Hydranet Litepaper

A New Era of Crypto Trading

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Introduction

Blockchain technology was created to address the issues of centralization and the reliance on intermediaries in traditional financial systems. Yet paradoxically, centralized exchanges continue to dominate the cryptocurrency trading landscape, accounting for more than 90% of the spot trading volume in 2022 according to CoinGecko's annual crypto report.

Centralized exchanges are not to blame for this trend and the reason is simple - decentralized solutions struggle to compete with the user-friendliness, fast trade processing, and cost-effectiveness that centralized exchanges offer, even to the extent that we are willing to give up custody of our funds and leave them entirely in the hands of central entities to control.

While this trend deviates from the core principles of decentralization and trustlessness, it underscores that the traders' dilemma of custody, time, and cost, is not an easy task to solve. But remember this - blockchain technology evolves rapidly. Who knows what the future holds?

This is Hydranet

Hydranet introduces the future of decentralized trading through its next-generation exchange technology. A technology not confined to the limits of Layer 1, or one that compromises custody in exchange for low transaction costs or fast transaction settlements, even when trading across fundamentally different blockchains.

By the combination of scalable off-chain protocols, Hydranet delivers a solution that ensures interoperability between blockchains for years to come, embracing each blockchains unique functionality.

This solution isn't just for crypto enthusiasts seeking a profitable, non-custodial way to trade but also provides a suite of lucrative features and services, including cost-effective liquidity management and opportunities for earning interest on liquidity provisioning, all with minimal associated risks.

Driven by its community, Hydranet is here to redefine the landscape of decentralized trading, making it just not a platform but a comprehensive ecosystem tailored for self-custody and profitability.
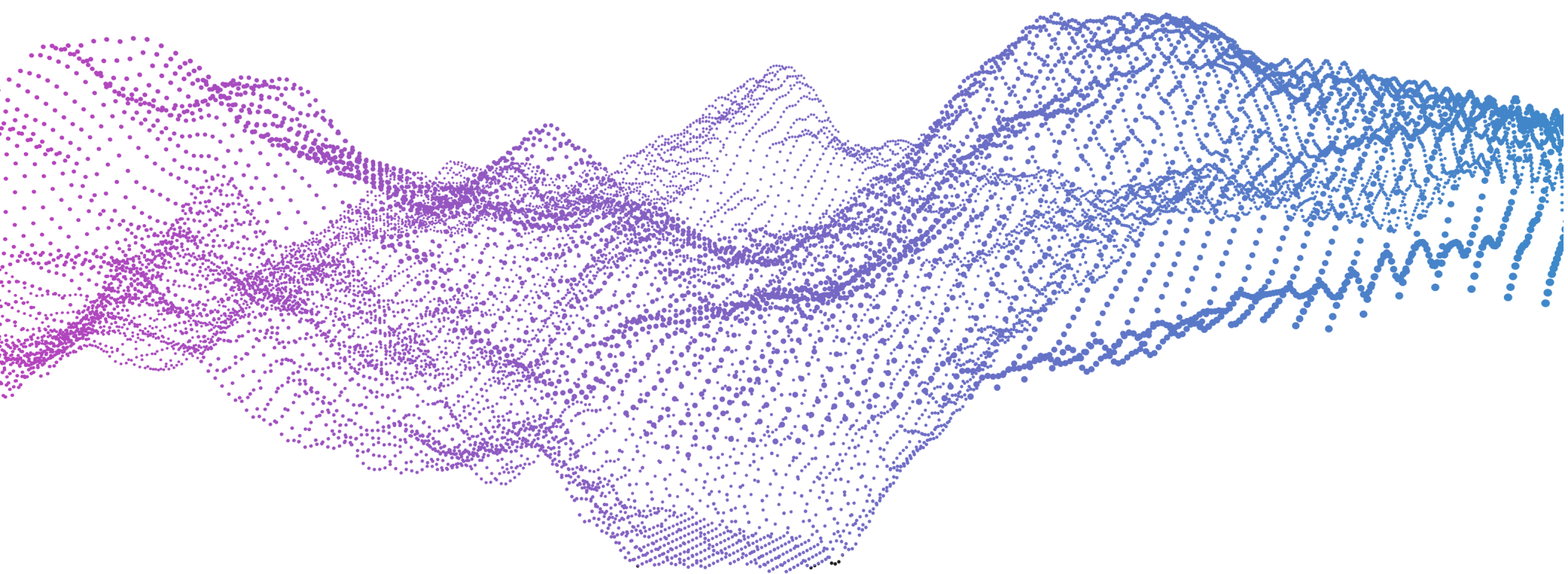
Tomorrow's Exchange Technology

