

# StakingDAO: Simplifying Staking & Supporting Decentralisation

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StakingDAO is a Decentralised Autonomous Organisation which provides a platform for ADA Holders to support Single Pool Operators, Mission Driven Pools And Eco Friendly Pools in a simple way.

The DAO is designed in a way that will ensure all pools benefit from operating the network by balancing delegation to pools, creating a rising tide for competent stake pool operators, which in turn will provide delegators with consistent rewards.

The StakingDAO whitepaper will detail the following aspects of the DAO to give a clear explanation of the methodology and management of the StakingDAO:

1. Staking Mechanism
2. Membership
3. Services
4. Governance
5. Tokenomics
6. Treasury
7. Security
8. Project Roadmap

Note:

This project is in its infancy and all of the information given in this document is subject to change as the project develops.

## Team

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### The Founding Team

Rhys - Founder

Edi - Plutus Developer

Jan - Web Developer

## Terminology

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In this document some simplified or abbreviated terms have been used to make reading the document easier, they will be defined here:

Team : The Founding team of StakingDAO

DAO : The StakingDAO

IPs : Improvement Proposals

Token : The DAO Governance Token

User/Holder : Individual using the DAO to stake

SPO : Stake Pool Operator

Member : A Stake Pool Or SPO whom is a Member of the DAO

Pool(s) : Stake Pool(s)

Multipools : More than one Stake Pool operating with the same ticker (or by the same team)

A lot of these terms are common abbreviations for the community, but it is better to have them defined for anyone who may not have come across them yet.

## The Purpose Of StakingDAO

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The main purpose of the StakingDAO for the **User** is to provide a simple and less research intensive staking mechanism.

The main purpose of the StakingDAO for the **SPO** is to provide regular delegation to their pool to support their normal marketing and promotional efforts.

The main purpose of the DAO for the **Cardano Ecosystem** is to circumvent the Pool Ranking system that is currently present on all Blockchain Explorers and Wallets.

## Why Does This Matter?

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Cardano is often said to be the most decentralised blockchain because it has 3000+ stake pools.

This is a misleading statistic because not all of these stake pools are actively contributing to the blockchain by making blocks.

There are several reasons for this, mostly based around these pools not having enough delegation to be assigned blocks regularly.

When a user comes to stake their ADA they are presented with a Top 50 Pool Rank. This ranking system often shows

multipools and pools close to saturation at the top of the rank.

This promotes the biggest pools to new users, encouraging them to stake with those pools, creating the impression that other pools are worse than them.

This is true in part because they end up with less delegation and so are less likely to be assigned blocks. But the reality is that all pools are the same. There is no real difference between pools other than the amount of delegation they have (at the protocol level).

A pool with greater or lower pledge, with the same total active stake, will have the same expected block assignment.

The pool ranking system is an obvious method of pool presentation to users, but not a very accurate representation of a pools performance.

Over time this has lead to a greater and greater concentration of delegation within the top 50-100 pools giving them more and more control over the network, every Epoch.

This also encourages those top pools to split once saturated, monopolising the network and leading it towards a less and less decentralised future.

There are many alliances of pools who represent SPOs with a similar goal. These alliances have formed to help promote SPOs and their mission to the greater community; but they aren't generally attracting enough delegation to make a

difference to the general power of the Rank, which present everywhere that staking decisions are made.

The longer we leave this unfavourable display of pools in place, the more it will lead to a centralised (or very minimally decentralised) network.

## Solving The Pool Rank Issue

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The StakingDAO will help overcome this simple issue by creating a platform for users to delegate to **Groups** of stake pools rather than individual pools.

Each of these groups will have a benefit towards decentralisation or improve the ecological and altruistic contribution of the Cardano Ecosystem.

Providing Users with a choice of 5 Groups of Pools to stake to will simplify the decision process for users and enable all of the pools within that group to benefit from delegation evenly, rather than the one pool closest to the top of the rank.

# Staking Mechanism

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The DAO will enable staking to groups of stake pools, although one at a time, through several elements of Plutus working together to create a simple system that allows the DAO to direct a users stake to the pool of its choosing, based on some simple logic that figures out the appropriate way to balance delegation.

## DAO Stake Pool Groups

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Organising Stake Pools into groups to simplify staking will enable the DAO to manage delegation effectively for the Users staking goals, whilst providing them with enough options to choose what they want to support.

The DAO will support 5 Groups of Stake Pools:

1. Eco-Friendly
2. Mission Driven
3. Bare Metal
4. Single Pools
5. Seed Pools

Each of these groups benefits the Cardano Ecosystem in their own way, and enables a small enough collection of options to make selection for the User easy, whilst simultaneously providing enough options to give the Users a definitive choice of which group they wish to support.

