would be a great addition to the already high layer 1 staking income.

*“LYDRA basically frees up HYDRA from the opportunity cost attached to it.”*

### 5.4 Supercharging Single-Sided Liquidity

In the above chapter we elaborated on the importance of opportunity cost, and how LYDRA being the liquid version of HYDRA allows it to have almost no such cost attached to it.

This concept is important, because for the purpose of providing liquidity to the Hydra DEX, there are two main factors that drive up costs:

- 1) **Opportunity Cost.** Liquidity providers will not supply their assets to the DEX, if the expected return is inferior to alternative risk-free options. In the example of HYDRA, the high protocol-wide staking APR needs to be surpassed by liquidity mining campaigns in order to be considered attractive.
- 2) **Impermanent Loss.** Liquidity providers will measure the risk for impermanent loss to accrue by the level of volatility the pool assets are subject to.

A liquidity mining campaign needs to account for both of these costs and offer an additional yield on top of these costs in order to be attractive. The cost factor of impermanent loss will be eliminated by the introduction of the single sided liquidity feature as elaborated in the previous chapters.

To combat opportunity cost, LYDRA presents itself as the perfect asset through its liquid state and the lack of risk-free alternatives with high yields.

### **Example for HYDRA/DAI Pool:**

Let's imagine a HYDRA/DAI pool with a target TVL of \$10M and let's try to estimate the equilibrium APR demanded by markets in order for the option to be attractive.

Estimated APR requirement for the DAI side = 5%

Estimated APR requirement for the HYDRA side = 50% (45% staking yield + 5% income)

Based on these rates, we can calculate the total estimated liquidity mining budget that would be needed for one year of operations:

$$\$5M \text{ worth of DAI} \times 0.05 + \$5M \text{ worth of HYDRA} \times 0.50 = \$2,750,000 \text{ total budget}$$

### **Example for LYDRA/DAI Pool:**

Now let's repeat the calculation, by replacing HYDRA (50% APR) with the LYDRA token, which we model to be requiring a 5% APR, similar to DAI. The estimated liquidity mining budget for the LYDRA/DAI pool can be calculated as:

$$\$5M \text{ worth of DAI} \times 0.05 + \$5M \text{ worth of LYDRA} \times 0.05 = \$500,000 \text{ total budget}$$

### **Summary of Calculations:**

- HYDRA/DAI pool with \$10M TVL costs \$2,750,000

- LYDRA/DAI pool with \$10M TVL costs \$500,000

LYDRA ends up being 5.5 times more capital efficient when compared to HYDRA. In other words, the same liquidity mining budget can attract 5.5x more TVL to the DEX when HYDRA is replaced with LYDRA.

These theoretical numbers are confirmed by the real-world data we gathered from the LM trial campaigns launched in April 2022. Due to the combination of impermanent loss and the intrinsic opportunity cost of HYDRA, the equilibrium APR ended up at roughly 80%.

*“As a result, a 18x increase in capital efficiency can be achieved through the introduction of Hydra 2.0”*

We expect LYDRA to become the standard DEX liquidity asset, as this will allow users to stake and also receive liquidity mining rewards at the same time. More importantly, a significant increase in capital efficiency translates into a proportional scaling for trading volumes and on-chain transactional activity.

## 5.5 Expanding to Distant Protocols

So far all features and economic components were focused on Hydra chain and its internal ecosystem. While this is the logical thing to do, we wouldn't want to limit the potential of Hydra and confine it to its own network, in the event where opportunities may arise at external networks or protocols.

While the HYDRA coins themselves would likely never leave the chain as they can't be staked on other chains, there could be reasons why owners may want to bridge over LYDRA tokens to Ethereum, Binance Smart Chain or other networks.

This way the Hydra ecosystem could effectively be extended by smaller satellite ecosystems on other networks, generate additional revenue or reach potential new community members. We can't predict the future and therefore want to keep this door open.

LYDRA is the perfect token for such a mission and could effectively act as a gateway of value, all while the original HYDRA coins keep generating staking income to the owners.

## 5.6 Powerful Lockup Mechanism

A central to the economy HYDRA:LYDRA high-liquidity pool will be deployed on the Hydra DEX to facilitate swaps in both directions. A 1% spread fee will be applied in order to capture supply from both sides. Technically these fees will lead to the LYDRA and HYDRA circulating supply being reduced at an aggressive pace. The more trades there are, the lower the supply will become and more of the supply will be locked into the liquidity pool. Essentially this will act as an indirect burn-mechanism.