Hydranet's exchange technology is a unique combination of Layer 2 off-chain protocols, crafted into a solution that allow these protocols to interact. In doing so, Hydranet efficiently unites blockchains of different origin, whether it's Bitcoin, Ethereum, Solana, Arbitrum, or others, and makes trading between them effortless. This is Layer 3 - interoperability unlocked.

Off-chain protocols refer to a set of frameworks that define the standards and procedures for conducting transactions outside the blockchain using what is commonly known as state channels. Unlike on-chain transactions, which necessitate miners' confirmations, off-chain transactions are distinguished by their instant transaction times, minimal-to-no transaction fees, high level of privacy and trustless operations. These attributes make them particularly useful for frequent interactions and scenarios where real-time responsiveness is crucial, and thereby an excellent choice for trading platforms.

The Lightning Network, designed for Bitcoin, is the most prominent example of an off-chain protocol, with history dating back to the early days of Bitcoin. Hydranet integrates Lightning into its exchange technology using cutting-edge implementation packages delivered by Lightning Dev Kit. For blockchains compatible with smart contracts and the Ethereum Virtual Machine (EVM), Hydranet uses its in-house developed off-chain protocol named Lithium. Lithium is tailored for Hydranet's needs. It offers fast off-chain transaction speeds and, unlike other off-chain protocols for EVM compatible blockchains, transaction routing through multiple off-chain nodes and trustless off-chain liquidity pools.
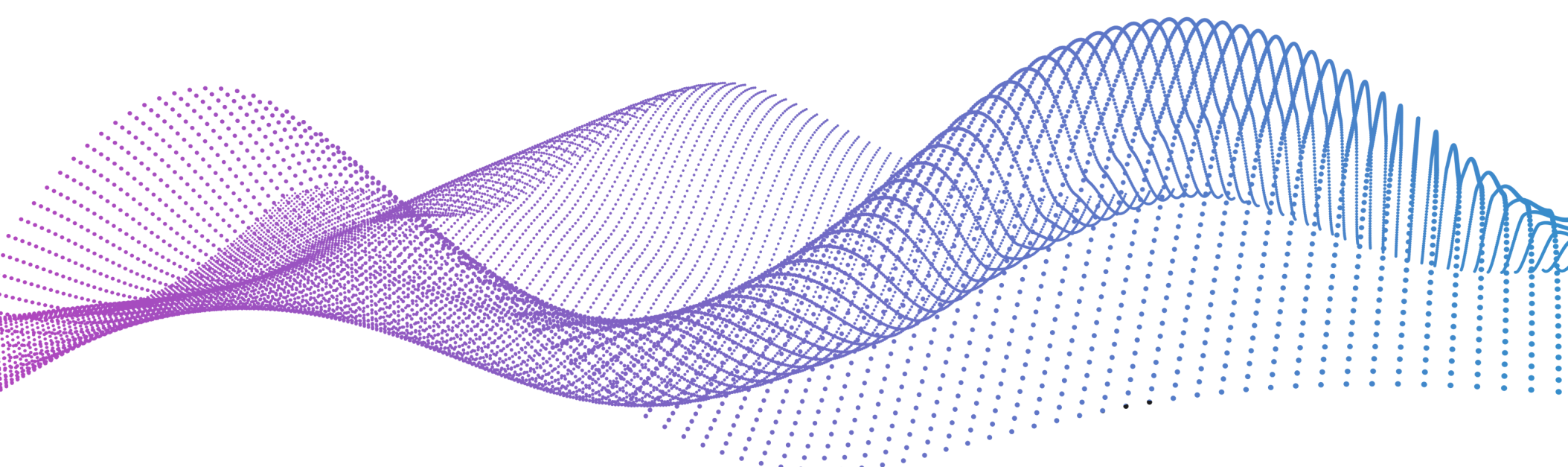
Empowering Decentralization

Upheld by three distinctive entities - Titans, Guardians, and Lithium Liquidity Providers (LLPs) - the Hydranet Network serves as the important infrastructure behind Hydranet's exchange. Backed up by collateral in the form of Hydranet's token, HDN, and incentivized by rewards, these entities are encouraged to act in good faith and build the future of decentralized trading, open for participation from anyone eager to contribute.

