September 2022

Swell Network

Research Report

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Introduction

After more than two years of development, the Ethereum merge is set to occur this month. **The Merge** will mean Ethereum moves from energy-intensive **Proof of Work (PoW)** mining and **consensus mechanism** to a **Proof of Stake (PoS) consensus mechanism**.

We at Apollo Capital view **The Merge** as significant for crypto markets as the transition to **PoS** will result in benefits, including a vast reduction in energy usage addressing the ESG concerns with **PoW** and more decentralisation in the network due to a lower barrier to entry for **stakers**.

The transition to **PoS** is Ethereum's most considerable milestone in its lifecycle. Amongst other changes, it will introduce the ability to earn a yield on Ethereum through **staking**.

Swell Network is an innovative new Ethereum liquidity **staking** protocol, making **staking** easier for ETH holders. Whether it be liquid **stakers** of ETH or users wanting to run their own **staking** nodes, the Swell Network platform enables these users to maximise their Ethereum **staking** yield and contributes to a healthier and more decentralised Ethereum **staking** ecosystem.

This report provides readers with an overview of Ethereum 2.0, ways users can **stake** ETH, and an in-depth analysis of Swell Network, a decentralised, liquid **staking** protocol that Apollo Capital is advising and has invested in.

Glossary

The jargon in the crypto industry can be overwhelming. It is a product of strong internet culture mixed with an intellectual cohort of developers online. To assist readers in understanding this research report, we have provided a small glossary below. The terms will be bolded throughout the report.

Term	Definition
51% Attack	A 51% attack is an attack on a cryptocurrency blockchain by a group of miners who control more than 50% of the network's mining hash rate. Owning 51% of the nodes on the network gives the controlling parties the power to alter the blockchain.
Beacon Chain	The Beacon Chain lies at the core of Ethereum 2.0, the Proof of Stake chain on Ethereum. It stores and manages the registry of validators and coordinates the shard chains. It is a new consensus engine of Ethereum that will soon take the place of Proof of Work mining, bringing many significant improvements.
Block	The transactions made during a given period are recorded into a file called a block, which is the basis of the blockchain network.
Consensus Mechanism	A consensus mechanism is a fault-tolerant mechanism used in blockchain systems to achieve the necessary agreement on a single data value or a single state of the network among distributed processes or multi-agent systems, such as with cryptocurrencies.
Miners	Mining is the process in Proof of Work by which networks of specialised computers generate and release new native tokens and verify new transactions. The term miners can refer to the actual hardware used to mine crypto assets, or it can be the term used to describe users engaging in mining.
Non-Fungible Token (NFT)	A 'Non-Fungible Token' is a record on a blockchain which is associated with a particular digital. The ownership of an NFT is recorded on the blockchain, and can be transferred by the owner, allowing NFTs to be sold and traded.
Proof of Stake (PoS)	Proof of Stake is a consensus mechanism for processing transactions and creating new blocks in a blockchain. A consensus mechanism is a method for validating entries into a distributed database and keeping the database secure.
Proof of Work (PoW)	Proof of Work is the original consensus mechanism for processing transactions and creating new blocks in a blockchain. This algorithm is used to confirm transactions and produce new blocks to the chain. With Proof of Work, miners compete against each other to complete transactions on the network and get rewarded.

Stakers	Stakers are the users that stake their crypto assets on a PoS blockchain.
Staking	Staking is when a user locks up crypto assets for a set period to help support a blockchain's consensus mechanism. The user will then earn yield in the crypto asset staked in return.
Staking-as-as-Service (SaaS)	Staking-as-a-Service ("SaaS") represents a category of staking services where users deposit their ETH for a validator but delegate node operations to a third-party operator.
Swell NFT (swNFT)	Similar to a normal 'Non-Fungible Token' a swNFT is a unique non-fungible token that is minted upon a user staking ETH with Swell. This swNFT records the amount of ETH staked and the staking yield owed to the staker.
The Merge	The Merge represents the joining of the existing execution layer of Ethereum (the Mainnet we use today) with its new Proof-of Stake consensus layer, the Beacon Chain. It eliminates energy-intensive mining and secures the network using staked ETH. A truly exciting step in realising the Ethereum vision – more scalability, security, and sustainability.
Tokenomics	Tokenomics is a term that captures a project's token economics. It describes the factors that impact a token's use and value, including but not limited to the token's creation and distribution, supply and demand, incentive mechanisms, and token burn schedules.
Validator Nodes	A validator or validator node is a Proof of Stake system responsible for storing data, processing transactions, and adding new blocks to the blockchain. Node operators refer to the users in charge of the validator nodes.

Rise of Proof of Stake

One of the key events in the crypto market over the past 24 months has been the rise and relevance of **Proof of Stake (PoS)** smart contract platforms. **PoS** is a type of **consensus mechanism** used by blockchains to achieve a universal agreement on the state of the blockchain.

In **Proof of Work (PoW)**, **miners** prove they have capital at risk by expending energy. This energy expenditure is via '**mining**' **blocks** on the blockchain with specific hardware to validate the state of the blockchain. In **PoS**, **validators** explicitly **stake** capital in the form of their native token into a smart contract on the blockchain. This **staked** asset then acts as collateral that can be destroyed if the validator behaves dishonestly or lazily. The validator is then responsible for checking that new **blocks** propagated over the network are valid and occasionally creating and propagating new **blocks** themselves. They are also responsible for ordering transactions within a **block**. Essentially, the **validator nodes** effectively process transactions on the network in a decentralised manner according to a set of rules agreed upon by market participants. The reward for the validators for acting under the **PoS** consensus is the native tokens of that network. This reward is referred to as the 'staking yield'.

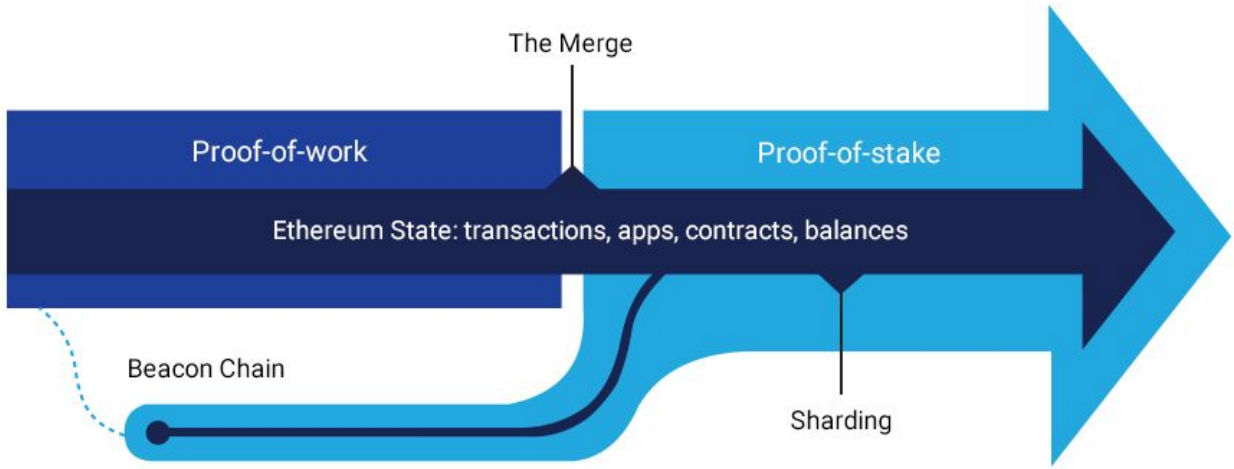
We have seen **PoS** protocols such as Solana, Avalanche, Polygon, and Binance Smart Chain increase in price and popularity partly due to some advantages **PoS** has over **PoW** mechanisms as well as the exorbitant 'gas' prices witnessed on the Ethereum blockchain forcing users to transact elsewhere. Below is a quick high-level comparison of the advantages of **PoS** and **PoW**.