# User Staking Mechanism

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The DAO staking mechanism is very simple for the end User.

Users create a Basket on the platform, which is what the DAO will distribute on their behalf. Each basket a user makes creates a staking script with a new staking address for their wallet.

A user chooses how much ADA to assign to that Basket and which pool group it should be delegated to.

The DAO uses the normal staking mechanism on Cardano, but will be able to direct the delegation basket to any given stake pool within the nominated Pool Group in the most balanced way.

This also means that the DAO has no lock up or contract mechanism for your ADA and it stays secure in your wallet just like it would if you stake individually to any given pool.

Rewards work in exactly the same way as normal, they will be distributed and automatically added to the staked basket and can be withdrawn as normal only by the user with a signed transaction of reward withdrawal (or stake).

We will also use the same staking address to distribute the bonus DAO token rewards and any others that the DAO may partner with, such as ISPO's.

We are currently testing a way to force withdrawal of rewards by the DAO so that it can collect the variable fee. Depending on the success of these tests we may or may not enable this function. It is

important that the DAO has some stable income from fees, or it could be months before a user withdraws rewards. But as of yet this functionality is not implemented.

## DAO Delegation Permissions

The DAO will need permission to change the delegation of your baskets. This normally can only be done with a signed transaction within your wallet.

We have a method, using the PAB, to tokenise this permission, enabling you to give the DAO permission to adjust delegation without requiring you to sign transactions every time; and without giving the DAO permissions it doesn't need, or you don't want to give it.

This helps solve the permission issue, whilst simultaneously making it safer for the User, as there is nothing a hacker could do other than direct all stake to a particular entity. Which would be very noticeable and would be reported by the DAO immediately.

## Distribution Of Stake

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There will be different options provided to the user to choose how they wish for the DAO to delegate their ADA, this will help define the parameters which the DAO will use to delegate appropriately.

At the end of each Epoch, the DAO will distribute stake to pools according to the rules set by the users of the platform.



Delegation will stay with those pools for the Epoch until the distribution of stake is re-balanced according to changes to the total stake and/or rules provided by all of the users of the DAO.

Here is an example of how the DAO will behave:

1000 User Baskets with 60k ADA

20 Pools

At the end of the Epoch the DAO will distribute  
1000/20 User Baskets to each of the Stake Pools.

Each pool will get 50 new delegators each  
providing their 60k ADA

Total delegation to each pool, 3Mil ADA

When all wallets are balanced, the delegation is easy. The distribution becomes more complex when Baskets are different sizes.

1000 User Baskets with an average of 60k ADA

20 Pools

The DAO will calculate the average size of User  
Baskets:

Total ADA / Total Wallets = Average wallet size

Then the DAO will attempt to meet the target value of delegation by matching up Baskets and distributing them between the pools

The DAO will start with a perfect match of grouped wallets and work its way through the remaining users until the closest possible balance is met.

This will likely mean that, on a small scale, perfect equilibrium is not met; but the larger the number of users in the DAO, the more balanced the delegation will be between pools.

The distribution changes again when more complexity is added in the form of user preferences.

A user may choose to support a certain category or group of pools, such as eco-friendly pools, in that case that user's wallet will be delegated to one of the pools in that category.

Stake Pool Groups:



- Eco-Friendly
- Mission Driven
- Bare Metal
- Single Pools
- Seed Pools

This will affect how the total delegation is distributed between ALL of the pools.

If all of the Users choose to delegate only to one specific group then only that group will receive delegation from the DAO.

The likelihood that this will happen is obviously very small, but I should highlight that it would be possible, it is all based on the decisions a user makes and the rules they set for their delegation.

# Stake Distribution & Rotation

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When we launch the DAO we will only have a small user base to provide delegation to pools. For this reason we will have to implement a rotation of stake until we hit critical mass (enough to provide 3 mil to all pools within a given group)

The way that the DAO will handle this will be to initially prioritise Early Adopters, those SPOs who signed up to the DAO during the Catalyst phase before the DAO received funding.

We will aim to provide stake to as many pools as possible, in a similar manner to the Seeding Group, where we provide up to 1mil stake to a pool and rotate every Epoch.

This will enable us to provide to as many stake pools as possible on a regular basis, whilst simultaneously guaranteeing rewards for delegators of the DAO.

We will provide the stake to pools prioritising older stake pools over newer ones, until we have done a full rotation for any given group.

This will have a knock on effect of making it difficult for SPOs to game the DAO as they will only benefit early on if they have been around for longer.