Titans

At the core of the Hydranet Network stands Titans, dedicated to maintaining the network's stability and continuous operation. Titans are responsible for providing trading peers with the necessary information for successful trades by running full blockchain and off-chain nodes, hosting the exchange order book and its matchmaking engine, and acting as an off-chain rental liquidity provider for all supported assets on the exchange.

Guardians

In harmony with Titans, Guardians stand as the protectors of the network, ensuring its integrity and safe operation. Guardians run watchtowers for all involved off-chain networks and monitor the behavior of all participants, whether its Titans, other Guardians, LLPs, or trading peers, and punishes those who do not obey by the network's rules.

Lithium Liquidity Providers

Fostering liquidity in the Hydranet Network, LLPs assume a pivotal role in enhancing the overall efficiency of Hydranet's exchange by providing liquidity for Lithium state channels. This liquidity is used to increase users' state channel inbound balances to let them receive Lithium off-chain payments. In addition, for Lightning off-chain payments, Hydranet's exchange seamlessly integrates with Lightning Service Providers. These providers are well-established entities within the Lightning network, offering similar services as LLPs.

Take Back Control

Self-custody of funds is one of the cornerstones in the realm of cryptocurrencies, and with Hydranet's exchange, **you will never have to compromise on this principle again**. Hydranet empowers you with complete control over your crypto assets and peace of mind knowing your financial future is firmly in your hands, regardless if you're a seasoned investor or just starting your cryptocurrency journey.

Not only does Hydranet's exchange integrate with a non-custodial multi-currency wallet, it also employs atomic swaps, meaning the trading process is taken care of by the trading peers themselves, without any intermediaries or centralized entities. This establishes Hydranet's exchange as trustless as an exchange can be. For Hydranet, trustlessness isn't just a feature - **it's a guarantee**.

"
YOUR KEYS, YOUR COINS, ALWAYS.
"

Trade Faster

In the fast-paced world of trading, every second counts. While today's non-custodial exchanges grapple with the limitations of blockchains, leading to missed opportunities, Hydranet's solution stands apart, free from the drawbacks of Layer 1 but benefiting from its security and decentralization.