Advantages of PoW and PoS

Proof of Stake Advantages	Proof of Work Advantages
Better energy efficiency – there is no need to expend massive amounts of energy on **PoW** computations	More established and battle-tested **consensus mechanism** compared to **PoS**
Lower barriers to entry, and reduced hardware requirements – there is no need for advanced hardware to be competitive in the mining process	**PoW** is less complex to implement into a network
Reduced centralisation risk – **PoS** should lead to more nodes securing the network, meaning it is more decentralised and less able to be manipulated	**PoW** guarantees the 'double-spending' attack is not executable
Because of the low energy requirement, less inflation of the native token is required to incentivise participation	**PoW** ensures **block** rewards are distributed in a random but fair manner
Economic penalties for misbehaviour make **51% Attack** exponentially more costly and therefore unlikely compared to **PoW**	

The best-performing smart contract platforms over the past 24 months began with **PoS** systems implemented from the genesis **block**. They were the first smart contract platforms to bring this new consensus model to the crypto industry and have helped validate the benefits. As Ethereum was born as a **PoW** blockchain, it requires significant development to migrate fully to **PoS**. The start of the transition to **PoS** can be pinpointed to the launch of the **Beacon Chain** on the 1st of December 2020, when the Ethereum Foundation launched the **PoS Beacon Chain** in parallel with the main Ethereum **PoW** chain. This enabled users to **stake** their Ethereum on the **Beacon Chain**. However, until **The Merge** happens (predicted to occur in September / October 2022), the **PoS** consensus remains isolated on the **Beacon Chain**, while the existing Ethereum network as we know it continues to operate using **PoW**. Below is a visualisation of Ethereum's path to **The Merge**.

The Merge Visualised



Source: Apollo Capital

At Apollo Capital, we concur with Daniel's assessment of the likely implications **The Merge** will have on the Ethereum network and its significance:

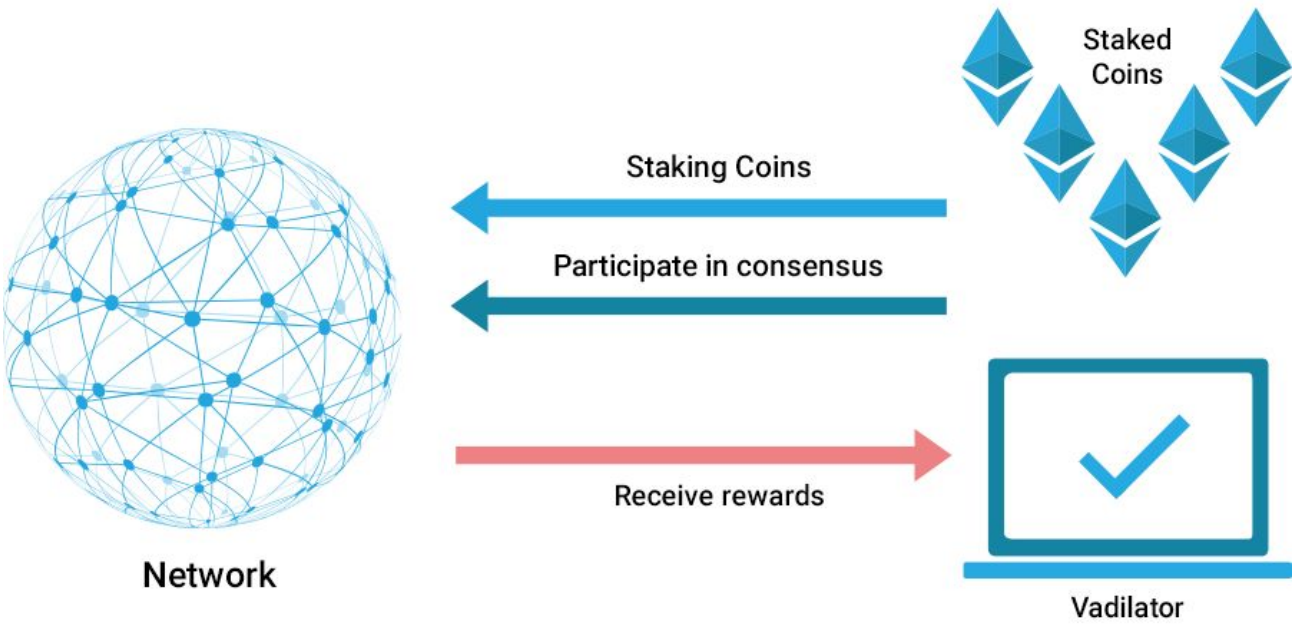
> *"The Merge represents a significant change to Ethereum's underlying economic model and hardware requirements, resulting in massive energy output reduction. There will be a significant demand for ETH as the rewards from participation in ETH staking will increase significantly from priority fees and MEV capture. The implication of The Merge is not fully priced in. Increased demand and reduced issuance for ETH will result in structural upward pressure on price compared to the existing state of Ethereum today."*
>
> - Daniel Dizon, Swell Network Co-Founder

Staking on Ethereum

The launch of the **Beacon Chain** has opened up opportunities for Ethereum supporters to earn yield in Ethereum via running a **validator node**. To participate as a **validator**, a user must deposit 32 ETH into the Ethereum deposit contract and run three pieces of software: an execution client, a consensus client, and a **validator**. On depositing ETH, the user joins an activation queue that limits the rate of new **validators** joining the network. Once activated, **validators** receive new **blocks** from peers on the Ethereum network. The transactions delivered in the **block** are re-executed, and the **block** signature is checked to ensure the **block** is valid. The **validator** then sends a vote (called an attestation) in favour of that **block** across the network.

As a high-level summary, **PoS** uses randomly selected **block** producers to create a bundle of transactions that a committee of randomly chosen validators then verifies.

Proof of Stake Diagram



Source: Apollo Capital

The Problem

There are a few problems for the average crypto user wanting to **stake** ETH. These are the following:

- **Cost of Staking**
  Native **stakers** must deposit a minimum of 32 ETH to become a full **validator**. At today's price, 32 ETH amounts to ~$US50,000, which will rule out the average investor.

- **Liquidity Constraints**
  Once users have **staked** Ethereum on the **Beacon Chain**, unstaking will only be activated after the 'Capella' update, which is predicted to be six to twelve months after **The Merge**. Users who need to access their ETH within this timeframe would be precluded from native Ethereum **staking**.

- **Operation Complexity**
  Users who want to **stake** ETH need deep knowledge of the hardware to run nodes and fully understand the risks involved with node operation. For example, **Nodes** can incur slashing. Slashing means that a significant part of the **validator's stake** is removed, up to the whole stake of 32 ETH in the worst case. **Validator** software and **staking** providers will have built-in protection against getting slashed accidentally. Slashing should only affect **validators** who misbehave deliberately.

These issues give rise to a tremendous opportunity for third parties to facilitate ETH **staking** for users. These third parties exist and comprise a segment of the crypto industry called **Staking-as-a-Service**. **Staking-as-a-Service** can be broadly divided into two categories: centralised and decentralised. Both types are similar, with a couple of nuances. Below is an overview of both methods, followed by a deep dive into Swell Network.