## 5.7 HYDRA:LYDRA Value Ratio

LYDRA being a derivative of HYDRA allows us to make certain predictions about the relative price action between the two.

The most important one being that LYDRA can never become more valuable than HYDRA, as such a scenario would immediately open up an arbitrage opportunity. To illustrate this, imagine the following situation:

- HYDRA price = \$10
- LYDRA price = \$11

This constellation opens up a risk-free profit opportunity, as anyone could buy HYDRA from exchanges at a price of \$10, then delegate the amount and receive the same amount of LYDRA worth \$11. Upon liquidation that would result in an immediate profit of 10%.

Technically LYDRA will likely be traded at a discount because of the selling opportunity that it presents for various strategies. On the other hand, the collateralized HYDRA having a highly liquid value will add an opportunity cost if people don't buy back at a later stage, which on its own will create market demand from people who want to redeem their HYDRA or close leveraged positions.

Since the LYDRA:HYDRA ratio is bound to be between 0% and 100%, market players may purchase LYDRA when the ratio drops below a certain point. On the other hand, a very high ratio allows for more cycles to be looped to achieve a higher leverage. This way there will always be a certain activity between buyers and sellers, fueling the previously mentioned "burn mechanism".

## 5.8 [Proposal] Introducing Leveraged Burns

In this section we want to propose a new feature that would repurpose part of the transactional economy towards a **leveraged burn mechanism**.

This way the protocol would safeguard: Security (Nodes), Economy(Burn Factor), and Liquidity (DEX + usage fees).

We believe that the 50% gas royalty is generally a sound feature and has the right philosophy. However, the current implementation demonstrates that the projects building on Hydra value other things more, such as:

- Fixed transaction fees
- Scalability
- Access to the Hydra Community
- Access to the DEX Liquidity
- Synergies with the Hydra Economy
- Outlook for unique features such as the single sided liquidity
- etc.

This is further complemented by the technical possibility to apply a similar royalty on any smart contract by adding a “virtual” fee on an upper layer. Such functionality has been validated with NFT markets, where NFT issuers would collect a fee upon each subsequent transaction.

The composability of smart contracts allows this to happen without going deep into the protocol layer.

The restructuring of the 50% gas royalty feature towards a leveraged burn mechanism would funnel this valuable resource to a much more economically effective system. More importantly, it would be a system that can’t be achieved through any other means.

### **How Leveraged Burning Works:**

Basically what we propose is that 50% of all smart contract fees will be used to buy LYDRA from the Hydra DEX and burn them - as a protocol level feature.

Since LYDRA is needed to get back the delegated HYDRA, any burn in LYDRA effectively translates to a burn of the same amount of HYDRA. For example, burning 100 LYDRA would be equivalent to burning 100 HYDRA.

Because the price of LYDRA is bound to be lower than HYDRA (as discussed in the previous section), this essentially results in a leveraged burning impact.

*“The discounted price of LYDRA acts as a leverage opportunity, thus multiplying the impact of burns.”*

Imagine the LYDRA:HYDRA rate to be at 0.5:1. In this example, every \$1 in LYDRA burnt would result in \$2 in HYDRA burnt. This is thanks to the discounted price of LYDRA, which acts as a leverage. The lower the ratio, the higher the leverage.

The beauty of this mechanism is that it creates a sandwich effect, where low LYDRA/HYDRA ratios result in a higher leverage for burns and high ratios result in a higher leverage opportunity for stakers, which itself creates more demand for HYDRA through the additional coins getting locked up.

## 6. HYDRA Performance and Sustainable Leverage

There's a high confidence that **fair** inflation is among the biggest breakthroughs of Blockchain and DeFi. Unlike centralized inflation which is highly targeted (and arguably subject to a preference for certain institutions) with DeFi, fair inflation allows for every single participant of the system to benefit equally. The mathematically just distribution creates a mitigating effect among all people who participate in the inflation system at the same time.

*“Centralized inflation of fiat currencies benefits a small privileged group at the expense of diluting the general population.”*

*In contrast, inflation on Hydra is fairly distributed among all stakers and is non-diluting in nature.”*

HYDRA has a fundamental approach of utilizing a compound formula for a guaranteed and sustainable staking income. Throughout its inception, it has been validated that a high APR is not only effective in harnessing infrastructure, but also plays a valuable marketing impact.

