Sienna Network

Privacy-first, cross-chain decentralized finance protocol.

Version 1.3

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1.0 Executive Summary

Sienna Network is a cross-chain, privacy-first protocol for decentralized finance (DeFi), which empowers its users to manage their tokens securely, with no outside interference or intrusion, knowing that unwanted outsiders will not be able to view the details ofthe wallet or any transactions or contract interactions. This is key to comply with privacy requirements applied to providers of Financial Services, to follow the guidelines of global data privacy regulations e.g. GDPR in Europe, with their obligation that systems must be developed with 'Privacy by Design", and is in opposition to "Anonymity Enhanced Cryptocurrency" that is seen as a Red Flag Indicator by the FATF (Financial Action Task Force) – Privacy and anonymity are distinctly different in spirit and objective, and Sienna Network DAOs aim is to encourage and support development of regulatory compliant solutions. We encourage the reader to endeavour to fundamentally appreciate the difference.

Until now, the activities of DeFi users have remained an open book - publicly preserved on the blockchain and forever vulnerable. This level of disclosure has created a chilling effect for the industry, discouraging even remotely privacy-conscious users from participation in DeFi, whilst concerning regulators who wish to ensure that users, private and professional alike, are properly protected.

Modern blockchain based technologies fall short when it comes to preserving privacy - the nature of the early blockchains brings everything in the open - Sienna Network looks to solve for the same problem that has been solved by banks for their customers for many years - privacy in terms of your funds and transactions and protected by computational privacy, but without the need for any 3rd party to be involved.

Sienna Network's mission is to right this wrong. At the heart of the network are robust tools for the assurance of privacy to users. Sienna Network, a non-profit DAO governed by its tokenholders has sponsored development of an AMM with token swaps and following its initial success has voted to add increased functionality according to the published product roadmap (which evolves as the project develops).

The Sienna Network DAOs first sponsored software, The **Sienna Swap**, a decentralized Automated Market Maker (AMM) for private, seamless, P2P token swaps has been open sourced and is now on chain. Sienna Swap provides near instant

swapping of SNIP-20 based tokens.

The second contract, which is planned to follow in Q4-2021 is **Sienna Lend**, which facilitates the borrowing and lending of tokens, while also offering staking options for various tokens pairs. Sienna Lend includes several strong incentivization options which encourage participation in the governance of the DAO.

These products will be complemented by Sienna Network's planned integrations with **Self Sovereign Identities**, which provide users with total control of their personal data in a private decentralized ID. This data can then be leveraged in private smart contracts.

Sienna Network's sponsored open source software builds upon a number of pre-existing technologies to make this vision a reality. Foremost is the Secret Network, a blockchain built on Cosmos with Tendermint technology. This technology stack allows privacy-preserving smart contracts, great scalability, fast transactions, and low gas fees. It also offers great utility and flexibility, including cross-chain bridging with Ethereum and other networks including the Binance Smart Chain,Polkadot and more via the IBC (Inter-Blockchain Communication Protocol) for the Cosmos ecosystem – on Secret Network via the Supernova upgrade.

Sienna Network is a DAO and is governed by holders of SIENNA, its powerful governance token which confers decisions to its token holders. Each SIENNA token entitles its owner to one vote, with voting on matters such as interest rates, ratios, new rules, collateral limits and more. Desirable activities on the network will be incentivized with SIENNA.

Sienna Network DAOs sponsored open-source software focuses on privacy and should be seen as a means to deliver on the requirements of the proposed payment services directive allowing data e.g. PII to remain private to unaffected parties and only shared by the relevant parties, e.g. an Originator and a Beneficiary, allowing users of the protocol to comply with the "travel rule" should they wish to do so.

Since the Sienna Network open-source software doesn't fit the definition of a VASP as no single entity retains any controlling influence over the platform the above functionality is important to ensure that contracts of the future can comply with proposed legislation.

2.0 Sienna Network

Sienna Network is a open source privacy-focused DeFi protocol designed to protect users from unwelcome surveillance by bad actors, and to preserve their right to privacy.

Privacy by Default

Sienna Network believes that your privacy is a fundamental right. Until now decentralized finance has promised full financial control and self-reliance, but at the expense of personal privacy. The inherent transparency of blockchain - advantageous in some areas - holds concomitant privacy and security risks. In centralized finance that risk is reduced but comes at the cost of personal control, unworkable time delays and excessive cost. For those who prize their personal privacy, their financial freedom and the need for a more efficient financial structure suitable for the open Internet, neither CeFi nor DeFi has yet provided all the answers.

Sienna Network's protocol is different, and provides complete freedom, with privacy by default. Sienna Network is designed to execute private smart contracts with the programmability of e.g. Ethereum, while maintaining privacy. This is due to the privacy features from the protocol Sienna Network is built on top of - Secret Network.