Staking-as-a-Service Protocols

Centralised Liquid Staking Protocols

Centralised third parties such as Centralised Exchanges (CEXs) are now offering Ethereum **staking** products for their customers to earn yield.

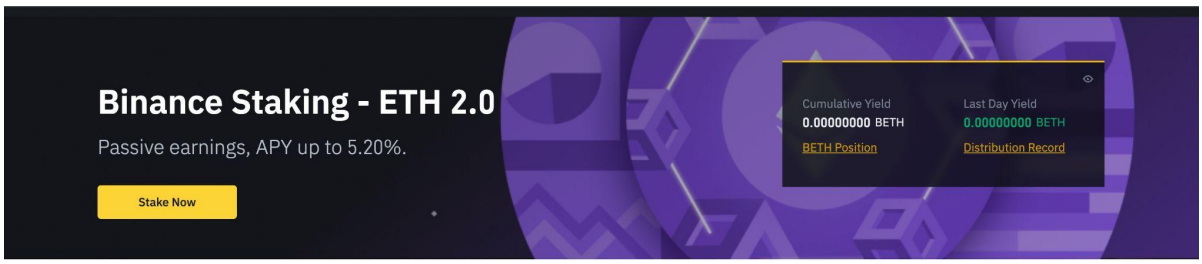
They do this by setting up their own internal **validator nodes** as, understandably, the barriers to entry are of little concern for large exchanges such as Binance, FTX, and Coinbase, with access to significant Ethereum and in-house technicians to maintain the **validator nodes**.

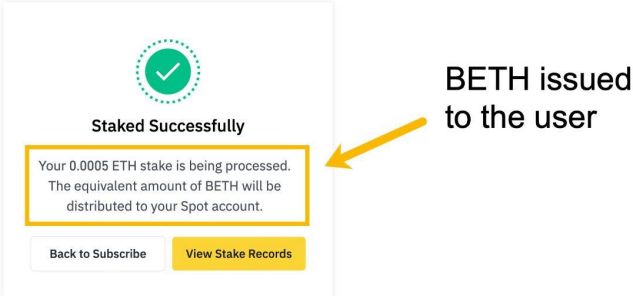
Staking Ethereum on a CEX is a simple and reasonable way for an entry level crypto user to earn a yield on their Ethereum. The process for a user **staking** ETH on a CEX can be summarised by the following steps:

1. Sign up for the exchange;
2. Complete all the AML / KYC procedures;
3. Deposit / Buy ETH in their exchange account;
4. **Stake** their ETH;
5. Once **staked,** the users will receive a derivative ETH token representing the staked ETH
6. The user begins earning **staking** rewards represented by the derivative token;
7. Once redeeming is made available by the exchange, the derivative token can be redeemed for Ethereum 1:1.

Below shows the 'pop up' confirmation once a user has successfully **staked** their ETH on the Binance exchange.

Ethereum Staking on Binance





Source: https://www.binance.com/en/eth2

Here we can see the user has **staked** ETH and has been provided with BETH, a tokenised version of **staked** ETH. This BETH will be redeemable for ETH on a 1:1 ratio once redemptions are enabled on Binance. Technically, as they have been provided on a 1:1 ratio, both tokens should trade at the same price. However, they are not the same asset, and price discovery/arbitrage between BETH and ETH is up to market dynamics. Some opposing forces that can break the ratio balance downwards could be the 'liquidity discount'. When the crypto market is bearish, the demand for liquid assets such as ETH rises, with the need for illiquid assets such as derivatives decreasing. The advantage of providing users with the derivative BETH token is that it can be used to leverage earnings potential on the Binance exchange, and it can be used in the wider DeFi space to earn additional yield.

Centralised **staking** solutions are a quick and easy way for users to earn yield with minimal ETH requirements. However, they do have some drawbacks:

- Custodial service means the CEX has control of the user's private keys of their crypto assets
- Centralisation risk & lack of transparency;
- User must complete identification and verification process;
- No 'Node-as-a-Service' & Permissionless **Node** offering;
- Longer lock-up periods for **stakers** compared to decentralised liquid **staking**;
- Centralised exchanges face stronger regulation risk and, as a result of compliance, may need to stop staking as an entity and remove their retail staking services.

Decentralised Liquid Staking Protocols

The decentralised third parties that facilitate ETH **stakers** and **node operators** are known as liquid **staking** protocols. These platforms provide users yield from **staking** Ethereum and a yield-bearing derivative representing the staked Ethereum.

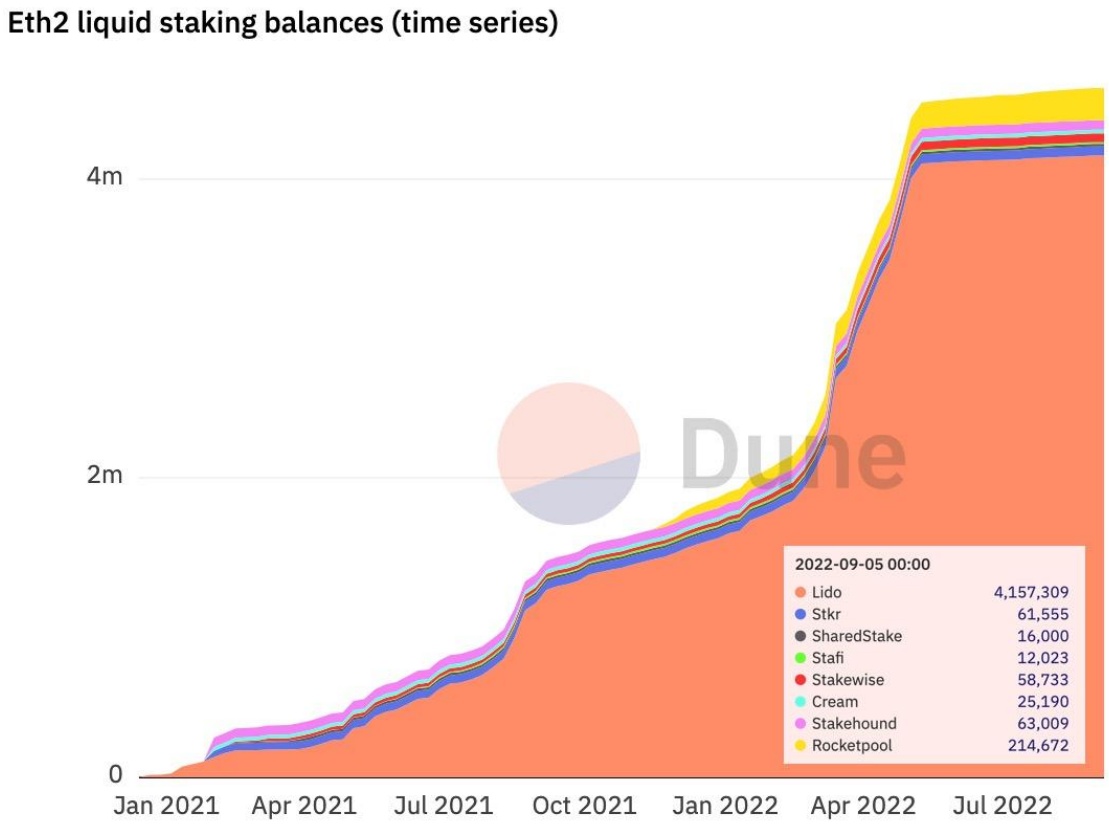
This derivative can be sold on the secondary market or utilised in certain DeFi activities. A differentiator that some liquid **staking** protocols, including Swell Network, have over their centralised counterparts is their ability to allow DeFi users to be **node validators** by lowering the required number of ETH to set up a **validator node**.