Mid Term Staking goals include distributing enough ADA across the network to give all members 3-5 mil in delegation from the DAO.

This will be where we hit critical mass and can really have a huge impact on the ecosystem.

Long Term Staking goals for the DAO will be to manage a portfolio of 5 Billion ADA to distribute across as many Stake Pools as possible.

## Distribution Calculations

The off-chain logic will purely figure out the best way to distribute stake. This will work towards providing strong and stable rewards to the Users as well as supporting as many Stake Pools as possible in the process.

A User **must** earn rewards every Epoch. The only way we can guarantee that is to set a minimum stake threshold.

For example 1 mil delegation only provides a chance to mint ~1 block per Epoch.

Half of that reward will then be given to the SPO as the fixed fee.

This distribution improves as the amount of blocks increases; the impact of the fixed fee decreases with more blocks:

1 Block = 50%  
2 Blocks = 25%  
4 Blocks = 12.5%  
8 Blocks = 6.25%

Ideally we would be able to distribute 10 mil ADA to every stake pool, providing 30 Billion ADA delegation through DAO Distribution.

This is a very unrealistic goal to achieve in a short time.

Aiming to provide 3-5 mil ADA to a pool is much more realistic and something that the DAO will aim to do.

This will enable Stake Pools with DAO support to expect 3-5 Blocks, giving the fixed fee much less impact on a user's rewards.

With that in mind, the DAO will attempt to fill stake pools to 3-5 mil in active stake. This will vary based on the number of users and the amount already delegated to any given pool, but it will be a nice target for the DAO to aim for before expanding the number of pools it supports at one time.

# The DAO Balancer Algorithm

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stake threshold  $t$   
free space size  $b$   
 $n_s$  stakes  
selected stake  $x_{s_i}$   
stake  $s_i$   
 $n_p$  pools  
selected pool  $x_{p_j}$   
active stake  $p_j$   
 $U$  set of pool groups  
 $S_i$  set of pool groups preference  
 $P_j$  set of associated pool groups

where

$$\begin{aligned}x_{s_i} &\in \{0, 1\} \quad (i \in 1 \dots n_s) \\x_{p_j} &\in \{0, 1\} \quad (j \in 1 \dots n_p) \\S_i &\subseteq U \quad (i \in 1 \dots n_s) \\P_j &\subseteq U \quad (j \in 1 \dots n_p)\end{aligned}$$

Maximize

$$\sum_{j \in 1 \dots n_p} x_{p_j}$$

Subject to

$$\begin{aligned}t - b - p_j &\leq \sum_{i \in 1 \dots n_s, j \in 1 \dots n_p} s_i x_{s_i} x_{p_j} \leq t - p_j \\t - b &> p_j \\|S_i \cap P_j| &\neq \emptyset\end{aligned}$$

The Balancer Algorithm is responsible for making staking decisions for the DAO.

It takes a few simple inputs and calculates the best distribution based on the available stake.

There are 3 main data points for the algorithm:

1 - Stake Threshold (3-5mil)

2 - Total Stake

3 - Number Of Rotations (of a given pool)

The algorithm's goal is to fill as many pools as possible to the stake threshold of 3-5 Million ADA.

It will take how much total stake is available for a given group, and score all of the pools in the group based on the number of times it has been delegated to.

It will prioritise pools that have had fewer rotations first and see how many pools it can fill to the threshold.

Another pool is only added if the threshold can be met. So if there isn't enough ADA to fulfill the threshold requirement, the leftover baskets will be distributed among the selected pools, with pools with lower stakes receiving more leftovers.

If no pool of a prioritised rotation can meet the threshold value requirement, for example there are not enough baskets left; the Balancer tries to match the baskets to pools with the next lowest rotation.

This will enable the DAO to support more pools and so will be helping decentralisation in that case.

The Balancer will also do its best to meet all of the criteria for a Users delegation, a lot of pools are in multiple groups and so could benefit from one group or the other based on available stake, but this could mean that in the early days a users stake is in a pool that doesn't meet the staking requirements set by the user for that basket.

This is an extreme case based on very low available delegation but it is important to be open about the possibility and so users will have a disclaimer set on their basket so they understand that this could be the case early on in the DAO.

As the number of baskets grow the DAO will out grow the effects this algorithm and it will become less noticeable to Users and SPOs because it will have enough ADA in delegation to provide pools without needing to rotate as much.

## Critical Mass For The DAO

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Critical Mass for the DAO will be the threshold where it can provide 3-5 mil to every stake pool member.

Once the DAO hits this threshold it will be able to stop the rotation of stake and instead increase the delegation to each pool in the group evenly.

