June 2023

Leveraging Proof of Stake to Revolutionize Multichain Interoperability and Scalability.

Grant Proposal for Eth2.0 Staking: Empowering MultichainZ for the Future

Introduction

The Multichainz Protocol

MultichainZ, is a cutting-edge protocol that aims to transform the landscape of cross-chain interoperability. In the rapidly evolving world of blockchain technology, the need for seamless and efficient communication between diverse blockchain networks has never been greater. MultichainZ is here to bridge the gap, offering a robust and scalable solution that enables secure and frictionless asset transfers across multiple blockchains.

At its core, MultichainZ is designed to empower users and developers with unprecedented flexibility and accessibility. Our protocol acts as a unifying layer, allowing different blockchain networks to seamlessly interact, communicate, and transact with one another. Whether it's Ethereum, Binance Smart Chain, or other major chains, MultichainZ ensures that no blockchain is an isolated island.

Market Opportunity

MultichainZ stands at the forefront of a significant market opportunity, poised to disrupt the lending landscape by combining the power of a multichain lending protocol with the secure and scalable infrastructure of Ethereum 2.0 staking. As the decentralized finance (DeFi) sector continues to expand rapidly, the demand for efficient, secure, and cross-chain lending solutions is reaching new heights. MultichainZ's innovative platform allows users to seamlessly lend and borrow assets across multiple blockchain networks, while Ethereum 2.0 staking provides the foundation for scalability, and sustainability. By harnessing the potential of these two technologies, MultichainZ is primed to capture a substantial market share and drive the next wave of financial innovation in the ever-evolving DeFi ecosystem.

The Product

Multichainz Key Features and Benefits

1. Cross-Chain Compatibility: The protocol supports interoperability across multiple blockchain networks, allowing users to borrow and lend assets seamlessly across different ecosystems. This enables borrowers to leverage a broader range of assets as collateral, enhancing their borrowing capacity and diversification opportunities.

2. Extensive Collateral Options: The protocol accepts a diverse range of collateralized assets, including NFTs, cryptocurrencies, and real-world assets. This unique feature attracts a wider user base and increases the protocol's versatility, enabling borrowers to unlock the value of their assets and access liquidity more efficiently.

3. Security and Transparency: Built on a secure and transparent blockchain infrastructure, the protocol utilizes smart contracts to automate loan agreements, collateral management, and repayment schedules. The immutability and tamper-resistant nature of blockchain technology ensure trustless transactions and reduce counterparty risk.

4. Decentralized Governance: The protocol implements a decentralized governance model, empowering token holders to participate in decision-making processes. This democratic approach fosters community engagement and aligns the protocol's interests with those of its users, creating a sustainable and user-centric ecosystem.

5. Risk Mitigation and Liquidation Mechanism: To minimize the risk of default, the protocol incorporates advanced risk assessment algorithms and collateral valuation mechanisms. In the event of default, an automated and efficient liquidation mechanism ensures the prompt repayment of lenders and the preservation of the overall integrity of the system.

Why SSV?

MultichainZ aims to enhance its platform's security and regulatory compliance through the integration of SSV (Secret Shared Validators). Regulatory bodies have previously expressed concerns about the centralized risks associated with a single entity controlling all validation nodes. To address these concerns and enhance its decentralized nature, we plan to leverage the foundational principles of SSV.

SSV works by dividing a validator key into multiple segments, enabling Ethereum validation tasks to be distributed across several independent, non-trusting nodes. This mechanism is analogous to multi-signature systems, which are known for ensuring decentralized management of assets on nodes. By incorporating SSV, MultichainZ can distribute its validator responsibilities, thereby reducing the risk of centralization and increasing the platform's overall security. This approach not only bolsters MultichainZ's security but also simplifies the task of conveying its commitment to decentralization and safety to regulators.
Furthermore, to achieve this enhanced security and decentralization, MultichainZ will employ the Offline Key-Splitting method as part of its SSV integration process.

Benefits:

Integrating the SSV Network into Multichainz will not only provide users with enhanced staking options but also contribute positively to the Ethereum network's security. Furthermore, with the integration of governance mechanisms, users can have a say in the protocol's evolution, ensuring that it remains community-driven and adaptive to changing requirements.
By offering these services, Multichainz will further position itself as a comprehensive platform catering to the diverse needs of blockchain enthusiasts, stakers, and operators alike.