As mentioned earlier, users that want to set up their own **validator nodes** require 32 ETH. With Swell Network, users can do this with 16 ETH staked, with the remaining 16 ETH made up from other **stakers** depositing ETH onto the platform.

This feature allows the user to run the **validator node** with their 16 ETH staked and earn additional yield through a commission (shared with Swell Network).

The liquid **stakers** that make up the difference in ETH will also earn yield. However, they will pay a partial fee to the **node operator** for setting up the **node** and operating it appropriately.

The largest decentralised Ethereum **Staking-as-a-Service** platform is Lido, and it has the most common ETH **staking** derivative on the market, 'stETH'. stETH currently has a market capitalisation of approximately US$6.5B and represents 90.21% of the decentralised liquid **staking** market, according to *Dune Analytics*.



Source: https://dune.com/ratedw3b/Eth2-Liquid-Staking

Below is a breakdown of the total ETH deposited into the ETH2.0 Deposit Contract Address as of 05/09/2022.

Staking-as-a-Service Platforms	Amount of Ethereum	Category	Percentage
Lido Finance	4,156,928	Decentralised	30.75%
Unknown	3,308,430	N/A	24.47%
Coinbase	1,977,216	Centralised	14.62%
Kraken	1,141,056	Centralised	8.44%
Binance	904,608	Centralised	6.69%
Staked.us	405,632	Centralised	3.00%
Bitcoin Suisse	288,096	Centralised	2.13%
Stakefish	279,072	Centralised	2.06%
Figment	255,680	Centralised	1.89%
Other	803,681	Both	4.40%

Source: https://pro.nansen.ai/eth2-deposit-contract/

This image gives us an overview of the Ethereum **Staking-as-as-Service** market. The 'Unknown' depositor addresses representing 24.47% of all the ETH staked would consist of a mix of smaller **Staking-as-a-Service** platforms and private **validator node** operators. Therefore, it is hard to categorise it as a pure **Staking-as-a-Service** category.

Lido Finance is the largest **Staking-as-a-Service** platform representing 30.75% of the ETH staked. However, it is also the only decentralised option out of the top 10. The total amount of ETH staked via centralised Staking-as-as-Service platforms amounts to 38.84%.

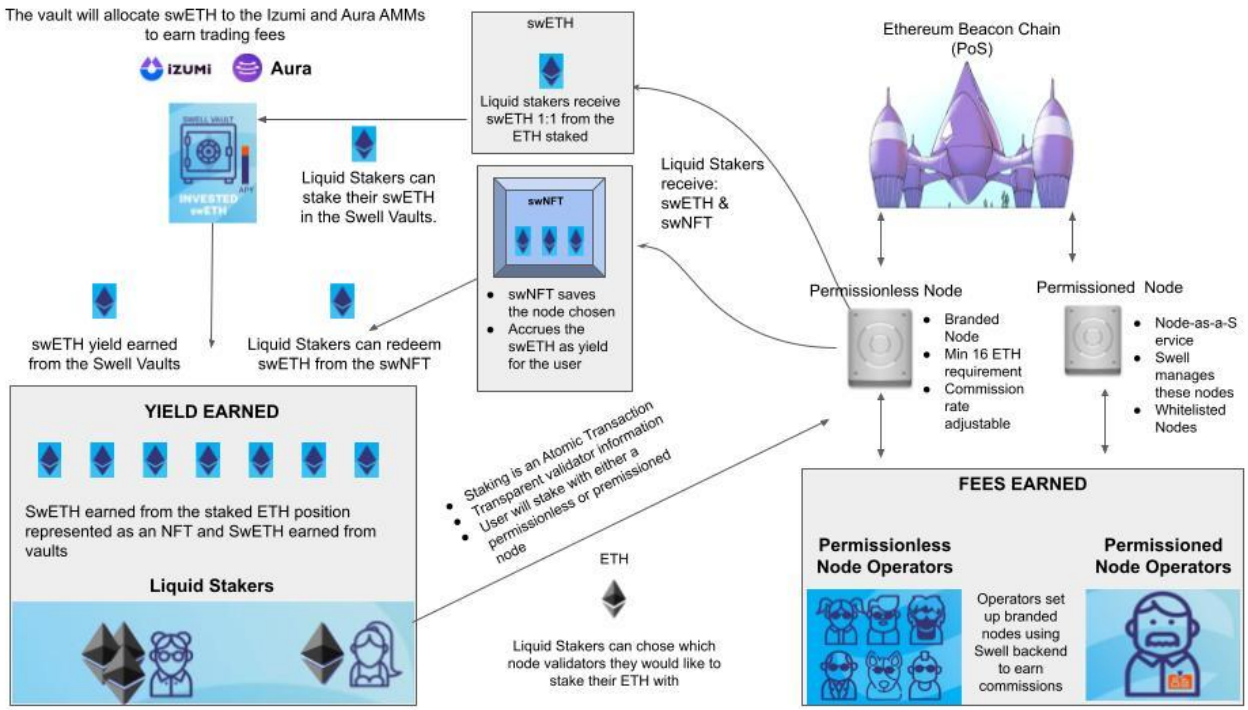
Swell Network believes that Lido's lead on its decentralised staking protocols and the dominance of centralised products represents an opportunity for growth for those that can offer new innovative ways to stake their ETH as we approach **The Merge**. Swell Network looks to achieve this as the next generation of ETH **staking** services, pioneering a new concept called 'Staking 2.0'.

Staking 2.0 essentially combines liquid **staking** and in-house platform vaults. These in-house platform vaults are the Swell Vaults which let **stakers** deposit their **staking** derivative on the platform, removing the inconvenience of using other liquidity pools unverified by Swell Network. The Swell Vaults allow **stakers** to earn yield on top of the initial ETH **staking** rewards.

Swell Network Overview

Swell is a permissionless, non-custodial, and liquid ETH **staking** protocol that is built for **stakers**, **node operators**, and the Ethereum ecosystem. Swell offers users an opportunity to earn a yield on ETH via **staking** and the ability for users with the technical expertise and hardware to set up their own **validator nodes.** Swell can also facilitate **Staking-as-a-Service** entities offering **staking** to their users through white-labeling Swell's **staking** infrastructure.

The Swell Ecosystem



Source: Apollo Capital

A quick summary of the diagram above;