Moreover, the programmable privacy means that verifiable sensitive data (i.e. sender and receiver information) can be exchanged in a completely decentralized manner.

This baked-in privacy ushers in a new wave of impactful features for DeFi including private trading, private lending, private decentralized identities, and more. With the integration of oracle-type resources these opportunities will only expand.

The privacy and integrity of the network and its financial tools strengthens the value proposition of decentralized finance. This is especially true for institutional participants, who are extremely cautious of exposing their financial strategies and trading activities. This has been a persistent impediment to institutional adoption, slowing growth and in some cases dissuading greater levels of participation.

There is huge potential for a private platform where positions and trades remain private, when desired. In Sienna Network that privacy comes as standard, although, for those who wish or need it, relevant data about sender and receiver can be shared by the participants.

2.2 Mass Scalability

Sienna Network is built on the Secret Network blockchain, developed with the Cosmos software development kit (SDK) which takes advantage of Tendermint consensus technology. This technology stack allows for the creation of powerful, and highly scalable decentralized applications.
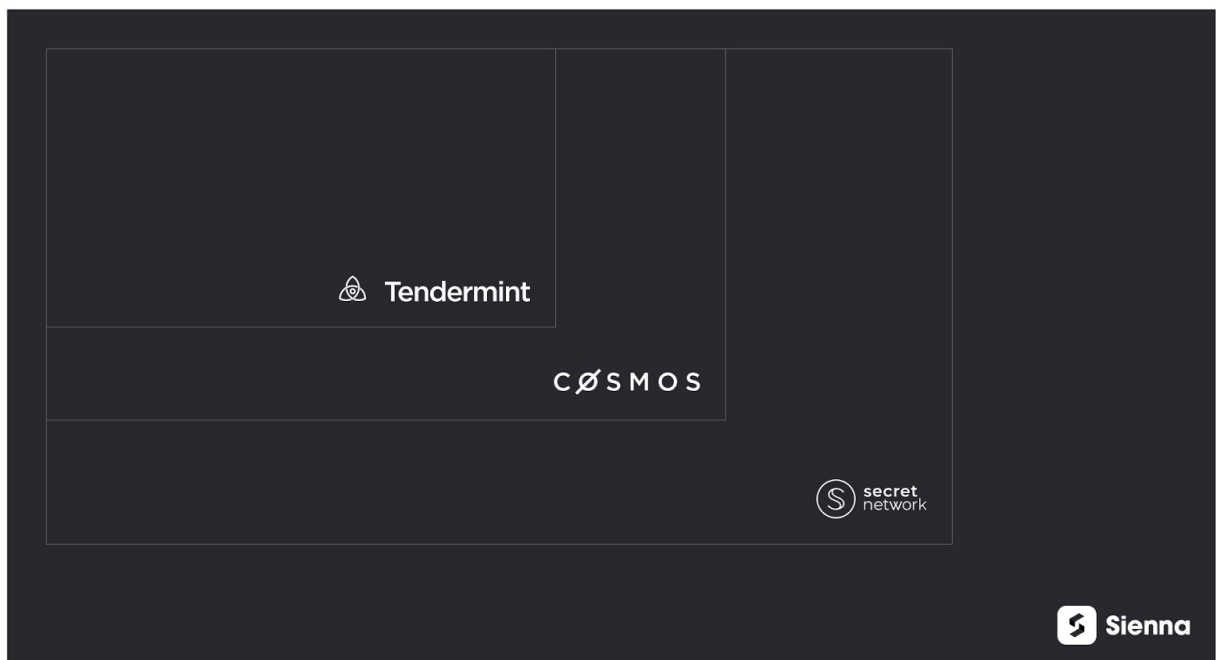
Cosmos is a network of independent but interoperable parallel blockchains, each maintaining individual control in their 'sovereign zone'. Each Cosmos sovereign zone is capable of hosting multiple blockchains running in parallel to each other, facilitating thousands of transactions per second (TPS).

Building on Cosmos SDK allows Secret Network to take advantage of Tendermint with parallel scaling, allowing for much higher throughput than monolithic public blockchains. Sienna Network takes advantage of all of the scalable nodes of its parent chain, thus achieving high throughput in the range of thousands of transactions per second, even under severe network loads.

2.3 Protocol Level Interoperability

One of the core benefits of Cosmos is its Inter-Blockchain Communication (IBC) protocol. This makes it possible for blockchains on the network to connect and communicate with each other without ever giving up their native application states or their consensus protocols.

Since the Cosmos Hub keeps a transactional record of all tokens within its ecosystem of sovereign zones, tokens from one platform can be easily wrapped to another blockchain, even if both blockchains are running separate application layers and corresponding consensus mechanisms.

2.4 Gas fees and Front-Running Mitigation

Cosmos SDK, IBC, and Tendermint Consensus Protocol allow for a far higher transactional throughput than Ethereum and because of this, much cheaper transaction fees are possible.