Market Differentiation

The cross-chain lending protocol sets itself apart from competitors by offering the following unique advantages:

- Interoperability across multiple blockchain networks
- A comprehensive range of collateral options
- Robust security and transparency through smart contract automation
- Decentralized governance for community involvement and sustainability
- Advanced risk mitigation and liquidation mechanisms

Core strengths:

- Cross-chain + Mobile-First DeFi ecosystem
- Adoption of Layer-2 Solutions to cut gas fees and boost efficiency
- A single access point for main services in the DeFi industry

At the end of the ecosystem's phase 3 development, MultichainZ will have the following products integrated:

1. Real World Asset Lending protocol
2. NFT Lending protocol
3. Token Based Lending protocol
4. Cross Chain based Eth2.0 Liquid Staking and thereafter supporting other POS assets.

The Catalyst

MultichainZ ETH 2.0 staking will allow users to both stake their ETH or run a node to validate blocks on the system for rewards. Users on the mainnet will stake their eth directly on the staking pool contract. Our goal is to enable staking to occur on all chains supported by our hyper-bridge through chain specific contracts that will stake on the mainnet on behalf of users on L2s. Users will be able to stake their WETH from different chains to the system using the multi chain stake-accounting contracts, which will route all WETHs from these chains to the mainnet and stake on behalf of the users. Rewards from the system will be distributed to these contracts and every user can claim based on their stake proportion on the contract. The user can choose to stake their ETH/ WETH from the different chains that we support. (11+ Chains)

The Proposal Details

Proposal Overview

MultichainZ presents an exciting proposition that builds upon the decentralization of Ethereum staking. Our proposal aims to enable ETH 2.0 staking on the Secret Shared Validator (SSV) network, leveraging the Ethereum blockchain. Through MultichainZ's robust ecosystem, we seek to foster extensive participation from our partners and community, ensuring widespread engagement in ETH 2.0 staking on the SSV network. We humbly request a grant from the SSV network to support the development, testing, marketing, auditing, and adoption of this initiative. MultichainZ's unique position as a versatile partner for SSV allows us to cater to diverse

blockchain communities, expanding the Total Value Locked (TVL) by seamlessly integrating major chains with MultichainZ and our partner networks.

Integration Vision

The MultichainZ Protocol is a Multi-Fold Cross-Chain staking protocol built to accommodate several styles of staking. The MultichainZ protocol will be a revolutionary staking solution for Web3 projects looking to add their native token on several chains for staking, activating different options for their community to stake as per their preference and earn comparably high APY's.
SSV's Ethereum 2.0 Staking Infrastructure will be the infrastructure layer to enable decentralized Ethereum staking for Eth 2.0. This will enable MultichainZ's partner projects and users to participate in the most widely staked phenomenon in the Web3 space. With this integration between MultichainZ and the SSV network, massive adoption can be brought to the SSV network infrastructure layer through the enablement of staking from cross-chain partners as well.

Payments on Multichainz Using the SSV Network

1. Fee Structure Configuration:

Operator Fees: Operators in the SSV Network set their annual fees. Multichainz will develop a fee management module, allowing operators to declare, adjust, and communicate their annual charges to stakers in SSV tokens.

Network Fees:

Beyond the operator fees, there's an inherent network fee determined by the DAO. Multichainz will have an automated system that adds these network fees when stakers initiate a staking process.

2. Fee Collection Mechanism:

- When stakers choose to stake their ETH, they'll have to pay the designated operator fees (in SSV tokens or native eth) and the additional network fees.
- Multichainz shall have a payment gateway that accepts SSV tokens. This gateway would segregate the fees, directing the operator fees to the chosen operators and the network fees to the DAO treasury.

3. Reward Distribution:

- As stakers earn rewards on their staked ETH, Multichainz will need to create a mechanism to distribute these rewards minus the operator and network fees. This process should be automated, transparent, and secured using smart contracts.

Liquidations on Multichainz Using the SSV Network:

1. Monitoring Staked Assets:

With the integration of the SSV Network, Multichainz will have a robust monitoring system that keeps track of the staked assets' performance, collateralization ratio, and any possible liquidation triggers.

2. Defining Liquidation Triggers:

Parameters for liquidation - like a significant drop in staked asset value, missed beacon chain duties by operators, or any malicious activities, would be predefined in smart contracts.

3. Liquidation Process:

Once a liquidation trigger is activated, the platform should notify the staker and possibly provide a grace period for them to add more collateral or correct any issues.
If the issue remains unaddressed, the smart contract will initiate the liquidation, converting the staker's assets to ensure the platform's integrity and security.
The liquidated assets can then be used to cover any operator or network fees due and compensate for any potential losses. Any excess can be returned to the staker, but this depends on the platform's terms and conditions.