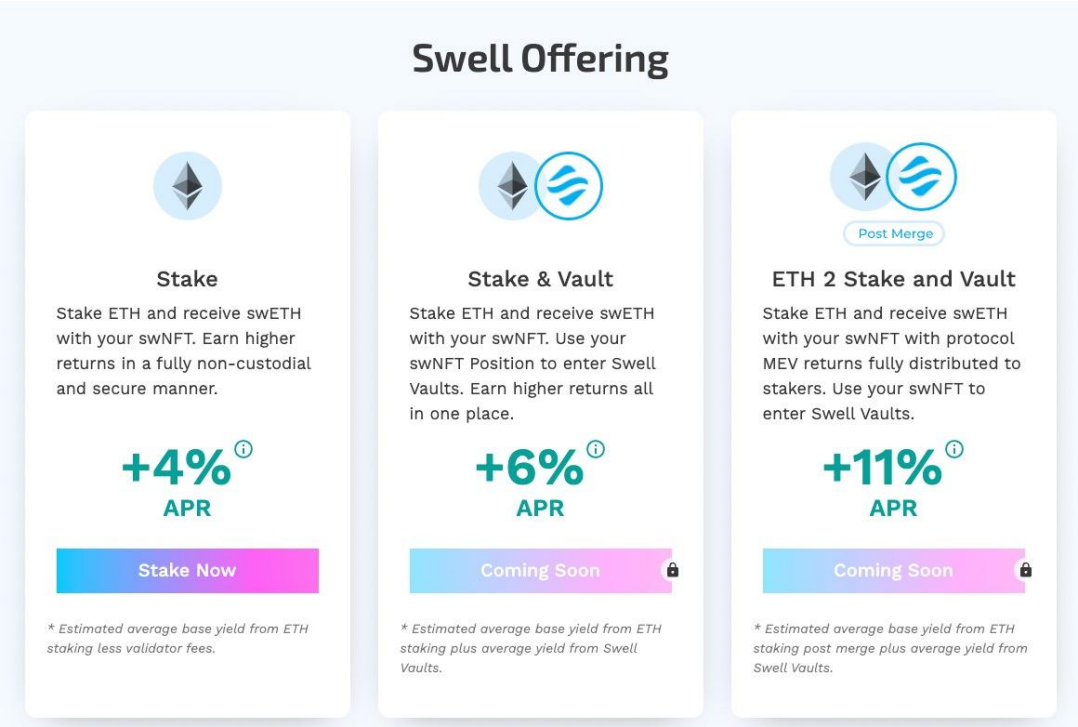
Liquid Stakers *begin staking their ETH by selecting a node (Permissionless Validator Node or Permissioned Validator Nodes) on the Swell Platform to stake with, they then receive swETH and a swNFT. Once the swNFT is minted and received, they are earning yield from their stake. The swNFT tracks that yield owed to the staker, and the stakers can claim their yield anytime via the swNFT. The swETH received by the staker can also be used in the Swell Vaults to achieve an extra yield on top of their already existing ETH staked.*

Permissionless and Permissioned Node Operators *spin up their validator nodes with their own ETH (16 ETH minimum for Permissionless and 1 ETH minimum for Permissioned). These validator nodes will appear as active and available for Liquid Stakers on the Swell network platform. As the node operators will be maintaining the upkeep of the nodes, they can set a commission for liquid stakers to use their nodes, this commission will supplement their the yield they are also earning from staking.*

Swell provides users with an opportunity to earn a yield on the ETH they hold through **staking**. This is done by **staking** ETH in conjunction with **node operators** that participate in validating the Ethereum **Proof of Stake** blockchain. The yield is earned through **staking** rewards from the blockchain for validating **block** production.

Above all, Swell aims to contribute to the Ethereum ecosystem by making it more decentralised by lowering prerequisite capital for **node operators** and technical/infrastructure requirements for **stakers** to allow more users to participate in validating the Ethereum **PoS** blockchain.

Below are the yields users can expect to gain from their ETH using Swell Network platform.



https://swellnetwork.io/

Swell Network's Competitive Advantage

Below are some key differentiators that give Swell Network a competitive edge against the current **Staking-as-a-Service** protocols.

1. Caters for all post-Merge Ethereum Participants

Swell Network is designed to cater to all different types of users that wish to engage in liquid **staking** or to run a **validator** on the Ethereum Network; from hobbyist **node operators** to professional **Staking-as-a-Service (SaaS)** businesses. The user group of Swell Network can be broken down into three categories: the Liquid Staker, the Permissionless Node Operator, and the Verified Node Operator.

The Liquid Staker

For the standard ETH **staker**, Swell Network provides the ability to **stake** ETH with Swell to receive a 1:1 derivative **staked** ETH token called Swell Ether (swETH). In addition to the derivative token, the user also receives a minted financial NFT called **Swell NFT** (swNFT).

Unlike some liquid **staking** protocols, the derivative swETH is not an interest-bearing token; it is only a receipt for your ETH staked into the ETH2 staking contract. The **swNFT** is a container that collects your **staking** rewards and tracks your **staked** ETH on the **Beacon Chain**. Ultimately for **stakers**, Swell will provide a more engaging and user-friendly experience through Swell ETH and **Swell NFTs**.

The Permissionless Node Operator

Swell Network will provide the option for **node operators** to **stake** and run a node with a reduced requirement of 16 ETH, with the remaining ETH being provided by the liquid **stakers**.

These **node operators** are 'permissionless' as they will be able to brand their node and set their own commission rates to boost their yield as a privilege for initiating the node with 16 ETH. Liquid **stakers** will then be able to pick and choose their preferred nodes to **stake** with.

Swell Network will aim to reduce the 16 ETH minimum required for a permissionless **node operator**. They will be able to do this once Swell has integrated a new Ethereum Staking update, the Shared Secret Validator (SSV) — also known as Distributed Validator Technology (DVT). This upgrade will reduce the financial commitment for running a node to as little as 1 ETH.

The Verified Node Operator

Lastly, for certain node-operating entities, Swell Network will offer 'Node-as-a-Service' infrastructure for their validator nodes to run on. This will be made available in a 'white-label' manner, meaning that **node operator** entities can build on top of the protocol, with Swell actively managing the nodes behind the scenes for the entity.

Swell's managed Node-as-a-Service offering allows clients to run their own branded nodes and set their commission rate enabling **node operators** to offer **staking** services to their users while Swell manages the infrastructure. This opens up many possibilities for future and existing **Staking-as-a-Service** providers to harness the power of Swell to benefit and grow their own brand.

Swell Network is built for Stakers and Node Operators

https://blog.swellnetwork.io/

2. Generates Financial NFTs

Swell Network is the first decentralised liquid **staking** protocol to utilise **financial NFTs** to represent the staked ETH (swETH) and its yield. This **financial NFT** is called the **swNFT** and is minted once the user **stakes** ETH on the Swell Network. It is important as it represents tangible proof of a user's stake with a **validator node**. By having the staked position represented as an **NFT**, users have more flexibility when using swETH in the DeFi ecosystem.

swETH

swETH is a user's liquid **staking** token; it is a 1:1 representation of your **staked** ETH. This token can be used in the wider DeFi ecosystem to earn extra yield. After the Ethereum Merge occurs and when withdrawals are enabled, users can withdraw one swETH for exactly one ETH.

swNFT

This represents a user's **staked** position on the **Beacon Chain**. It contains all of the metadata required to calculate **Beacon Chain** staking rewards when you withdraw. It will only accrue interest on the original number of swETH that was minted; no extra swETH deposited afterwards.

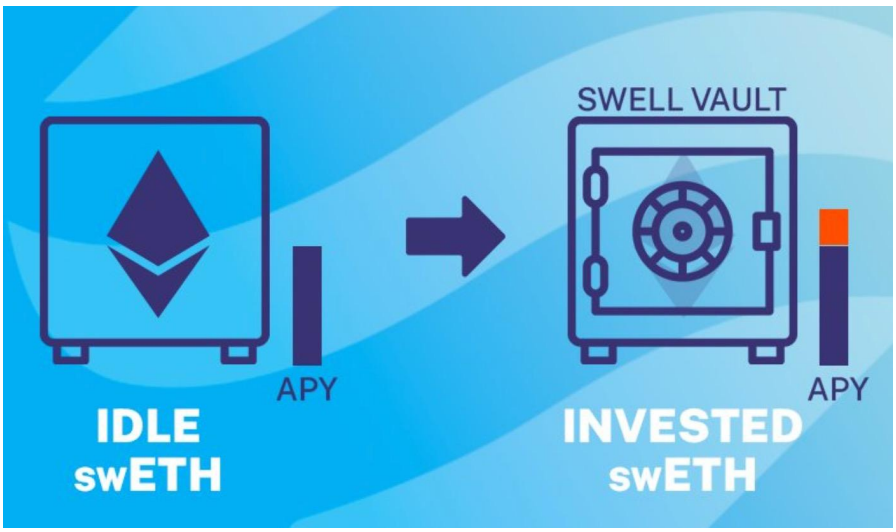
Using this swNFT as an example, we can see:

- The amount of ETH **staked** (9 ETH);
- The amount of swETH issued (9 ETH);
- The ETH address of the **validator node**
- The date and time of **staking**;
- The Unique Identifier of the **NFT**.