Leveraging off-chain transactions, Hydranet's exchange is capable of executing trades near-instantly, regardless of how congested the underlying blockchains are. Imagine trading Bitcoin for Ether, non-custodially, in just a few seconds. **With Hydranet you can**.
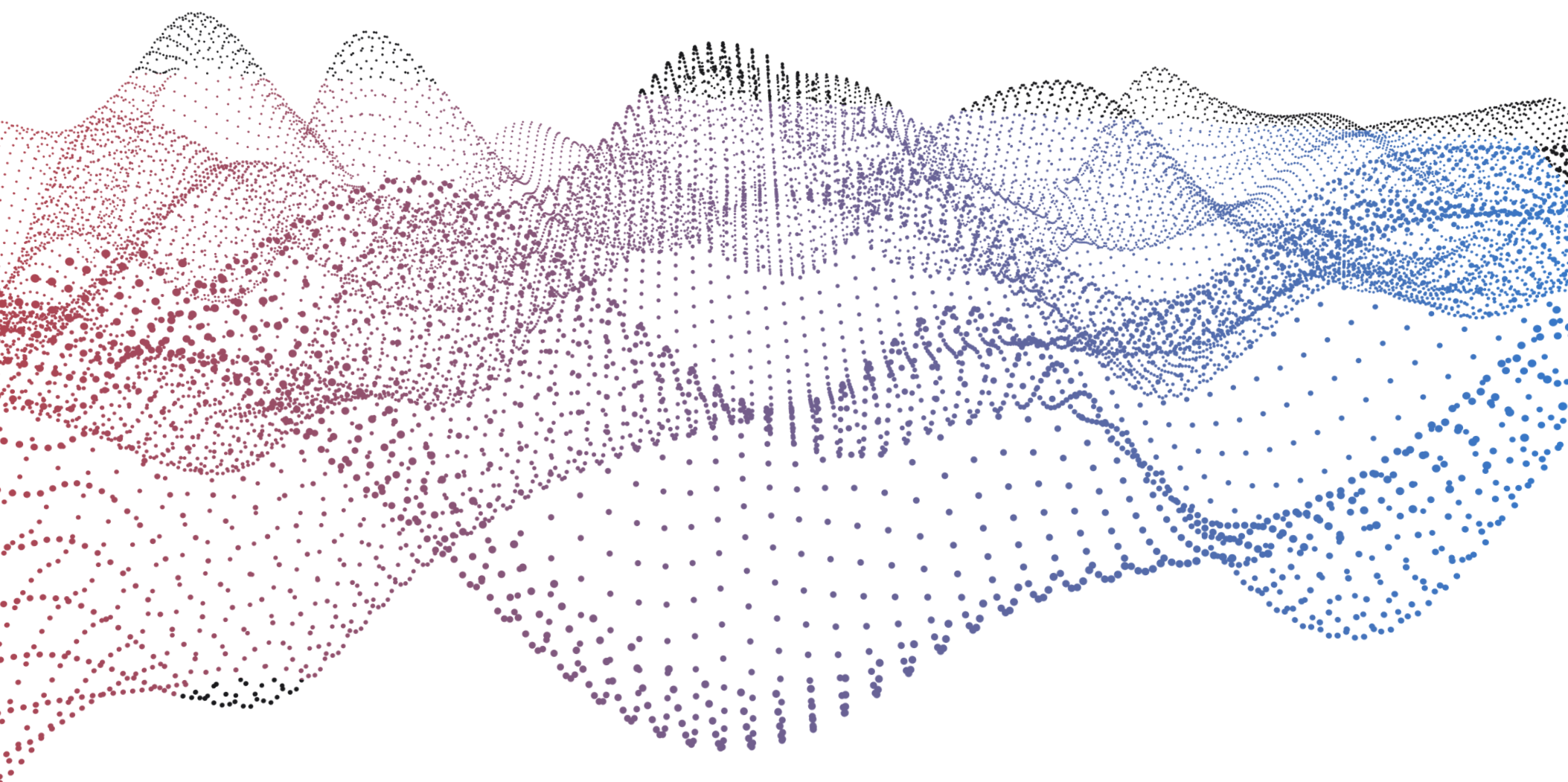
Trade Cheaper

High-Frequency Traders

After just a few on-chain interactions to transfer funds off-chain, Hydranet's exchange enables you to **trade as many times as you want without the need for continuous on-chain interactions**, incurring only a minimal trade fee. The cost table provided below encompasses all essential Lightning and Lithium on-chain costs to position you optimally for seamless off-chain trading. Notably, the total costs for depositing and withdrawing funds off-chain are comparable to those incurred when moving funds to and from a centralized exchange. Moreover, subsequent off-chain transfers become even more cost-effective thanks to the pre-existing setup of off-chain state channels. If your on-chain interactions are timed well with periods of low network activity, your costs can be optimized even further.

Spontaneous Traders

Traders seeking a more streamlined trading experience can leverage Hydranet's Simple Swap. This feature ensures that the entire trading process is handled automatically, mirroring the functionality and efficiency of Automated Market Makers (AMMs). In contrast to the High-Frequency Trader setup, Simple Swaps entail fewer on-chain interactions and, as previously, subsequent Simple Swaps become even more cost-effective, thanks to the pre-existing setup of off-chain state channels.

Trading Pair Token - Chain	Off-chain Deposit Costs	Trade Fee	Off-chain Withdrawal Costs
ETH - Ethereum ERC20 - Ethereum	$12.45	0-1%	$9.38
BTC - Bitcoin ERC20 - Ethereum	$15.85	0-1%	$9.44
BTC - Bitcoin ERC20 - Arbitrum	$9.14	0-1%	$4.68
BTC - Bitcoin ETH - Ethereum	$13.00	0-1%	$8.14

Bridge Wiser

Hydranet's capability of exchanging assets between blockchains makes it an **excellent blockchain bridge**. If you're a crypto investor who likes to capitalize on the unique advantages of different blockchains, Hydranet provides a **cost-effective and secure solution** to help you achieve your goals.