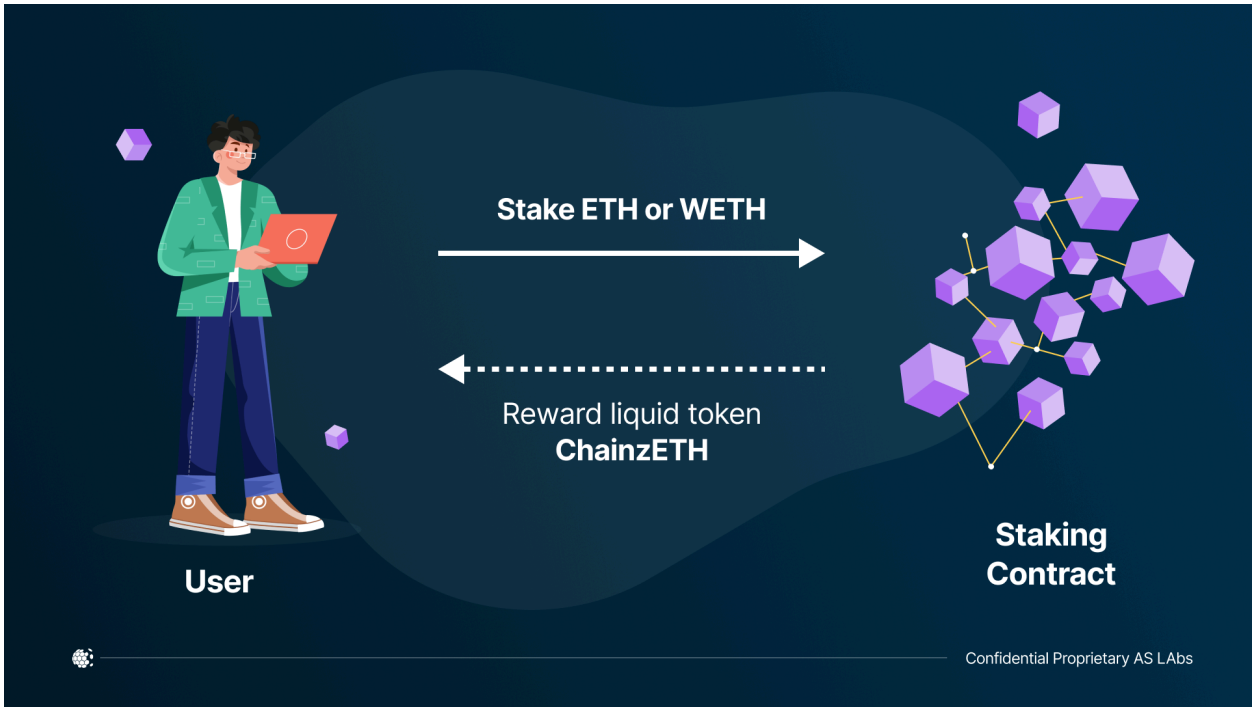
4. Liquidation Protection:

Given the decentralized nature of SSV Network and its goal to ensure greater uptime and security, the chance of liquidation due to operator failures should decrease.
However, Multichainz should offer tools and educational resources to help stakers manage their stakes effectively and understand the risks associated, minimizing the likelihood of liquidation.

The integration of SSV Network with Multichainz's liquid staking platform brings forth complexities, especially in payment and liquidation processes. It's paramount for Multichainz to ensure that these processes are transparent, user-friendly, and, most importantly, secure. Automating these processes using smart contracts can offer trust and efficiency, ensuring both operators and stakers have a seamless experience.