Unlike the Ethereum model in which users are caught in a perpetual arms race of ever-increasing gas fees, Cosmos offers parallel scaling with near instant transaction times. In this ecosystem the burden of transactions is more easily spread, reducing the necessity of aggressively incentivizing transactions where time is of the essence.

Since transactional throughput on Cosmos is very high, even under strenuous network loads, users no longer need to "front run" their transactions to be assured of timeous completion. Furthermore, due to the utilization of the Secret Network and its Secret Contracts, the transactional information for transactions occurring on Sienna Network are private - eliminating the merest possibility of front-running with the purpose of shorting the market on Sienna Network.

2.5 Contributing Towards Institutional Adoption

The lack of privacy in decentralized finance, and issues it creates such as front running, raises barriers for institutional players, making it less likely they will allocate a portion of their portfolio, it also completely rules out any regulated product in the longrun without impractical workarounds.

Sienna Network's ecosystem assures institutional players by keeping all of their transactions, trading positions, liquidity provisions and more, private. This positions Sienna Network as the gateway for institutional players who wish to engage in decentralized finance, allowing them to add their holdings to this growing sector.

2.6 Making DeFi Easy

If DeFi is to fulfill its true potential and reach beyond the existing market of diehard crypto geeks, it must first broaden its appeal and lower the barriers to entry. To make this vision a reality, Sienna Network intends to focus on education of users, the user journey and ease of use.

Sienna Network's tools and product lines are designed to be quickly understood, utilizing an intuitive graphical interface that allows users to quickly get to grips with the platform. Sienna Network will further work to educate and inform its user base, helping them to upskill and level up whenever necessary.

2.6.1 Education

Sienna Networks DAO is already sponsoring development of tools and step by step guides which will allow the second generation of DeFi users to learn, absorb and execute a greater range of functions as they become increasingly familiar with the sector and contribute to raising the information level around general tokenomics and the advantages of DeFi functionality to help users be better able to safely navigate and trust this exciting new area.

2.6.2 Trust

Sienna Network has a strong stand on Trust, defined by:

Privacy: With privacy by default users have peace of mind, allowing them to trust in Sienna Network as a safe protocol to conduct their tokens actions.

Security: There is no central repository to risk and no single point of failure which can be exploited. This allows users to trust that their information is highly secure and protected on Sienna Network.

Clarity: A user-centric design will lay the foundation upon which user trust is developed.

Fairness: The prevention of front-running further establishes trust with the user base.

Transparency: The Sienna Network DAO submitted the sponsored code to external auditors before it was deployed on the main net and made available to the public. And additional auditing has been procured afterwards to further strengthen the trust.

2.6.2 Transaction Fees

Sienna Network is based on Secret Network - a Proof of Stake network featuring low transaction fees as well as low (relatively) energy consumption. At the time of writing, transactions on the Ethereum network are costing upwards of $150, rendering smaller transactions or experimentation impractical. This is a huge barrier to entry for both new, curious users of DeFi - and of course for the large majority of users. Sienna Network has the goal of reducing barriers to DeFi adoption, and fees are an important aspect of making DeFi easy and an improvement over legacy systems.

3.0 Self Sovereign Identities

Sienna Network has an ambition to develop support for integration of 3rd party self-sovereign identities (SSI), empowering users to decide which pieces of information they share with the counterparty – another user or a smart contract. The data within the SSI remains encrypted, private, and secure always via the Secret Network Trusted Execution Environment framework.

Better still, the self-sovereign identity may be engaged with a pseudonymous username orDecentralized IDentifier (DID). This pseudonym allows users to remain completely anonymous to other users while being able to prove their identity via zero knowledge proofs.

The user can connect useful information (metadata) to their DID which is then incorporated and encrypted into their SSI. Each DID have its own set of rules related to registration, regulation, modification and revocation.

In time Sienna Network foresee regulations which govern token exchange that will make some form of identification mandatory. As Anonymity and Privacy are two distinctly different matters, Sienna Network will help to future proof its users such that they do not need to act anonymously simply to preserve their right to privacy. But the distinctly different approach from Sienna is that the user, and not a 3rd party, should be the one deciding on what to share with whom.

4.0 Cross-chain Technology

Users can get into the Secret Network ecosystem by bridging their existing ERC-20, BSC or Monero tokens to SNIP-20 via the 3rd party provided bridges or after IBC by wrapping other IBC-compatible cosmos-chains tokens e.g., from Terra.

5.0 Sienna Swap

The focus for the Sienna Swap AMM is privacy, scalability, and ease of use. Minimal transaction fees will allow for more affordable trading.

If transacting with secret token equivalents e.g., secretETH, secretSCRT or native SNIP-20 tokens e.g., SIENNA or sSCRT Sienna Swap will always execute the trades with full privacy, preventing front-running and maintaining user privacy.