Critical Mass might be hit in one group faster than another though, based on the choices Users make when they delegate. This could lead to one Pool Group being more populated (in stake) than another.

Although the DAO shouldn't be promoting any pools in particular, it will organise the groups displayed for new baskets in order of smallest to largest.

This is the smallest, simplest way the DAO can encourage Users to support a more diverse groups of stake pools; by prioritising the least delegated group first, and the most delegated group last.



# Basket Limitations & Whale Management

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There is one difficulty that the DAO may come across where a Whale wishes to support a group. Although we want to invite and include Whales in the DAO, we don't want to end up with huge individual baskets that may create difficulties for the DAO to distribute as fairly as possible.

For this reason we are considering a 500K ADA limit for any basket.

This will enable Whales to participate whilst encouraging them to split their wallet across multiple Baskets in the hopes that they will then support multiple pool groups.

This isn't only to spread their delegation as far as possible. It also makes balancing delegation much more manageable.

The DAO cannot split any basket into smaller values. It will not have, nor do we want it to have permission to do that. Instead we want to encourage Users to make decisions that will help with decentralisation.

If we have one basket at 3 mil then it makes one stake pool achieve the initial target, but what about 10 mil or more?

What if we have a handful of Users, then one Whale with a 5 mil basket, it makes balancing delegation impossible.

A hard limit of 500K does mean whales will need to make multiple baskets (if they wish to). But the process is quite simple to make a new basket.

We have found that Whales often support multiple stake pools anyway, so this is just one other method for them to do so, and does not affect their normal staking choices.

# Membership Requirements Of Stake Pools

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To become a member of the StakingDAO as a stake pool you will need to meet 4 requirements:

- Single Pool Operator
- Min 1 Lifetime Block
- Max Variable Fee 2%
- Minimum Pledge 5K

## Single Pool Operator:

This service for Stake Pools is designed to improve decentralisation and enable the distribution of stake to small pools.

If a pool is part of a multi pool group, or is found to not be a single pool (this applies to pools with different tickers controlled by the same SPO or team), then they will be removed from the DAO and delegation will be reassigned immediately.

## Min 1 Lifetime Block:

The block requirements for a Stake Pool is to guarantee that SPOs are competent and operate functioning pools. There will be other support provided for pools to apply for seeding,

with no minted blocks (see below section on seeding new pools).

### **Max Variable fee**

The reason for the max variable fee is because the DAO will charge  $<0.5\%$  in order to pay transaction fees for re-delegation of wallets as necessary, and to pay for further development and maintenance work on the DAO.

### **Minimum Pledge**

We will need to create a minimum pledge mechanism as another way to ensure SPOs aren't gaming the system, we cant have pools spun up on the network with a 10 ADA pledge, and so creating a hard min pledge will make sure that the pools are being invested in by the pool operator to some extent.

## **Membership Requirements Of Holders**

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For Holders and Users of the platform there is no real membership, it is simply a case of connecting your wallet to the web application. No login or personal details are required, similar to Uniswap.

A User will have a dashboard for that wallet showing any Baskets that the wallet already has with the DAO.

Users will create a Basket which they will use to delegate to a pool group of their choosing. They will be able to choose how much ADA they wish to add to any basket that they have,

and they will be able to have as many baskets as they wish, staking to as many groups as they wish.

Creating a Basket will provide permission for the DAO to assign and reassign your stake to pools as necessary within the group chosen for that basket e.g. bare metal pools.

Your delegation rules can be adjusted at any point and - just like regular staking - will take effect at the turn of the epoch when the staking snapshot is taken, just like if you stake manually.

A user can also choose to leave the DAO platform at anytime and either delegate manually to a specific pool or choose not to delegate at all. To do this you will just choose to stop delegating with the DAO and you can manually reassign your delegation through your wallet as normal.

You can also delegate with the DAO and remain loyal to which ever stake pool you currently delegate to. For example, you may have been supporting a pool since the Shelley hard fork, and wish to continue supporting that pool.

You can still create baskets on the DAO, it will not affect your regular delegation as it will use a separate mechanism to stake, only the amount you assign specifically to that basket will be used by the DAO (in that given basket).

# Services

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The DAO will be able to offer other services to its users and the greater community of projects being developed in the Cardano Ecosystem.

One of the main things the DAO wants to do is support small stake pools and help onboard new SPOs into the community.

On top of that, the DAO will also aim to provide other services from Airdrops to ISPOs and other forms of token distribution in the most decentralised and effective manner that will guide users to make staking decisions that are favorable to the ecosystem.

The alignment of actions that benefit the User and the Ecosystem is the most important thing to consider when building out or offering other services through the DAO.