Technical overview

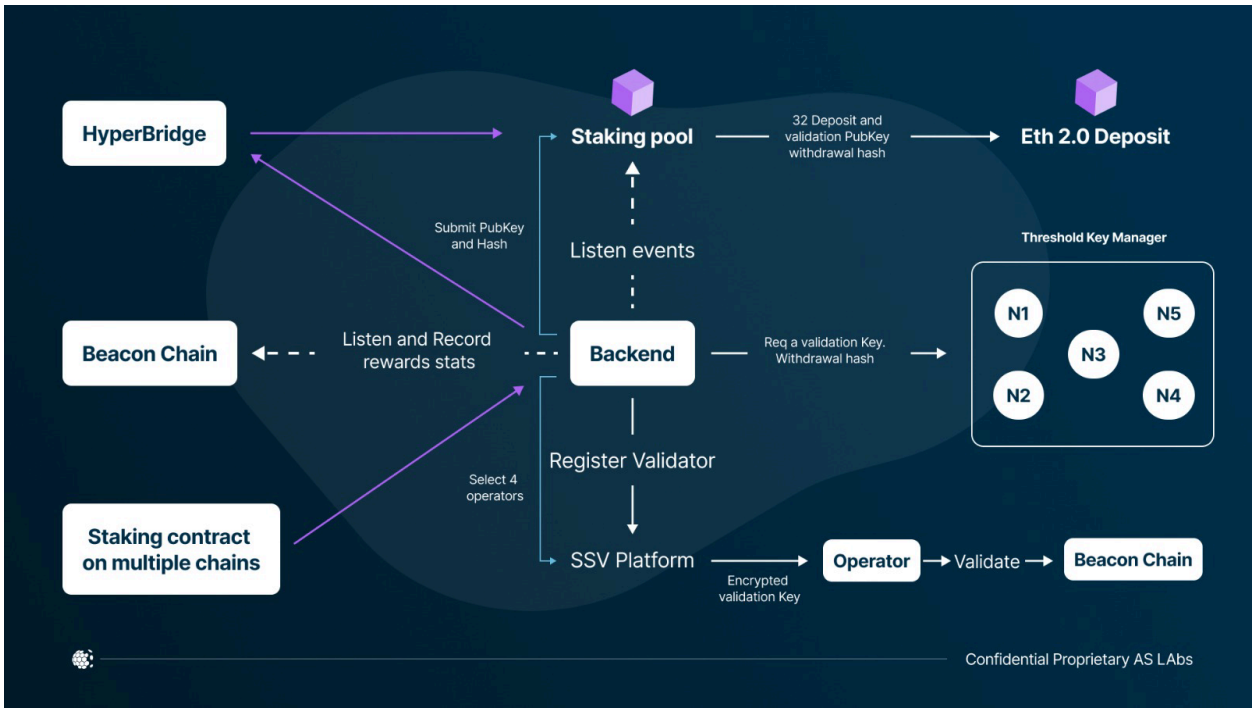
The user will select the staking on one chain through a user interface and Metamask. Once the staking is done, a liquid token (either ChainZETH or ChainXETH) will be generated by the staking pool contract and sent to the user. These liquid tokens will be proof that the user has staked and can claim rewards/unstake based on that.



The backend server will always monitor the events of Staking Contracts on different blockchains Whenever a staking event is emitted, the backend will use cross chain messaging service to move the ETH/WETH to the staking pool on Ethereum mainnet.

Once that pool reaches 32 ETH, a key pair (validation key, withdrawal key) is generated through the Threshold Key Manager Service, which may have different
threshold configurations. This step can also be executed once in advance to generate
and store all key shares in encrypted vaults (for security and performance reasons).

Operator Selection



1. Once the key pair is received by the backend from Threshold Key Management, the backend will send the required deposit information to the
staking pool and the staking pool will call the deposit function to initiate ETH 2.0 depositing.

2. The backend will also listen to the Beacon chain to check the status of all validators along with their rewards, slashes, etc.

3. The backend will then register the validator along with its credentials to the SSV Platform.

4. MultichainZ will select the operators to split the validation key or even fix one selection of the operator to be a MultichainZ SSV node.

Backend Process

1. The Architecture:

SSV allows for a validator's duties to be split among multiple operators. This means the validation responsibility is distributed. For Multichainz's backend, it means that the system doesn't rely on a single source of truth but rather listens to multiple operators to gain insights into the network's health.

2. Listening to the Beacon Chain:

Direct Interaction:
Multichainz's backend will directly interface with the Beacon Chain through Ethereum 2.0 clients like Prysm, Lighthouse, Nimbus, etc. These clients offer APIs to fetch validator performance data, rewards, slashes, etc.

SSV Node Integration:
Instead of only directly listening to the Beacon Chain, Multichainz will also integrate with the various SSV operators. This will allow for a more distributed and robust mechanism to fetch validator statuses. SSV operators can provide more granular data about the chunks of validation they are responsible for.

3. Data Compilation and Analysis:

Aggregated Data Streams:
By collecting data from both direct Beacon Chain interactions and SSV nodes, Multichainz can aggregate and cross-reference the data to ensure accuracy.

Validator Health Checks:
Multichainz's backend will periodically check the status of validators. If any discrepancies arise between the direct Beacon Chain data and SSV nodes, the backend will flag these for manual review.