Using Hydranet to exchange assets between blockchains ensures that you maintain complete control over your assets throughout the entire process, instead of having to rely on centralized solutions or questionable smart contracts. Furthermore, with pre-existing off-chain state channels, as in the case with subsequent interactions with Hydranet's exchange, the whole experience becomes even more cost-effective.

Bridging From Token - Chain	Bridging To Token - Chain	On-chain Total Costs
ETH - Ethereum	ETH - Arbitrum	$6.30
ETH - Arbitrum	ETH - Ethereum	$9.24
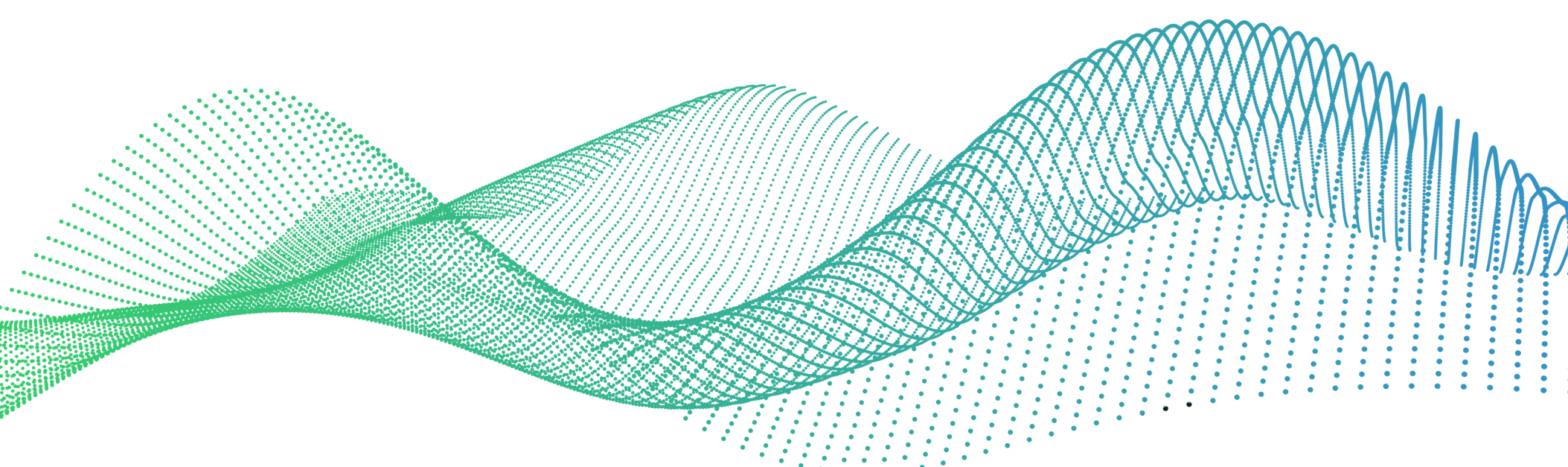
Profitable Liquidity Management

Hydranet stands out as the optimal choice for market making due to several compelling reasons. Firstly, Hydranet offers a decentralized limit order book - a rarity in the field of decentralized finance. This order book empowers you to place limit orders on both buy and sell sides to profit from the spread. Secondly, Hydranet's orderbook operates off-chain, which eliminates all blockchain fees when adjusting liquidity and allows you to quickly respond to changing market conditions.