With the introduction of leveraged staking, users can achieve significantly higher APYs without creating a burden on a systemic level. Because of this, HYDRA is betting on different approaches for achieving leveraged staking:

**Decentralized** approach - via LYDRA and a lending market

**Hybrid Centralized** approach - via ChangeX

The decentralized approach was elaborated in chapter 5.2 of this whitepaper. It would be tailored towards more advanced users, who want to actively participate in delegated staking.

#### **Decentralized Model Key Characteristics:**

- Leverage achieved through LYDRA
- No interest cost
- No liquidation risk
- Leverage opportunity is highly dependent on the LYDRA:HYDRA market ratio

The hybrid centralized approach would be tailored towards mainstream users, who prefer a simple one-click experience.

#### **Hybrid Model Key Characteristics:**

- Leverage achieved through stablecoin borrowing (or other popular assets)
- Low expected interest cost
- Liquidation risk, depending on the leverage taken (adjustable based on risk preference)
- Staking income gradually lowers the liquidation threshold and increases the buffer margin
- Leverage opportunity remains unchanged, regardless of market conditions

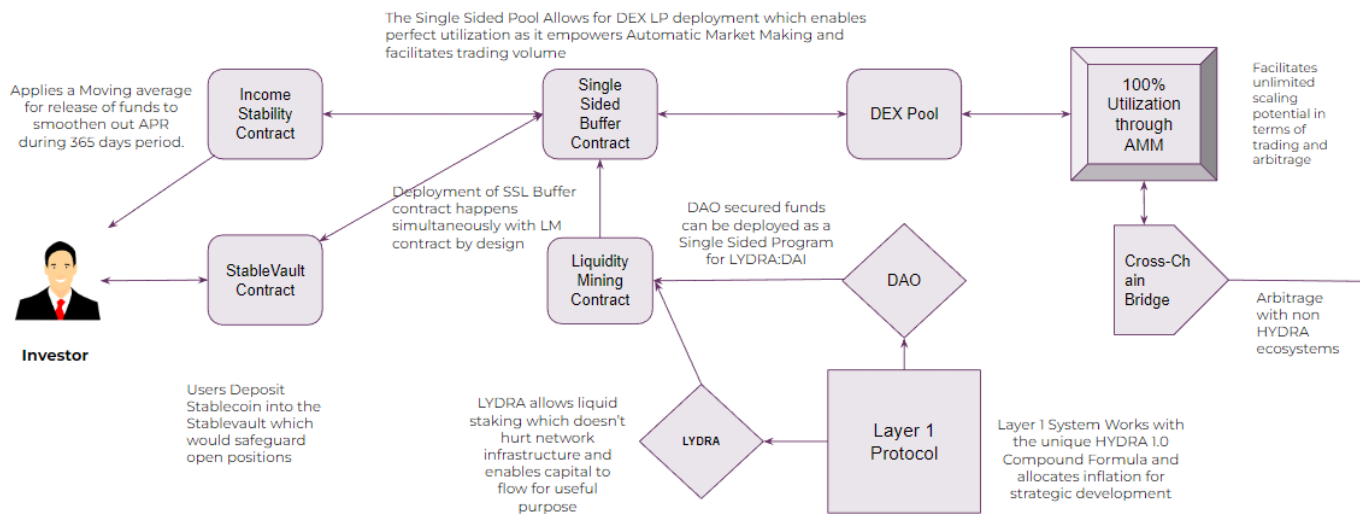
Both have their pros and cons, and both will have their place in the ecosystem.

## **7.1 StableVault Earn Product**

Focus on a sustainable, pseudo-market-neutral product that offers stablecoin holders a decentralized and trustless system for passive APR.

Since Hydra has a unique set of capital utilization tools that create synergy, we combine them as a system that allows for capital to flow freely throughout the

entire ecosystem and to fuel up multiple applications thus achieving a very high rate of utilization



The End goal being a user-friendly, decentralized and fully permissionless system for individuals as well as institutions to tap into the blockchain industry without having price volatility exposure.

And a volatility reduction mechanism to smooth out the APR

Expected APR would be in the 8% - 12% range and would be achieved through the composable synergy with HYDRA's Single-Sided Liquidity Concept as deposited funds into the stability vault will be purposed for liquidity provision into the HYDRA Dex and facilitate trades.