Rewards and Slashes Monitoring:
The backend system will track rewards accrued by validators and any penalties or slashes. This data is crucial for stakers to understand their ROI and for the overall transparency of the protocol.

4. Alerts and Notifications:

Multichainz will set up an alert system to notify stakeholder groups (like stakers or internal system admins) about significant events:

- The validator's performance dips.
- Discrepancies in data between the Beacon Chain and SSV nodes.
- Any slashes or penalties incurred by validators.

5. Enhancing Security and Redundancy:

Given that slashing events can lead to a significant loss of staked assets, Multichainz, through its distributed listening approach, adds an extra layer of security:

Distributed Checks:
By cross-referencing data from multiple sources, Multichainz ensures that it's not missing out on any critical event or relying on potentially corrupted data from a single source.

Swift Action:
Early detection of anomalies can lead to swift corrective actions, possibly preventing further damage or financial losses.

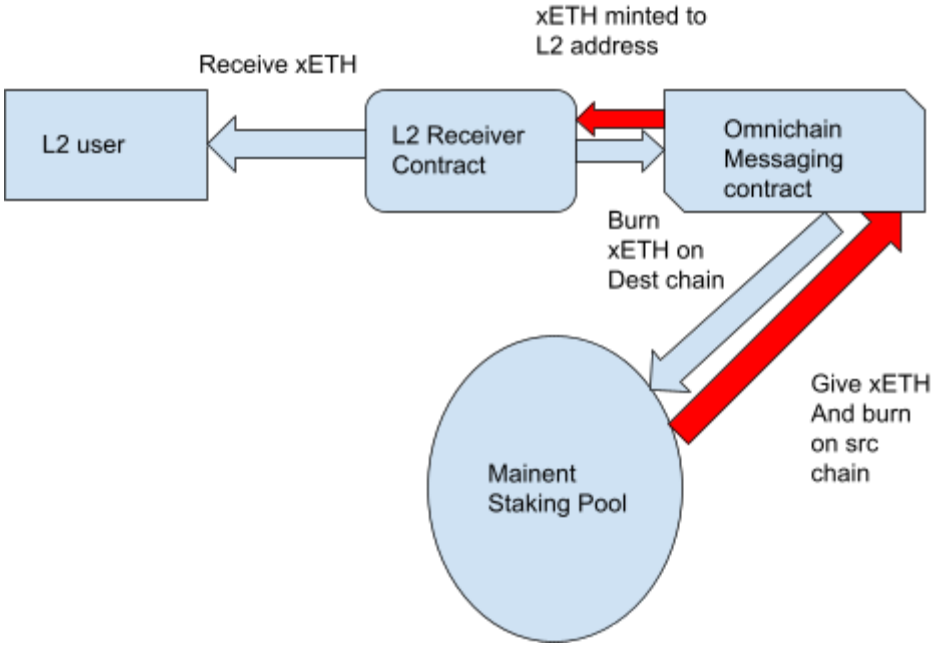
6. Feedback Loop for Stakers and Validators:

Multichainz's backend will offer detailed analytics dashboards or periodic reports to stakers and validators, giving them insights into:

- Overall health and performance of their validators.
- Rewards accumulated over a period.
- Any flags or warnings to be aware of.

On Layer 2 chains

Users wanting to receive the liquid staking token (xETH) on L2s will have a similar experience to the users on the mainnet, although they will have to stake on mainnet liquid staking contract, which will bridge their xETH to the destination chain. These users will receive xETH or ChainzETH (the name will be decided on in a later phase), on the specific destination chain of choice. Their proportion of stakes on the mainnet contract will be their proportion of the rewards accrued by the contract.



All these workflows will be abstracted by our interface and handled by the backend server, which will ensure that the flow of tokens is seamless. This server will monitor the system to ensure that it performs functions like burning tokens on the source chain whenever an omnichain transfer is initiated, sending a message via the protocol and delivering a function call to the destination contract to mint the same number of tokens burned, creating a unified supply across all networks.

Our plan for managing the facilitation of fees charged by the network and its operators incorporates a number of steps and considerations, leveraging the existing mechanisms of the SSV network.