Unlike traditional centralized exchanges with order books which must match and delay trades, Sienna Swap's Automated Market Maker (AMM) functions entirely on smart contracts, making it truly trustless, decentralized and censorship resistant.

Sienna Network DAO sponsored development of a open source frontend for users wishing to interact with the blockchain, but users can also simply interact with the immutable persistent smart contracts via the secretcli tool.

Sienna Swap's AMM is currently implemented via a dual liquidity pool solution that is provided by the users of Sienna. The dual liquidity pools functions via the dual deposit system, eliminating waiting times since the pool is always present and liquid. The efficiency of this system is in sharp contrast to order book exchanges in which users must wait for a matching bid to execute their trade.

Trades on Sienna Swap are executed via the permissionless liquidity pools, and any user can create a new pool. After the IBC upgrade of Secret Network, aka Supernova in November 2021,Sienna Swap will support a huge array of other Cosmos ecosystem tokens most likely incl. UST, Luna, Osmosis and more.

5.1 Pair Liquidity

Sienna Swap utilizes a market maker algorithm to maintain its reserves in relative equilibrium. Reserves are pooled liquidity providers who supply tokens for the trading pair in exchange for a proportional share of the pools generated transaction fee.

Mathematically, the core of any AMM resides within its algorithm or relative price curve. From this, the price of the tokens involved can be determined. Sienna Swap's AMM is based on the same mathematical principle.

The variables of an AMM are the reserve amount xi of each token i.
The formula for a generalized constant product market maker allows for the fluctuation of price while preserving liquidity:

$$\prod x_i = k \qquad (1)$$

Where xi relates to any token pair x_i & x_j and k is a constant. This means that the product of each token's reserve amount remains constant. Substituting x_i & x_i for A and B, (1) becomes

$$AB = k \qquad (2)$$

The price is represented by $-\,dA/dB = A/B$ which denotes the change of reserves on both sides such that if either of the tokens' liquidity drops (i.e. token reserves running out from their respective pools), the respective token's price moves towards infinity. Thus satisfying the liquidity problem even in extreme scenarios.

Equation 2 is only satisfied when the product of each token's reserve amount remains constant. Therefore in order to satisfy the need for a constant product, when a liquidity provider increases liquidity for one of the tokens, they must do the same for the other token at an equal amount.

However in order to overcome this limitation and provide greater flexibility to liquidity providers, a Balancer style AMM needs to be implemented. With this specific AMM, the price curve is a particular N-dimensional surface:

$$\prod x^{w}_{i} = k \qquad (3)$$

where w_i is the normalized weight of x_i. When a liquidity provider adds to the token pool, the smaller the weight w_i, of the relative pool distribution ratio, the fewer tokens will need to be added. For example, the pool can be specified to have a 20/80 split which refers to the normalized weights of the two tokens being 20% and 80% respectively.

The price curve for a pool of a pair of tokens that comprise of a base and quote token is as follows:

$$P_{margin} = iR \qquad (4)$$

The price curve consists of two parts:

$$R = 1 - k + (B_{\ }/B)^2 k \text{ when } B < B_0$$

$$1 / (1 - k + (Q_{\ }/Q)^2 k) \text{ when } Q < Q_0$$

where

B_0 = aggregate number of base tokens deposited

Q_0 = aggregate number of quote tokens deposited

B = number of base tokens in pool

Q = number of quote tokens in pool

i = market price provided by an oracle

k = parameter in the range (0, 1)

Since this AMM isolates the price curve of each token, liquidity providers are able to deposit a certain token on either side without having to worry about impermanent loss.

5.2 Liquidity Pools

Liquidity providers can withdraw their liquidity from the pools they have deposited to. Tokens are then withdrawn at the current exchange rate, not at the rate of their initial deposit.

5.3 Fees

When conducting a token swap, the user contributes 0.3% to facilitate the transaction. From this, the liquidity providers are allocated 0.28% shared proportionally to their overall share of the liquidity pool.

The remaining 0.02% trading commission is converted to SIENNA and locked in a smart contract for 10 years.

The Sienna Network DAO does not receive any commission or any other financial rewards on trades conducted on the platform.

6.0 The Sienna Token

6.1 Token Overview

SIENNA is a transferable representation of attributed governance functions specified in the protocol/code of the Sienna Network DAOs open-source software and is designed to be used solely as an interoperable Governance token with Governance rights for token holders.

SIENNA is a governance token which enjoys a dual function in the ecosystem, acting as the governance token of the DAO and the incentivization mechanism to encourage positive behavior from users, so they are each incentivized to contribute to and maintain the Sienna Network ecosystem via DAO governance. SIENNA is an integral and indispensable part of the Sienna Network, because without SIENNA, there would be no incentive for users to expend resources to participate in activities or provide services for the benefit of the entire ecosystem on the Sienna Network. Given that additional SIENNA will be awarded to a user based only on its actual usage, activity and contribution on the Sienna Network, users of the Sienna Network and/or holders of SIENNA which did not actively participate will not receive any SIENNA incentives.