We want to reward users for making decisions that will help promote decentralisation of stake, as well as encourage projects to launch or distribute tokens in a way that also promotes decentralisation and not gradual centralisation through selective pool distribution.

## The DAO ISPO Platform

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The DAO is looking to provide access to its member pools for projects to do their own ISPOs. Right now the ISPOs happening on Cardano are all done in different ways and,

while they can be done in a way that is great for said project, they could end up detrimental to the network as a whole if not standardised.

By providing a platform for ISPOs, we enable projects to distribute their tokens through the DAO, automatically adding them to rewards either of certain pool groups or the DAO as a whole, meaning that more Single Pool operators benefit from ISPOs than is currently the case.

ISPOs are a new trend on Cardano and if the DAO can set a simple, easy to access standard that supports the decentralisation of the network, using it will be simple for projects and an obvious choice for maintaining a healthy ecosystem.

## Seeding New Pools

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StakingDao will provide a way for ADA Holders to help seed new stake pools if they wish to. A user of the platform can choose to delegate their wallet to assist new pools to get their first block, providing a chance for new competent SPOs to establish themselves on the network and get their first lifetime block.

Minting your first block is difficult for new SPOs because it requires a reasonable amount of delegation and thus trust from holders.

If a user decides to provide a basket to seed new pools then this basket will be added to the seed group which will be split among new pools trying to get their first block.

Delegation to these pools will stay long enough to provide the opportunity to mint a block.

The Seed duration will be 5 Epochs.

The DAO will provide up to 1mil ADA to a seed pool. Once this has been met, any other seed delegation will go towards another seed pool.

Pools can apply for Seed delegation and will be on a waiting list until there is either enough stake to provide to them, or until they mint their first block and are automatically upgraded to whichever corresponding pool group applies to them.

Seed delegation works differently to normal delegation because of the requirements needed to mint a block. Assuming that it takes 1mil ADA to expect ~1 Block per Epoch, then it is reasonable that a pool should mint its first block within 5 Epochs at this level of active stake.

Pools will be chosen for seeding in order of application to provide a fair method for selecting pools and delegation will be supplied up to 1mil ADA.

The more users that opt in to this group, the more pools we will be able to seed in tandem and the better benefit we can bring to the onboarding of new stake pools trying to establish themselves on the network.



# DAO Governance

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The DAO will have its own token and treasury. We will distribute an initial round of tokens through the early adopter stake pools just like an ISPO meaning that early users and SPOs will get more tokens than people who join later.

Tokens will be distributed as rewards every Epoch for any Users taking part in the DAO. This will only be for people using the DAO platform and users will get DAO tokens proportionally, based on how much they are staking with the DAO that Epoch, in the same way that normal ADA rewards are distributed.

There will be a fixed distribution of DAO tokens and so a User is guaranteed a certain number of tokens as a result.

There is a limit on the fees a pool is allowed as part of the membership requirements so that it prevents SPOs from gaming the system, but we will also charge a small fee as a DAO so we can help pay for services and build a treasury. This will enable us to pay for any maintenance and dev work on an ongoing basis, once the initial platform has been rolled out. The treasury is key to the sustainability of the DAO.

We do not have a fee finalised yet as we need to test this with some models to figure what this number will be, with community input from SPOs and early users as we build out our small community of people on our discord. However we are aiming for <0.5% and we want it to be as small as is

reasonable for us to sustain the DAO and pay any costs associated with it.

The other thing we may have to do - depending on how the project develops, is run a public or private round of initial distribution of tokens to the community which will enable us to build a small treasury from the start.

For legal purposes there are a lot of careful considerations that need to be accounted for before we fully lay out a plan for this, but we will make it public information once we decide - again we are open to community suggestions and will take anything into consideration.

Our initial decision is to distribute around 5% of the Total Supply to people and then the rest will slowly be distributed over every Epoch to the whole community as described above.

We are looking to have a fixed supply of DAO tokens which will be called Stake Tokens \$STK.

## Voting And Improvement Proposals

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As part of governance there will be a section of the DAO web app that people can submit improvement proposals and vote for these proposals to be integrated into the DAO.

This will be an open opportunity for community participation in improving the DAO over time and updating anything as necessary for the community.

We will likely launch with a few proposals in mind, options that the DAO could integrate or extra features raised by the

community as the project develops.

Voting power should be considered based on the number of tokens in a User's wallet and a majority vote of current circulating DAO tokens should be enough to enforce a change.

There will be an initial period without voting to ensure the DAO is functioning correctly and enough of the tokens are in circulation and distributed to prevent any kind of minimum attack vector becoming a threat to the DAO before it fully rolls out.