In contrast, today's decentralized exchanges are normally built on the principles of Automated Market Making (AMM). While this approach has gained popularity because of its simplicity, it also faces the major limitations of blockchain scalability and lack flexibility when users seek to capitalize on strategic opportunities in the market.
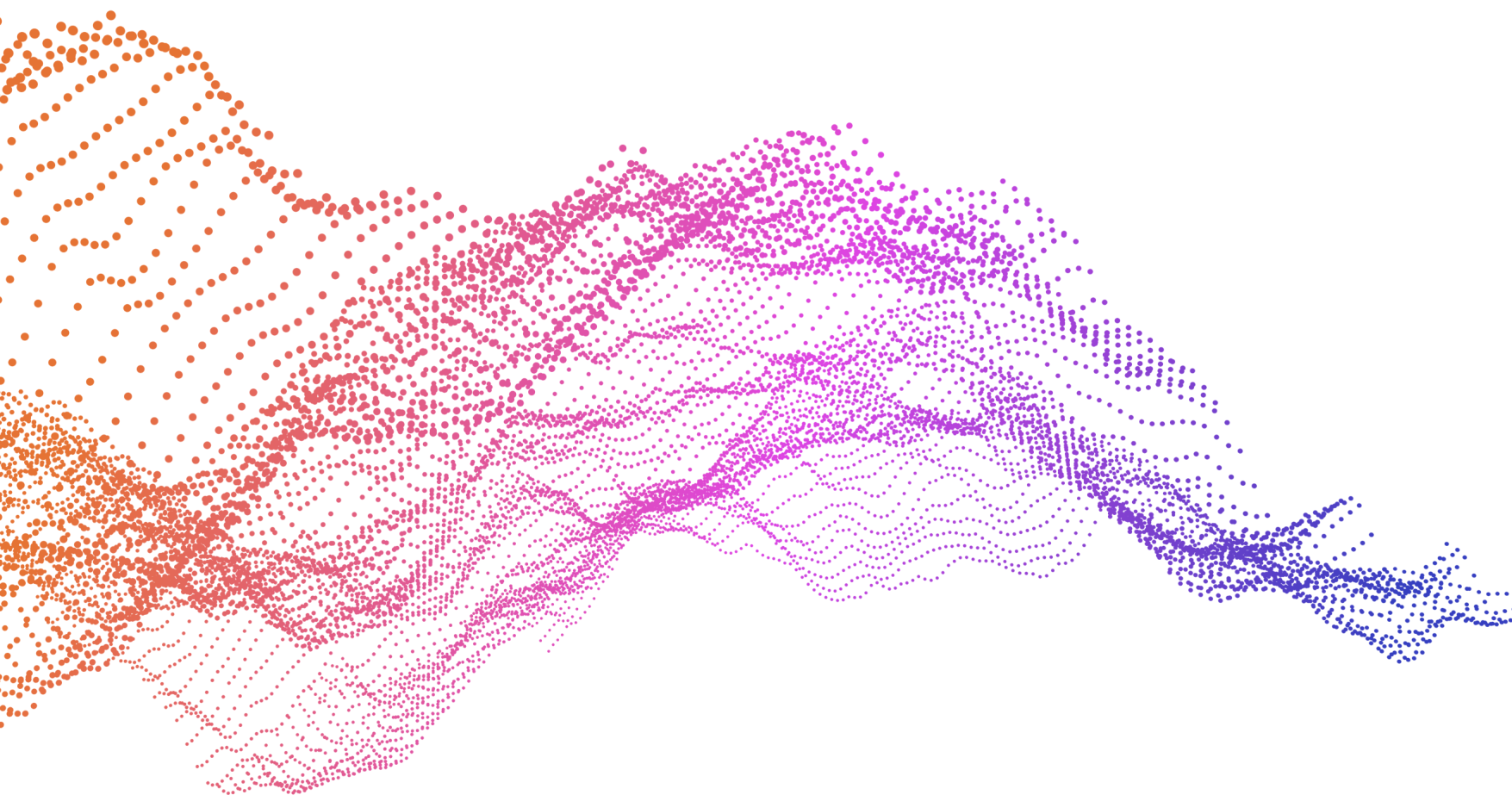
Lucrative Liquidity Provisioning

Engaging in the Hydranet Network by running

Titans or Lithium Liquidity Providers allows

you to assume the role of an off-chain rental

liquidity provider and to profit on the

associated rental fees.

Rented liquidity on Hydranet's exchange is

always returned to its rightful owner, ensuring

a secure and seamless service for you to earn

interest on your cryptocurrency assets.

Hydranet's Token - HDN

Hydranet's token, HDN, serves three distinctive and important purposes - Governance, Collateral, and Fee Reduction.