SIENNA does not in any way represent any shareholding, participation, right, title, or interest in the DAO, the Distributor, their respective affiliates, or any other contributing company, enterprise or undertaking, nor will Sienna Network entitle token holders to any promise of fees, dividends, revenue, profits, or investment returns, and are not intended to constitute securities in Singapore, USA or any other relevant jurisdiction. Holding of SIENNA carries no rights, express or implied, other than the right to use SIENNA to enable usage of and interaction within the Sienna Network e.g., for voting on governance proposals. The initial private sale of SIENNA governance tokens was done exclusively to an accredited investor base, who completed full KYC/KYB and onboarding via a reputable law firm.

Token details summary

Symbol: SIENNA

Decimals: 18

Contract Address: `secret1rgm2m5t530tdzyd99775n6vzumxa5luxcllml4`

Type: SNIP-20

Network: Secret Network

Total (fully vested) Supply:

10 million

Circulating Supply:

350,000 SIENNA at launch, then vesting according to the token vesting schedule.

Distributed to:

300,000 SIENNA tokens locked in liquidity provision.

200,000 tokens are allocated for the public sale, of which 25% were unlocked at the TGE (Token Generation Event).

6.2 Use Cases

6.2.1 Governance

To promote decentralized community governance for the network, Sienna Network DAO allow holders of its governance token SIENNA to propose and vote on governance proposals to determine future features and/or parameters (such as interest rates, ratios, new rules, collateral limits etc) of the Sienna Network with voting weight calculated in proportion to the tokens staked. Users owning 1% of the total token supply can create proposals that anyone can vote on if they own at least one SIENNA. For the avoidance of doubt, the right to vote is restricted solely to voting on features of the Sienna Network Protocol; the right to vote does not entitle SIENNA holders to vote on the operation and management of the DAO, its affiliates, or their assets or the disposition of such assets to token holders and does not constitute any equity interest in any of these entities. The arrangement is not intended to be any form of joint venture or partnership.

6.2.2 Protocol Incentivization

36% of the governance token's total supply has been allocated to reward mechanisms via various interconnected incentivization programs across the entire network.

The Sienna Network itself is simply a blockchain protocol which, by design, does not own or run any computing/storage servers, so third-party nodes are required for processing transactions and maintaining the blockchain. Providers of these services / resources (validator nodes) would require payment for the consumption of these resources (i.e. "mining" on the Sienna Network) to maintain network integrity, and SIENNA will be distributed to pay these providers.

Similarly, for the Sienna Network to function properly, users would need to be incentivized to play the role of liquidity providers and stake their digital assets into the market making pools. As compensation for opportunity costs, these liquidity providers which help to provide the core functionality of swaps on the Sienna Network by

staking or including assets to liquidity pools in exchange for liquidity provider tokens would be rewarded with SIENNA tokens (i.e. "liquidity mining" on the Sienna Network).

The smart contract will vest the SIENNA token for protocol usage, ensuring there is a proper and fair decentralized distribution of the token. This will help to create an optimal environment for true decentralized democracy and influence over the Sienna Network.

6.3 Token Launch and Allocation

The SIENNA governance token was launched via an initial dex offering (IDO).

In total, 10M SIENNA will ever be minted with 350,000 tokens locked in liquidity on day one.