3. Swell Vaults

Once the Swell Network issues the **staker** their swETH, the user will have the opportunity to maximise their capital efficiency by **staking** their swETH in a Swell Vault located on the platform. Once the user **stakes** their swETH, that capital will be further **staked** into specific Izumi Finance and Aura Finance liquidity pools. Those liquidity pools will accumulate yield compounded through the trading fees. Upon withdrawal, the depositor will receive their initial swETH tokens deposited plus the additional swETH earned as yield for providing liquidity.

Swell Vaults Boost The Staker's Yield (APY)



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4. Increases Transparency

When users **stake** on Swell Network, they can see the exact validator they are **staking** with on the **Beacon Chain** at all times. Other decentralised liquidity **staking** solutions do not have the same visibility on a users staked ETH, instead they will spread a **stakers** ETH across a number of **validator nodes**. When users **stake** with Swell, it's an atomic transaction, meaning that the ETH goes straight from the user's wallet to the **Beacon Chain**. This is unlike existing solutions where your ETH goes into a deposit pool until there is space in one of the validators. This increases transparency and security. Also, **stakers** get to select their node operator, and their ETH is bound with that **node operator**.

5. SSV Network Integration

Swell Network is in a strategic partnership with SSV.Network, a leading distributed validator technology infrastructure protocol and is planning to fully integrate SSV.Network features in subsequent versions of Swell Network. **Node operators** running SSV technology can reduce their collateral requirements to 1 ETH per **validator node** and get permissionless entry to the protocol.

Using the SSV.Network will allow node operators to work together in a trustless manner. In the event of a **validator node** going down, rewards would not be affected.

Competitor Analysis Staking 2.0

Swell provides the following competitor analysis:

Designing a Superior Solution.

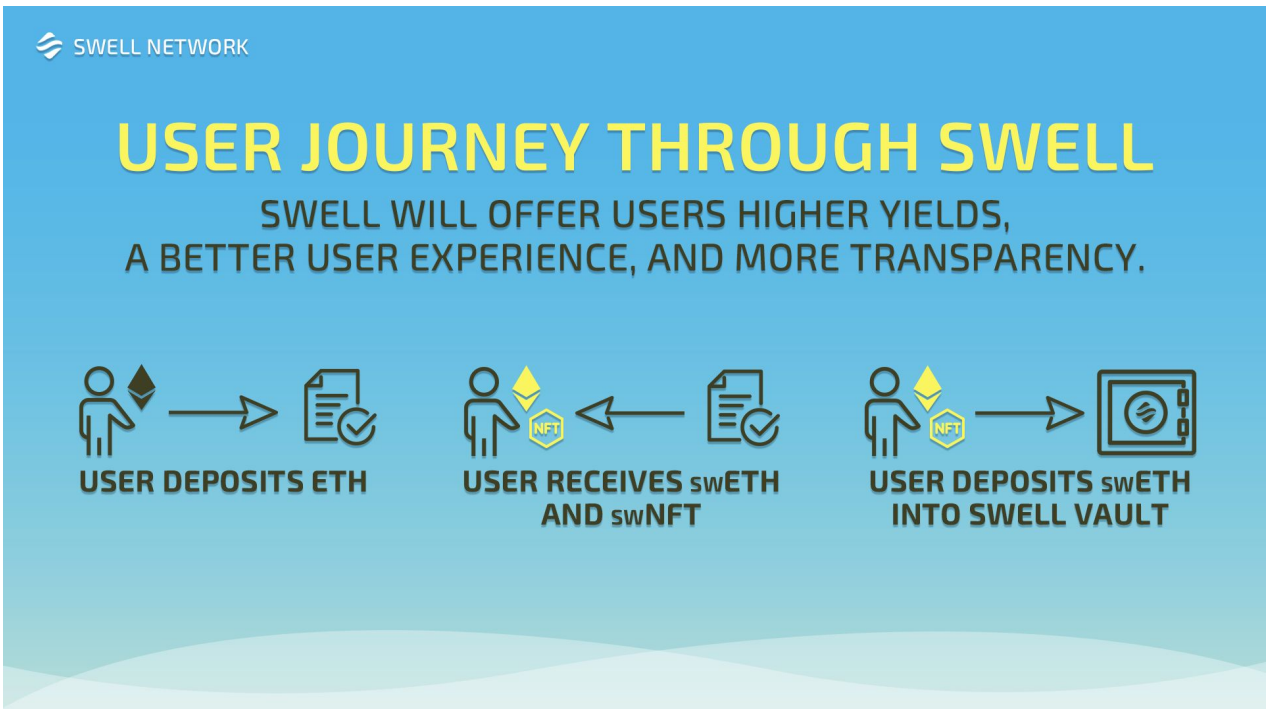
As the pioneer of Staking 2.0 - Swell is delivering a differentiated protocol layer solution for Ethereum.

	Staking 2.0	Staking 1.0		
	Swell Network	Permissionless Staking Pools *E.g. Rocket Pool*	Permissioned Staking Pools *E.g. Lido*	Centralized Exchanges *E.g. Kraken*
Fully Non-Custodial.	✓	✓	✓	✗
Liquid Staking Composability.	✓	✓	✓	✗
Permissionless for Node Operators.	✓	✓	✗	✗
Staking Derivative + Financial NFT.	✓	✗	✗	✗
All-In-One DApp Vaults.	✓	✗	✗	✗
Choice of Node Operator.	✓	✗	✗	✗
Transparency via Atomic Deposit.	✓	✗	✗	✗
User as Direct Depositor.	✓	✗	✗	✗
White Label Protocol.	✓	✗	✗	✗