A community owned and controlled project is the goal, however there are a lot of things to consider for this to be realised.

## Governance Rollout & Community Handover

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Once the DAO is launched there will be limited Governance functionality as required to manage the growing pains of the DAO.

We will likely need to make adjustments to the DAO's various mechanisms during the transition from testnet to mainnet.

Initially we will keep the team on a retainer to do any required work to ensure the DAO functions correctly and effectively, but will look to include more and more community input as we develop our SOPs.

Iteration will happen quickly at first but over time we expect to need less and less adjustments to the DAO mechanisms, with the idea that we can remove ourselves from operating the DAO in 12 months.

In order to do this we will have to begin to onboard potential devs and team members whom works can be offered to. We will also need to create a voting system for community representation to a committee which will decide on and carry out changes, maintenance works and decide on the direction the DAO will go in the future.

The DAO will seek to have a team of:

3 Web Devs

3 Plutus Devs

5 Community Voted Committee Members

The Dev Team will be outsourced and not hired in house by the DAO. When works or changes have been voted on by the community, the DAO will issue a request for works to the relevant dev team.

The given contracted works will be accepted by whomever is able to complete said works the fastest and the contracted works will be given to them directly to complete within an appropriate time frame as defined through the IP and Governance mechanism.

The committee will be voted in every 3 months and will be tasked with managing improvement proposals and any maintenance or works that need to be carried out within that 3 month period.

A Committee member may be in the DAO for up to 3 Terms per Year and 3 Terms consecutively. This is to encourage rotation of committee members and prevent the same committee running the DAO for too long.

The Committee will be paid a small salary to pay them for their time, however it will only be on the basis of 1-2 hours per week and no more. The Committee is not a full time career it is purely to attend weekly meetings and ensure that the agreed works are managed and carried out appropriately.

The Committee needs to consist of an odd number of members so a majority agreement can always be reached. This is important for the democratic mechanism of decision making for the DAO management.

There will have to be constraints on the kinds of decisions that can be made within the committee to prevent a small group of individuals taking control of the DAO. For this reason Committee members will only be able to decide on how to carry out works and to execute the management of the Treasury portfolio.

Anything else will need to be taken to the community to vote on to maintain the democratic nature of the DAO.

## **Progressive Governance**

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The Team will aim to rollout a new level of Governance every 3 months to allow for stable and managed growth of the DAO.

1. IPs Submitted or refined by the Team
2. Community Submittal of IPs
3. Committee Voting and Onboarding
4. Rapid & Emergency Voting Mechanisms
5. Committee Handover

## **Improvement Proposals Submitted By Team**

Improvement Proposals will initially be submitted by the Team building the DAO. We will need to set a standard for IPs so we can manage how they are submitted and voted on in the future.

## **Community Improvement Proposals**

We will then introduce Community IPs, these will enable community members and DAO Token Holders to submit IPs to help build a stronger and more community driven DAO.

We as a team will likely overlook certain mechanisms of the DAO and so community input will have a huge impact on the operation of the DAO for the better of the community.

## **Committee Voting And Onboarding**

We will next address the structure of the Committee and enable community members to come forward and offer their services and expertise to the community to help take the DAO to the next level.

We will start by having a round of voting for only 2 community committee members but as the Founding Team

step back over time, the community committee will grow from 2 to 5.

### **Rapid & Responsive Voting Mechanisms**

The Fourth part of the governance rollout will cover rapid and responsive voting for quick community input on decisions.

Right now we see this as used in response to flagging stake pools or bad actors within the ecosystem and revoking their DAO membership, however it could cover a host of other reasons for quick community input on decisions.

### **Committee & Community Handover**

The last part of the governance rollout will be community handover. This will be the Team stepping back and leaving the DAO under the control of the Cardano Community. We would like this to happen sooner than later but want to see the project through to completion and oversee developments of the DAO until we are happy we have solved most of the issues we may face in building it.

It will be difficult to step back from this project, but we will have only been successful once we have.

# Tokenomics

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The DAO will have a Governance Token \$STK which will be earned by users of the platform by participating in the ecosystem and staking with the DAO.

## Total Supply

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The Total Supply of \$STK Tokens will be fixed at 200,000,000,000

## Token Launch & Initial Distribution

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The Treasury will initially be funded by a token launch which will be done through the StakingDAO Platform and will enable users to purchase tokens at a given rate which will enable interested community members to buy a limited quantity of tokens to participate in ownership of the DAO.

The token launch will be limited to 5% of the Total Supply.

This will help prevent anyone from gaining a controlling stake in the DAO, preventing any individual from swaying the control of the governance mechanism for their own personal gain.