SIENNA will thereafter follow a gradual vesting strategy with the bulk of the tokens allocated to the minting pool. The full breakdown of token allocation is as follows:
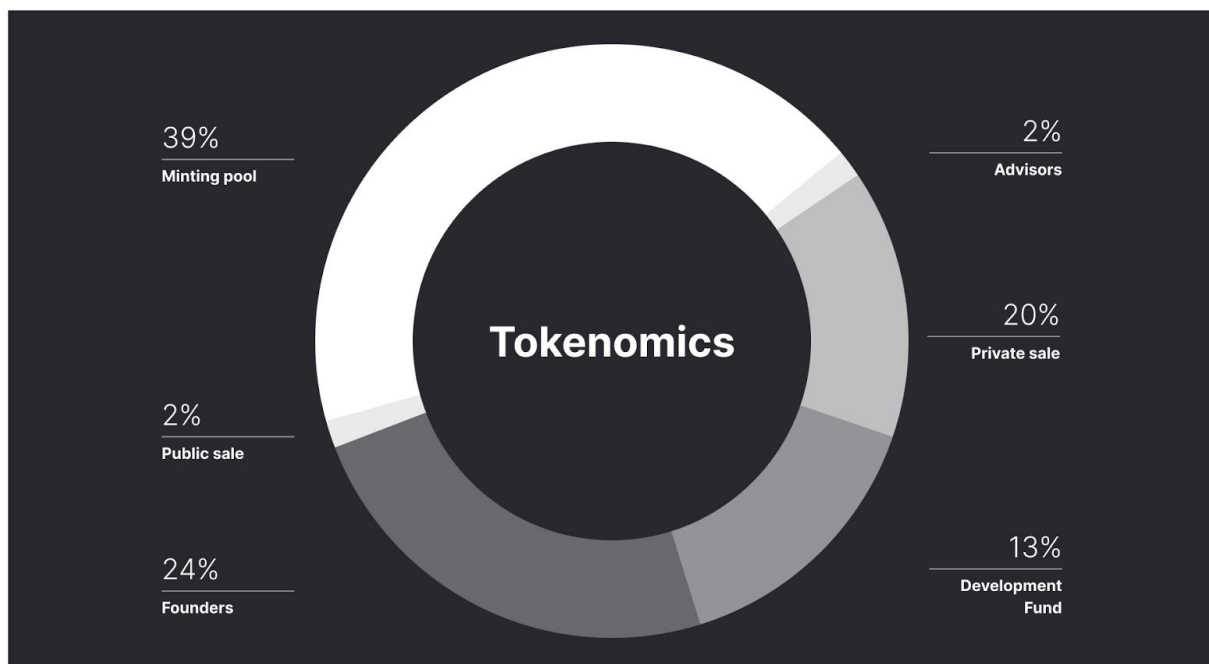
39% Minting Pool
The largest block of SIENNA tokens is earmarked to the minting pool. 2,500 SIENNA will vest per 24 hours and will be allocated for LP-pool rewards as follows:

SIENNA (staking) 400
SIENNA / sSCRT 400
SIENNA / sBNB 100
SIENNA / sETH 200
SIENNA / sUSDT (ERC20) 150

SIENNA / sUSDC (ERC20) 150

SIENNA / sXMR 200

SIENNA / WBTC 200

SIENNA / SEFI 100

SIENNA / sRUNE 50

sXMR / sUSDT (ERC20) 150

sXMR / SSCRT 100

sSCRT / sETH 100

sSCRT / sUSDC (ERC20) 75

sXMR / sWBTC 75

sSCRT / sWBTC 75

24% Founders

Vesting: Locked for 6 months, then released daily over 20 months.

20% Private sale

Vesting: Locked for 3 months, then released daily over 16 months. Participation condition of approved KYC/KYB.

2% Public Sale

200,000 tokens were allocated for the public sales.

13% Development fund

Vesting: Locked for 12 months, then released daily over 24 months.

2% Advisors

Vesting: Locked for 6 months, then released daily over 16 months.

It is highlighted that SIENNA:

(a) does not have any tangible or physical manifestation, and does not have any intrinsic value (nor does any entity or person make any representation or give any commitment as to its value);

(b) is non-refundable and cannot be exchanged for cash (or its equivalent value in any other digital asset) or any payment obligation by the DAO, the Distributor or any of their respective affiliates.

(c) does not represent or confer on the token holder any right of any form with respect to the DAO, the Distributor (or any of their respective affiliates), or its revenues or assets, including without limitation any right to receive future dividends, revenue, shares, ownership right or stake, share or security, any voting, distribution, redemption, liquidation, proprietary (including all forms of intellectual property or license rights), right to receive accounts, financial statements or other financial data, the right to requisition or participate in shareholder meetings, the right to nominate a director, or other financial or legal rights or equivalent rights, or intellectual property rights or any other form of participation in or relating to the Sienna Network, the DAO, the Distributor and/or their service providers; (d) is not intended to represent any rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss; (e) is not intended to be a representation of money (including electronic money), security, commodity, bond, debt instrument, unit in a collective investment scheme or any other kind of financial instrument or investment; (f) is not a loan to the DAO, the Distributor or any of their respective affiliates, is not intended to represent a debt owed by the DAO, the Distributor or any of their respective affiliates, and there is no expectation of profit; and (g) does not provide the token holder with any ownership or other interest in the DAO, the Distributor or any of their respective affiliates.

Notwithstanding the SIENNA distribution, users have no economic or legal right over or beneficial interest in the assets of the DAO, the Distributor, or any of their affiliates after the token distribution.

To the extent a secondary market or exchange for trading SIENNA does develop, it would be run and operated wholly independently of the DAO, the Distributor, the distribution of SIENNA and the Sienna Network. Neither the DAO nor the Distributor will create such secondary markets nor will either entity act as an exchange for SIENNA.