## 7.2 Deleveraged Earn Product



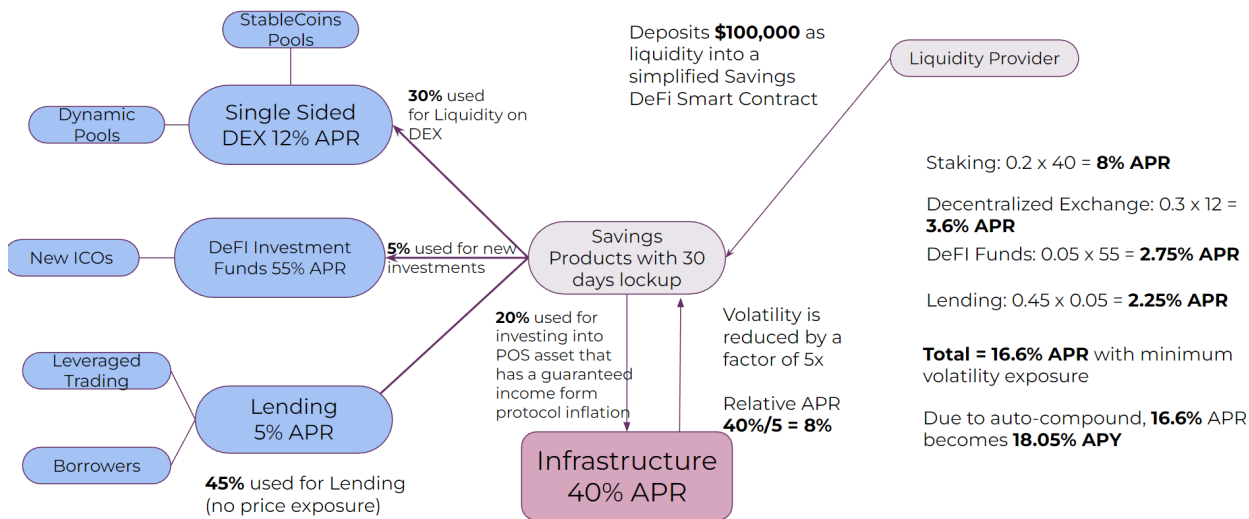
Introducing a deleveraged decentralized savings product that automatically diversifies the deposit of the user into various yield-generating vehicles within the Hydra ecosystem.

*“Sustainable income on stablecoin deposits in the range of 8-15% APR.”*

This product has a strategic importance to the ecosystem, as it allows for the efficient distribution of capital between the various components of the network, while at the same time carrying a potential viral factor.

It is essentially a one-click investment into the Hydra ecosystem as a whole, which is facilitated and managed through a vault smart contract.

## Liquidity Utilization Example



In particular, the deposit of the user will be split between various components. The above graphic visualizes how such a breakdown may look like. Please note that this is just an example and shouldn't be interpreted as the final design.

### 1) Underleveraged Component with high APR (20% allocation)

- 20% of the deposit to be used to buy and stake HYDRA for a 40% APR

- This component will be underleveraged by a factor of 5, which means that for every 5% in HYDRA price volatility, the principal value will only be impacted by 1%
- $0.2 \times 0.4 = 8\%$  contribution to the total yield

## **2) Deposit into Decentralized Lending Protocol (45% allocation)**

- 45% of the deposit to be made into the decentralized lending protocol for an estimated 5% APR
- This component won't be subject to market exposure and therefore the principal value will not be impacted
- $0.45 \times 0.05 = 2.5\%$  contribution to the total yield

## **3) Deposit as Liquidity into the Hydra DEX (30% allocation)**

- 30% of the deposit to be made into the single-sided LP of the Hydra DEX for an estimated 12% APR
- This component won't be subject to market exposure and therefore the principal value will not be impacted
- $0.30 \times 0.12 = 3.6\%$  contribution to the total yield

## **4) Deposit to DeFi Investment Funds (5% allocation)**

- 5% of the deposit to be made into DeFi Investment Funds, to be used for ICOs and launchpads (whitelisted by the Hydra DAO), for an estimated 50% APR
- This component will be underleveraged by a factor of 20, which means that for every 20% in volatility, the principal value will only be impacted by 1%
- $0.05 \times 0.50 = 2.5\%$  contribution to the total yield

The combined APR for this example amounts to  $8\% + 2.5\% + 3.6\% + 2.5\% = \mathbf{16.6\%}$ .

*“Through this setup, a deliberate balance is achieved, between low volatility on the principal and a high return in terms of cash-flow.”*