The DAO will also maintain a number of tokens in its treasury, separate to the Supply pool from which tokens will be distributed as rewards.



## Founding Team Token Distribution

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The Founding Team of the DAO will each be given 1% of the Total Supply

This is to both reward the Founders in some way, and encourage future participation in the DAO. We don't want to give ourselves too much of the DAO token, but we do want to help maintain some form of deciding role going forward especially in the early days of community governance.

We will also have a vesting schedule and contractual agreement to prevent the founding team from dumping the tokens once they launch.

Although we are not intending the DAO Token to be a tradeable asset, this is crypto and really everything is a tradeable asset, so the reality is that this token will be listed on DEXs just like every other cryptocurrency and token.

For this reason we need to both protect early investors and community members from falling victim to a Founding Team rug pull. This is very important for both the reputation of the DAO and its sustainability.

## Governance Token Rewards Distribution

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People who stake with the DAO will earn the DAO Token as a bonus reward, enabling them to participate in governance of the platform with their DAO Tokens representing their voting power.

DAO Tokens will be distributed via a fixed amount to Users. The purpose of this is to create a fair distribution of governance to the DAO community without basing it on pool performance.

Users will earn Tokens based on the amount of stake they have in their Baskets.

The initial Token rewards distribution will happen over 5 Years, but the DAO will have a mechanism to buy back tokens regularly to sustain token distribution to the community indefinitely.

## Staking Rewards

The minimum stake possible is 10 ADA.

The help prevent users from being able to game the system the DAO will distribute Governance Tokens based on this number.

Every 10 ADA a User stakes with the DAO, they will earn 1 STK Governance Token.

This will be rounded DOWN to the nearest 10 ADA.

So if a user has 59 ADA they will earn 5 STK, but if they have 60 ADA they will earn 6 STK.

This will prevent Users creating multiple baskets at slightly over the average to attempt to round UP and earn more tokens for less ADA.

# Treasury & Management Of Funds

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The DAO will need to have a treasury which it will use to pay for itself and any development works or maintenance.

The Treasury will be funded by a staking rewards fee applied by the DAO. Our current working fee is 0.5%

1mil ADA Delegated with DAO

5% Annually = 50,000 ADA

0.5% Fee = 250 ADA

100mil ADA Delegated with DAO

5% Annually = 5,000,000 ADA

0.5% Fee = 25,000 ADA

This should be more than enough to provide the Users with great rewards at an unnoticeable cost that the DAO charges on an individual level.

## Treasury Funds & Tokens

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The DAO Treasury will be comprised of multiple assets.

It will earn in ADA and so the majority of its holdings will be in ADA. It is important to protect the treasury against market

volatility, however, and so it will also hold stablecoins and a selection of other tokens and assets to ensure it can fund itself and manage its development and maintenance costs during the big swings of the crypto markets.

The DAO Treasury Distribution will be:

40% ADA

30% Stablecoin

20% Defi Assets

10% Alt Coins & Gov Tokens

As the DAO is built on and for Cardano it makes sense to hold tokens within the Ecosystem, although that may include wrapped assets if and when they become available.

Every Quarter the Treasury will balance to make sure it is maintaining these numbers, and this will become one of the roles given to the Committee over time.

### Use Of Treasury

Obviously this 0.5% scales very well and once we have a strong user base the DAO will control a large treasury which will enable it to stake with itself and compound its treasury.

The DAO could also explore other avenues of investment to enable the DAO to grow, such as participation in DEFI protocols, or funding the development of tools for the DAO; or even funding other projects proposed by the community.

The possibilities for this are really limited to the imagination of the Community and the capabilities of the Committee and dev teams contracted by the DAO.

We will set limitations on the amount of funding any particular project can request of the treasury to avoid bad actors or scammers stealing treasury funds.

The DAO will have a schedule of rates which it will reference to come up with costs of works and thus the value of any contracted dev / maintenance works through IPs.

The schedule of rates will dictate what funds can be allocated to any given IP or project undertaken by the DAO and will aim to pay well and fairly for the works requested.

Once it has been implemented, the schedule of rates will be made available to the community so anyone can go and check or calculate the cost of works given to a project to ensure everything is being executed honestly and effectively.

## **Team Payment**

When Launching the DAO, the founding team will be put on a retainer to enable them to spend more time working on the DAO to ensure everything is stable and functioning correctly.

We need to make sure that the DAO has the required persons to execute on quick changes and adjust any parameters that may need addressing.

This will be temporary, and once we begin handing the DAO over to the community the Founding Team will be replaced by a Committee whom will be expected to work only 1-2 hours a week on managing the DAO and overseeing works.