Governance

Hydranet token holders are in control, steering the future trajectory of Hydranet through governance mechanisms. Tokens are equivalent to voting power for a fair democratic decision-making process, ensuring a decentralized and community-drive evolution of the network.

Collateral

Participants seeking involvement in the Hydranet Network must collateralize Hydranet's token. Game theory incentivizes contributors to act truthfully, fostering the longevity of the network.

Fee Reduction

Hydranet is dedicated to fostering cost-effectiveness. Holding HDN tokens presents a valuable opportunity for users to benefit from reduced trading fees on Hydranet's exchange.
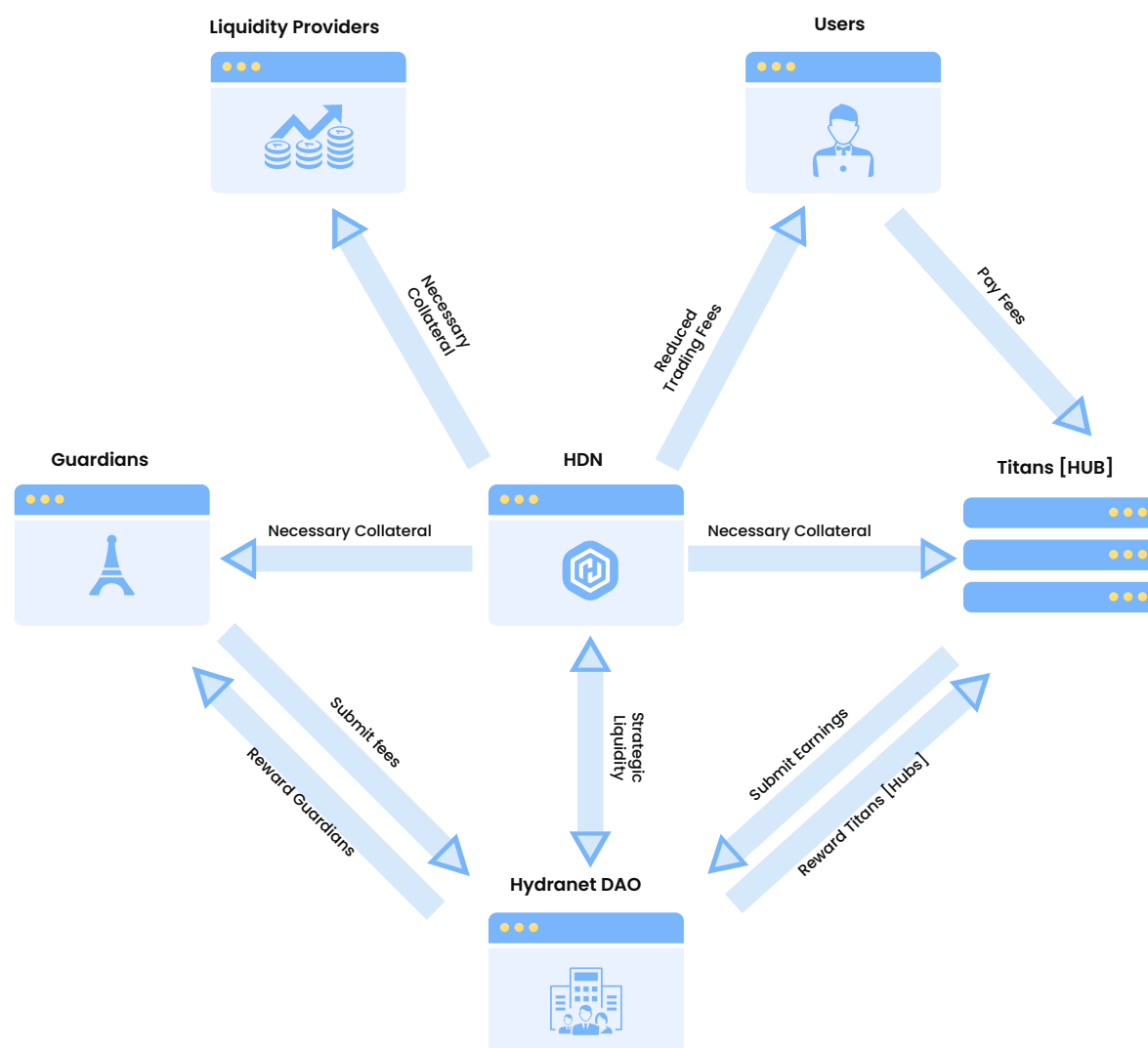
Market Opportunities

973 BILLION USD VOLUME

Decentralized exchanges have throughout the calm crypto year of 2023 reached an astonishing trading volume of 900 billion USD*. With decentralized exchanges accounting for less than 10% of the total crypto trading volume, and given the revolutionary design of Hydranet's exchange technology, Hydranet's future looks bright within the trading sector.