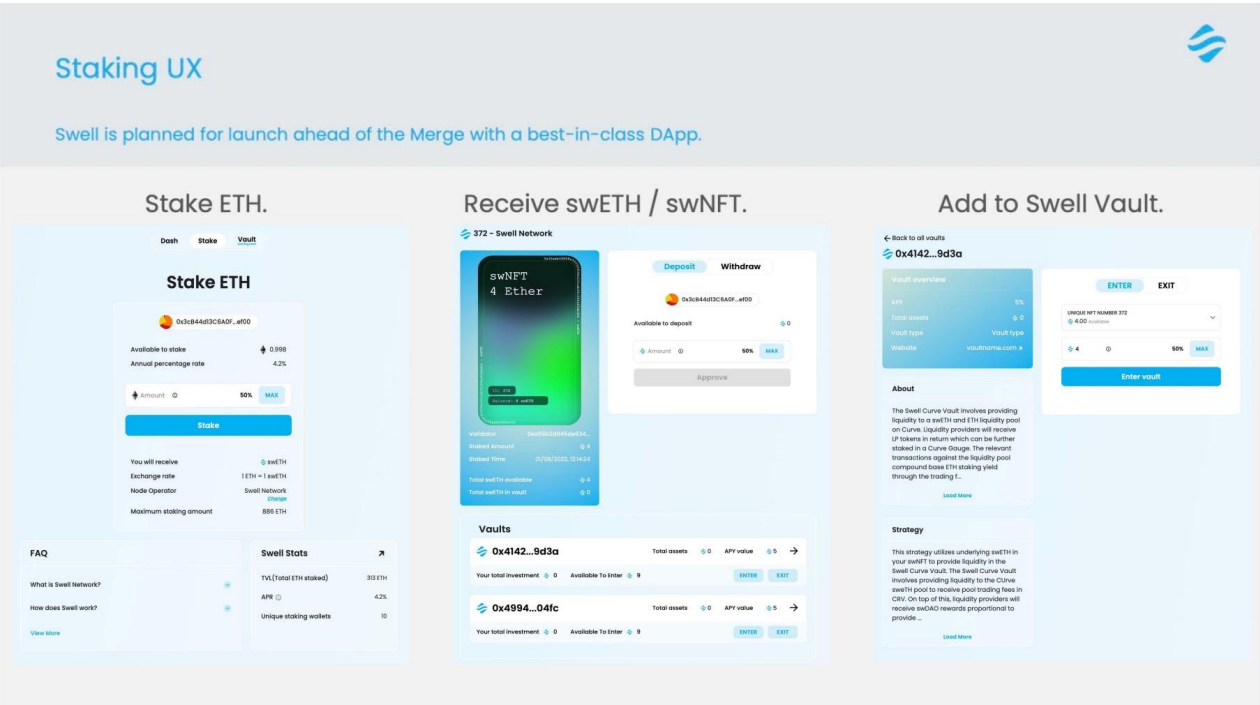
Source: *Swell Network internal materials*

Staking with Swell Network

Below is the flow chart and a sample wireframe of the staking experience on Swell Network's DApp. The key points have been outlined for each stage.



https://blog.swellnetwork.io/swell-ether-nfts-and-vaults/



Source: *Swell Network internal wireframe materials*

Stake ETH

- The user will be able to connect their wallet to the DApp via Wallet Connect or MetaMask.
- When **staking**, the user will be able to select the amount of Ethereum to stake as well selecting the node they want to stake with, and this information will be captured by the **swNFT**.

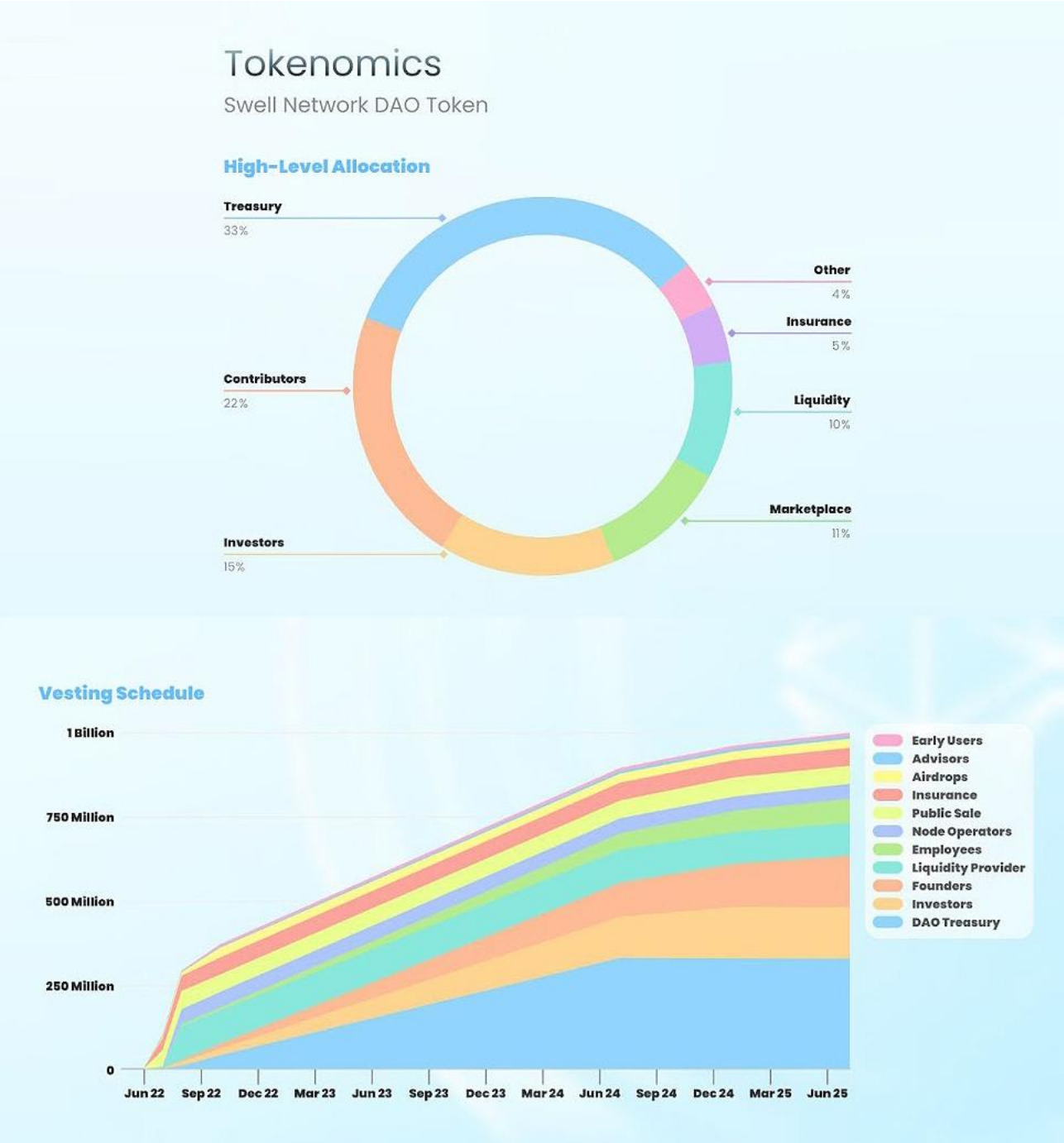
Receive swETH / swNFT

- After **staking**, the user will receive the equivalent amount of swETH as well as a **swNFT** recording the **staking** action. We can see in the example that this **swNFT** is capturing the stake of 4 ETH as well as a timestamp of the stake and the **validator node** used.

Add Swell to Vault

- The user will have the option to boost their yield by **staking** the swETH derivative token in the Swell Vaults available on the platform.
- The staked swETH will be used as liquidity and paired with WETH in various liquidity pools. These liquidity pools will act as AMMs in various DEXs and be the destination for users to buy and sell swETH on the secondary market. A percentage of the fees generated from those transactions will accrue to the users **staking** their swETH in the Swell Vaults.

Tokenomics



https://blog.swellnetwork.io/introducing-swell-network/

Swell Network's tokenomics is well distributed to the network's ecosystem to ensure longevity and incentive alignment between the token holders and Swell.

Swell Network's native token, the Swell DAO Token (swDAO), will be essential to the protocol's governance as holders of the swDAO will be able to engage in voting and generate proposals for the betterment of the future of Swell Network.

The public sale information for the swDAO token is yet to be released. Once the public sale has been made official, we expect to see more detail on the utility of the swDAO token.

Roadmap

Swell Network has closed its latest fundraising round and begun its guarded launch on the Ethereum Mainnet.

There will be a public sale launch scheduled in September or October open to retail investors; however, the public sale platform is yet to be released. Please stay tuned to Swell Network's Twitter updates for more information on the public sale.

From a **staking** perspective, Swell Network will use a guarded launch approach comprising a multi-staged and controlled schedule with selected Node Operator Partners spinning up **node validators**.