6.4 Wrapped SIENNA on other chains

1. wSIENNA (wrapped SIENNA)

wSIENNA is an ERC-20 version of the native SIENNA token. It's available on the Ethereum network.

wSIENNA contract address:

0x9b00e6E8D787b13756eb919786c9745054DB64f9

The total and circulating supply will always be the same regardless of how many wSIENNA or SIENNA are traded. If, for example 100,000 wSIENNA are circulating, then 100,000 SIENNA are already locked; hence, it is a zero-sum balance.

2. SIENNA (BSC)

SIENNA. (BSC) similarly is a Binance Smart Chain wrapped SIENNA, available at the contract address below.

SIENNA (BSC) contract address:

0x130f6e4d338bfd8304f5342d759abe5c6bd7ba9b

Locking SIENNA on the bridge mints wSIENNA or SIENNA (BSC). When a user wants their SIENNA back all they need to do is to send it to the bridge, which then keeps the wrapped SIENNA and releases SIENNA from its smart contract.

It is important that users remember that while SIENNA is a privacy token, wrapped versions of SIENNA are not. Furthermore, to vote at the Sienna Network protocol, users must swap their wSIENNA into SIENNA.
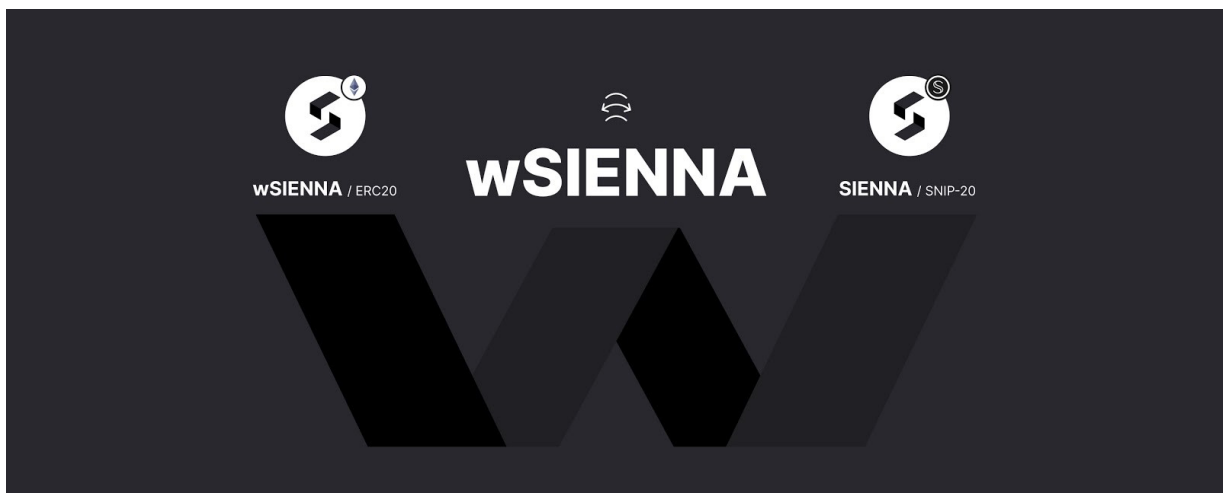
7.0 Compliance

As crypto regulation develops, various organisations are developing standards to support regulatory obligations that authorities and industry organisations are installing.

The Sienna Network DAO and the contributors have a thorough understanding and experience working with regulatory frameworks and have taken several steps to ensure compliance with regulations which apply and have sought legal advice resulting in multiple Legal Opinions.

To assist users of Sienna Network to comply with **their** obligations, and to enable services that are compatible with regulatory regimes, Sienna Network DAO support or will support in the future the following concepts:

- Sender and receiver information are encrypted and sent as part of a transaction if the Originator choose to include the info in the memo of the transactions – e.g. by obtaining a digital signature of the ok to transact from the Beneficiary for the transaction.
- The encryption supports user issuing of viewing keys thus allowing relevant parties with these shareable keys to view transaction information details.
- The (future) support of Decentralized ID would help ensure that real world IDs could be used as part of the sender (Originator) and receiver (Beneficiary) information.
- Decentralized, self-sovereign, IDs could be sourced from organisations that are being in line with the sector and satisfying the quality requirements that would be expected to fulfill the legal purpose the user may need.

The base framework for these concepts is embedded in Secret Network protocols, preserving privacy to protect users, and incorporating 'privacy by design' as called for under data protection legislation.

8.0 Roadmap

The Sienna Network DAO will seek to maintain a services roadmap overview of the independent contributors plans to add to the ecosystem. The roadmap will be provided with no obligations, no promise of correctness at the DAOs website sienna.network.

9.0 Closing Statement

Decentralized finance brings a great many benefits to its users, allowing transactions to occur without the need for intermediaries and without third party interference. There are, however, some lingering issues which the sector must now address. Chief among these is the transparency and immutable qualities of Blockchain which have created a DeFi sector with a severe deficit of privacy. At the same time, current protocols are prohibitively expensive to use.