Furthermore, given Hydranet's position as a frontrunner in facilitating seamless cross-chain transactions, the bridging sector, which reached a volume of 73 billion USD* in 2023, is yet another promising sector for Hydranet.

*Source: DefiLlama

DAO

Living up to the values of decentralization, Hydranet operates as an Decentralized **Autonomous Organization** (DAO), driven by community governance and supervised by its board members. Hydranet is owned by **everyone and no one**, exemplifying a collective ownership model that empowers each participant in its community.
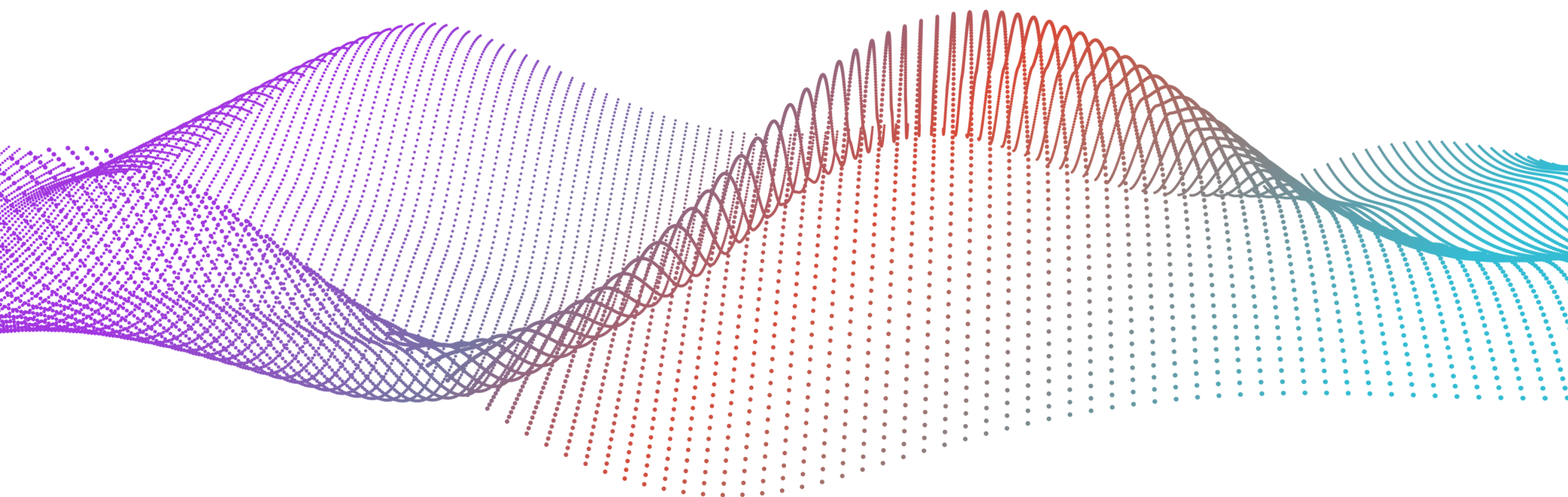
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The cost examples in this document are derived from the simple moving average transaction costs of Bitcoin, Ethereum, and Arbitrum towards the end of 2023. Transaction costs may vary, influenced by factors such as network conditions and potential upgrades to protocols/contracts. The following values have been used in the calculations of the cost examples:

ETH price: $1,785 USD

Ethereum gas price: 33 Gwei

Arbitrum gas price: 0.25 Gwei

Bitcoin transaction cost: $4.1 USD

The data was retrieved on December 27, 2023, from GlassNode Studio. Trading and bridge volumes were also retrieved on the same date from DefiLlama.

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Join the Community