The completion of each stage is threshold-based, with each successive stage requiring stage gate approval by Swell Network DAO to ensure functionality.

Stage	ETH Threshold	Network Validators	Number of Validators Per Node Operator
1	320	10	1
2	3,200	100	10
3	6,400	200	20
4	9,600	300	30
5	Open	Uncapped	Uncapped

https://blog.swellnetwork.io/mainnet-soft-launch-announcement/

Team

The co-founders of Swell Network, Daniel Dizon and Lecky Lao, are crypto natives that have been involved in crypto for more than five years. Lecky Lao is the CTO in charge of the development activities and the core developer group.

He is a well-equipped solidity engineer with experience across two successful DeFi protocols, Synethtix and dHedge. Daniel Dizon, the CEO, is responsible for managing investor and protocol partnerships, steering the protocol, following the roadmap, and reviewing proposals posted by the DAO and lastly, managing the core protocol contributors that now consist of 13 individuals;

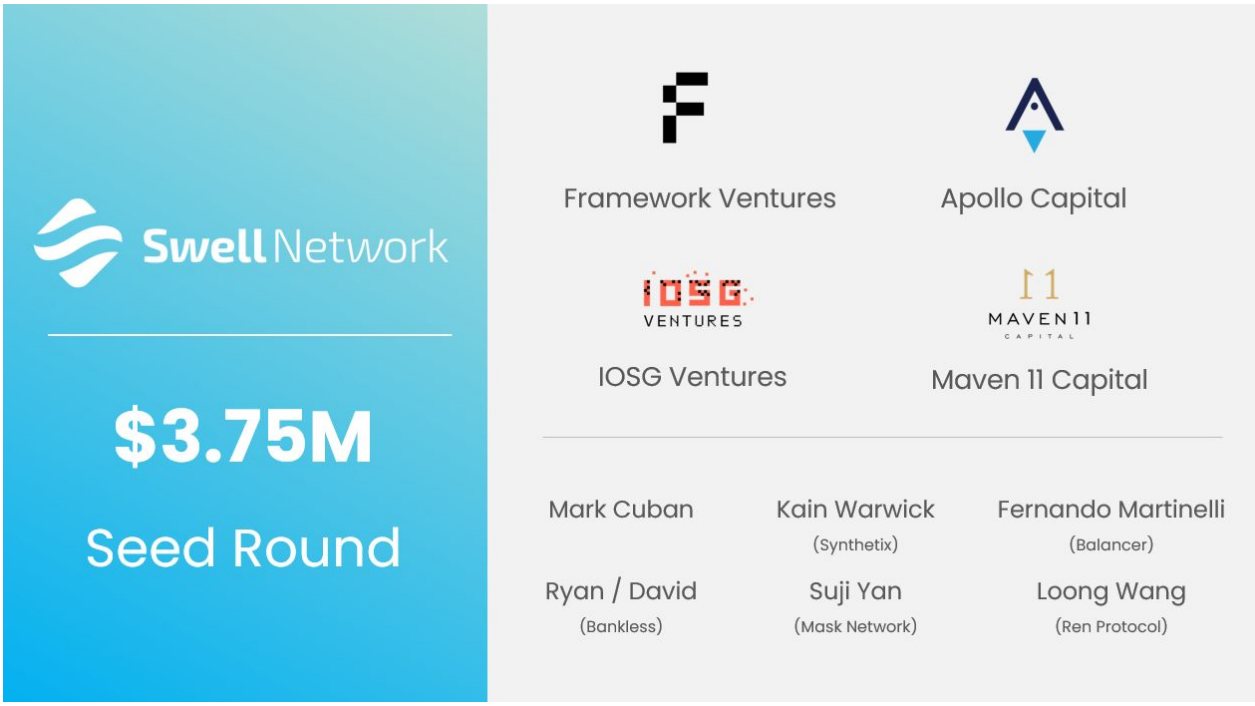
- CEO (1)
- CTO (1)
- Tech Lead (1)
- Blockchain Engineer (5)
- Head of Product (1)
- Head of Operations (1)
- Head of Marketing (1)
- Head of Growth (1)
- Design Lead (1)

Both founders have been impressive in hitting their milestones and providing complete transparency of their progress in our routine meetings since Apollo Capital has become early investors and advisors to the project.

Partnerships

Swell Network now has a strong contingent of core venture capital partners and angel investors. In March, they completed their $3.75M seed round led by Framework Ventures, an investment fund with significant experience in the DeFi space, along with IOSG Ventures and Apollo Capital.

The raise garnered support from Maven 11 and an impressive roster of angel investors, including Mark Cuban, Kain Warwick and Jordan Momtazi (Founders of Synthetix), Fernando Martinelli (Co-Founder and CEO of Balancer), Ryan Sean Adams and David Hoffman (Hosts of Bankless), Loong Wang (Co-Founder of Ren Protocol), and Suji Yan (Founder and CEO of Mask Network).



https://blog.swellnetwork.io/

Apollo's Insights

Apollo Capital has been with Swell Network from the beginning as an advisor and an early-stage investor. The introduction to Swell Network arose through Henrik's network, as Lecky, a previous solidity engineer at dHedge, a DeFi project founded by Henrik, reached out for Apollo Capital's expertise and capital. The Ethereum liquidity **staking** sector is a compelling narrative for Apollo Capital as we are confident in the future of Ethereum **Proof of Stake.**

Since the initial proof of concept for Swell Network, Apollo Capital has helped the team with crypto advisory and their expansion globally via introductions to international crypto venture capitalists and consultations on administration, governance, risk management and **tokenomics**.

Apollo Capital invested in Swell Network via a simple agreement for future tokens (SAFT). A contract requiring capital in the form of crypto assets, most commonly stablecoins or ETH, will be sent to the project raising. In return, the Apollo Capital will be issued the native tokens of the project over a vesting period, in this case, the Swell DAO Token. This is Apollo Capital's primary method of investing in early-stage projects.

Apollo Capital also participated in Swell Network's liquidity round, which involved pledging ETH to **stake** with Swell Network in return for the option to purchase more Swell DAO Tokens. This round was not open to the public.

With every early-stage project Apollo Capital invests in, there is always a vital consideration of the risk to return of that given investment. The Swell Network team have been highly proactive with risk parameters within their control. As their code will be responsible for 100's of millions of US$ value in ETH being **staked**, the smart contract risk poses as the largest risk to success for Swell Network. To minimise this risk, Swell Network has undergone five smart contract audits with the most reputable auditors in the industry, with an additional audit by Sigma Prime coming soon. While it is impossible to eliminate smart contract risk, Swell's iterative approach to smart contract audits places them in the upper tier of safety within decentralised finance. Because of this, Swell will be one of only two liquid staking platforms we deem suitable for institutional capital.

Going to market with a lack of liquidity, i.e. a lack of ETH committed to Swell **validator nodes** at launch, is another risk they have curbed via offering a 'Liquidity Round' to incentivise large ETH stakers to stake with Swell Network.

Conclusion

Swell Network is considered by Apollo Capital an 'essential infrastructure' on Ethereum 2.0 as its products and services contribute to the security and consensus of the Ethereum **PoS** network.

As the Ethereum community closes in on **The Merge**, core infrastructure on the Ethereum mainnet will accrue the most interest and value by providing utility for the network users. Swell Network will service thousands of **stakers** and **node operators**, solidifying itself as a critical infrastructure protocol on Ethereum 2.0. For that reason, Apollo Capital is very excited as advisors and early-stage investors in the future of Swell Network.

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