Until now, users have therefore had to choose between the personal freedom of decentralized finance, or the personal privacy of centralized finance. Never were both achievable at the same time - Sienna Network solves for this core problem.

Sienna Network DAO aims to support a course correction for the industry, delivering all of the many benefits within the space, while at the same time protecting users from the unwanted prying of third parties. Sienna Network's users can freely interact with powerful DeFi products, enjoying the same levels of privacy, or even greater, as in centralized finance.

Sienna Network DAO will seek to spur the sector on to new frontiers, providing tools that are programatically private. These protocols will be used in combination, and interacting with (if relevant), self-sovereign identities.

These factors place Sienna Network at the vanguard of privacy-first decentralized finance. Now is the time to unlock the full potential of DeFi

10 Glossary of Terms

DeFi

An abbreviation for decentralized finance, a term which refers to financial and banking services which operate through the application of blockchain technology without the requirement of centralized authorities or intermediaries.

Sienna Network

A privacy-preserving DeFi non-profit DAO sponsoring development in the ecosystem.

Sienna (SIENNA)

A governance token which serves Sienna Network and confers voting rights and privileges to token holders.

Secret Network

Secret Network is the first blockchain with privacy-preserving smart contracts. Applications built on Secret Network such as Sienna Network utilize encrypted data without exposing it to anyone - even the nodes in the network.

Cosmos

A network of independent blockchains which can easily communicate with each other through the Cosmos Hub.

Sovereign zone

An independent blockchain within the Cosmos network. This includes the Secret Network and by extension, Sienna Network.

Tendermint

The technology on which Cosmos, and by extension, Sienna Network is built.

IBC

Inter-blockchain communication.

11. Risk

Sienna Network open-source software does not differ from others. Several significant areas of risk exist with new technology platforms, and in the worst case, the surfacing of these risks can result in the loss of assets entrusted to the platform or other users.

These include, but are not limited to:

11.1 Smart contract exploits

Programming or logic errors in smart contracts can render them vulnerable to attack vectors or even to failure. Sienna Network have submitted all smart contracts to audit by Certik, a well-known crypto auditing firm, as well as Halborn for a 2nd auditing opinion. This work will be continued on an ongoing basis. Separately Sienna Network DAO has sponsored a bug bounty program designed to encourage the community to report issues they discover in a timely and responsible manner. Nevertheless, smart contract exploits represent an area of potential risk.

11.2 Manipulation of oracles

Oracles gather data from the external world and supply this information to smart contracts. If this information is incorrect, incomplete or manipulated, the smart contract may return unintended results. Oracles will be subject to the same audit and bug bounty program as smart contracts, but remain an area of potential risk.

11.3 Manipulation of Price feeds

Accurate and reliable price-feeds are essential for a well-functioning decentralized exchange and automated market maker such as Sienna Swap. Whilst Sienna Networks build redundancy and security protocols into the core architecture, there is risk that an error in coding or logic could cause price-feeds to be used incorrectly, and there is a possibility that systematic attacks on multiple price sources could cause the pricing used by SiennaNetwork to differ from the correct pricing. Such an event could lead to losses, and unwanted arbitrage possibilities.

11.4 Hacks

In common with all other systems of this type, hacks and exploits may occur at any time and with unknown attack vectors. The consequences of these can be significant for both the individual user and Sienna Network. Users should be aware of this risk and ensure that their own operational security and resilience reflects their risk tolerance

11.5 Data loss

Sienna Network does not store Personally Identifiable Data. The nature of blockchains means that certain information about transactions and wallet identities is exposed in public. As explained below, Secret Network is designed in such a manner that all information is cryptographically secure. Nevertheless, there is a chance that future breakthroughs in quantum computing, or exploits to the encryption algorithms could reveal information. The user of the network explicitly understands and accepts any consequences of such exposure. The use of the network is conditional of acceptance of this risk.

11.6 Audit

All significant smart contracts, oracles and bridges will be subjected to independent audits. Audit reports will initially be circulated within the teams responsible for the appropriate code or systems design. It is anticipated that reports will be made public in the fullness of time. The community will be encouraged to participate in audit work, and funds in the form of Sienna Governance Tokens will be made available for audit findings and audit work. Sienna Network is audited by Certik and being audited by Halborn.

11.7 Bug Bounty Program

Bounty hunters who discover bugs in any aspect of Sienna Network, Secret Network or interactions with other systems are encouraged to submit their findings to an independent bug evaluation and monitoring *service* on bugs@sienna.network These

will be reviewed in confidence, prioritized for fix and any emergency deployments begun. The service will determine bug rewards, paid in SIENNA tokens or Secret Tokens, and will also coordinate with the reporter any community recognition that is mutually decided. We believe that this is an important part of Sienna Network community, and will ensure that the scheme is promoted and is achieving the desired outcome.