We plan to adhere to the network's guidelines for updating fees. Any increase in fees is subject to a limitation set by the DAO to protect stakers against sudden liquidations due to fee updates and malicious behaviors. On the other hand, operator fees can be decreased immediately at any time by operators without any restrictions

Milestones and Deliverables

1	Designs stages: Technical Build + Testing	• *UI/UX designs*	*This phase will consist of UI finalization.*	*Completed*

2	Phase 1: Technical Build + Testing	• *Smart contracts* • *Backend*	*This phase will consist of a technical build to integrate the SSV network's operator module. It will entail constant iterations and testing phases as well.*	*Completed*
3	Phase 2: The Auditing Phase & Test phase	• *Smart Contract Audits* • *Pen testing* • *Dapp Frontend integrations*	*This phase consists of getting the audits done by an external team, bug bounties and also supplementary Testnet campaigns to gain community insights*	*4-6 weeks*
4	Phase 2.5: Bounty & mainnet Launch	• *Testnet Period* • *Mainnet campaigns* • *Ssv mainnet integration* • *Product launch*	*This phase will be the final phase whereby final functionalities will be tested and mainnet will be launched after full integration*	*10-14 weeks*
5	Phase 3:	• *25> Validators incentivisation program*	*Aiming to have at least 25 validators live by then. Funding grants here used to cover for Marketing costs and infra cost*	*10 weeks*

Terms

We kindly request that all grants allocations be made in 80*%/20% SSV/USDC ratio. The request for 20% in stables will effectively be a guarantee in case of market fluctuations.*

Milestone Allocation

Designs Technical Build + Testing	*$0*	*Completed*
Phase 1: Technical Build + Testing	*$0*	*Completed*
Phase 2+2.5: The Auditing Phase, & mainnet Launch	*$ 30, 000*	*60%*
Phase 3: 25> validators incentivisation	*$ 20, 000*	*40%*
Total	*$50, 000*	*100%*

Total Value Locked details

Liquid Staking

Objective:

- Reach TVL of ***$50 million*** within 12 months

Strategy

Liquid staking allows users to stake their tokens and, in return, receive a liquid token that can be traded, used as collateral, or utilized in other DeFi protocols. With the Multichainz liquid staking protocol, we aim to create a seamless and frictionless experience, ensuring that users can maximize their staking rewards while still having access to liquidity.

Lending Protocol

Objective:

- Achieve a TVL of ***$200 million*** before launching Multichainz's native token, ChainZ.
- Allowing Ethereum staking tokens to be collateral in our lending Pool.

Strategy

The lending protocol is designed to foster a secure and transparent lending and borrowing environment. By tapping into the vast liquidity pools and integrating advanced smart contracts, Multichainz aims to offer competitive interest rates to borrowers and lucrative returns to lenders.

Building an Open Source Protocol

The Multichainz staking protocol will be built on the principles of transparency, collaboration, and innovation. To ensure a truly open and accessible ecosystem, we have chosen to release our components under the MIT license, allowing developers and stakeholders to freely engage with our technology.

Following the launch of our mainnet, we are committed to sharing our protocol as open source within a timeframe of 12-16 months. This decision reflects our dedication to community-driven development, encouraging participation and contribution from a wide range of talented individuals and organizations.

By adopting an open-source approach after 12-16 Months, we aim to foster creativity, enable rapid iteration, and promote interoperability within the broader blockchain community. This will empower developers to build upon our protocol, customize its functionality, and integrate it seamlessly into their own projects.

Through this strategic decision, we envision a future where our staking protocol serves as a foundation for innovative applications, secure networks, and the advancement of decentralized technologies. We look forward to the collaborative journey ahead and the positive impact it will have on the broader blockchain ecosystem.

Conclusion

The conclusion draws attention to the compelling opportunity presented by the MultichainZ cross-chain protocol within the decentralized finance (DeFi) space. With its innovative features and unique value proposition, the protocol is well-positioned to capture a significant market share in the rapidly expanding decentralized lending and staking sector.

The collaboration with SSV Network through the Development and adoption grant further enhances MultichainZ's ability to efficiently create a staking solution. This partnership, combined with our ecosystem of partner projects and community, has the potential to drive mass scalability and adoption of Ethereum, particularly in the context of regulatory challenges faced by centralized exchanges.

By providing a feasible and efficient means for web3 projects and users to participate in ETH 2.0 staking, MultichainZ, in partnership with the SSV network, aims to promote increased participation and utilization of SSV's decentralized staking mechanism, creating a mutually beneficial scenario for all stakeholders involved.

Through the protocol's ability to unlock liquidity, foster financial inclusion, and facilitate a more efficient and interconnected lending ecosystem, MultichainZ offers an exciting opportunity for those seeking to capitalize on the growth potential of decentralized finance. We invite you to join us in supporting this transformative project and be part of the future of decentralized finance.