It is important that this initial retainer be in place to justify spending the time working for the DAO and developing the

Standard Operating Procedures for future Committee members.

All Payments made to the founding team, Committee and developers will be done so on the basis that they operate as a contractor and will be responsible for their own tax reporting and accounting etc.

## Reporting To The Community

Every Quarter the DAO will publish a report of its use of funding, treasury balancing and portfolio of holdings within the treasury.

It will be done in a standardised format that will show where funds are going and what for. This report will include IPs implemented and payments to devs for works.

Reporting must be implemented for transparency and accountability to the community.

## DAO Treasury Buy Back Incentive

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The DAO is giving away its governance token through User participation.

As with anything that is distributed, it is likely that price of the token will slowly drop over time, this is almost a good thing for a utility token as it is not designed for trading, but for governance.

But as we all know from being in crypto, if it is a token it can and will be traded.

The DAO will slowly run out of its rewards over time, a 5 year period. But in the interest of longevity of Governance rewards, the DAO will buy back tokens from the market to keep replenishing its rewards, enabling it to pay itself to distribute more tokens for a longer period of time.

The DAO will try to buy a certain amount of tokens in

regular increments, starting after 2 Years, aiming to spend a specified amount of ADA each time.

# Security

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Security of the DAO is one of the most important aspects of building a functional decentralised entity, it must be provably secure to ensure the safety of its users, thus building trust.

## Auditing & Open Sourcing The DAO

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Auditing the DAO is one thing we must do to prove the safety and security of the DAO.

The entire platform will be audited to the highest degree in order to ensure we have a safe working solution to onboard users and stake pool operators.

This will include IOG's Dapp audit and a security audit and everything will be published to the community to maintain transparency.

Once the DAO launches we will also open source our code. This is another important thing for us to do so that we can show our work to the community and prove that the DAO is doing exactly what we say it is, and operating how we have designed it to.

It is also important to be open sourced too prove future development works as well. Anyone will be able to check works have been completed and what exactly has been done to solve any particular issue.



This is the only way we can launch the project and step back from it to hand it over to the community.

## Disincentivising Gamification & Exploitation Of The DAO

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Having a DAO providing a service to a community like this will leave it open to exploitation from bad actors spinning up new stake pools to benefit from DAO delegation.

One Obvious form of Gamification by the User is attempting to Average Up Rewards based on Basket size. This has already been accounted for by the rewards mechanism to prevent such an attempt.

Exploitation from SPOs is really the only way a bad actor can abuse the DAO, as there is no way to manipulate the staking of users or steal ADA (through the DAO).

Therefore it is paramount that we take time to consider the ways a bad actor could abuse the DAO.

There are some standardised methods of managing Stake Pools, such as membership and commitments from SPOs, however, there are ways an SPO could exploit the DAO for their benefit.

1. Spinning Up Multiple Pools
2. Changing Tickers
3. Fake Membership To Groups

### Spinning Up Multiple Pools

The obvious choice for a stake pool to game the system is simply to spin up multiple pools and submit them to the DAO for membership, to benefit from DAO delegation. This is something that can be made difficult but not really something that can be stopped.

We can check some things like topology of stake pools, although there is a lot of work to acquire and comb through such datasets for discrepancies and red flags. And the truth is some of these things can be shared. For this reason it isn't the best option.

We can (and do) require a minimum pledge from stake pools, however for stake pools that are already established, it would be easy to meet an arbitrary minimum pledge requirement unless it is high enough to make it expensive.

The flip side of this is that it will make it harder for legitimate single pool operators to meet such requirements; whom may not have the available funds to meet a high pledge requirement.

The next identifier for Stake pools is the Age of the pool. This is something that can neither be faked nor gamed because it can always be checked on the Blockchain. This makes it a great solution to tackle this potential issue.

Initially we will support early adopters, then we will support pools in age order. In future we may require pools to have been active for 6 months before they can become a member.

This will encourage new pools to market themselves and build their brand before they can benefit from DAO delegation. This is good for the network as well as the SPO

and the DAO as it will encourage pools to prove themselves before being able to benefit from DAO delegation.

## Changing Tickers

The next option for someone to game the DAO would be to change tickers to mask their affiliation with other stake pools. This would enable multi pool operators to benefit from the DAO and increase revenue without extra work, or being open about running multiple pools.

The simplest way around this is looking at the history of the pool. You can see that a pool has adjusted its ticker and metadata and at which point this change was submitted to the Blockchain.

Even without checking using a detailed Blockchain explorer there are simple UI tools that can provide this info and it would not take much effort to discover if this has happened or not.

This does however sound like a full time job and we want to have as much of this automated as possible. For that reason we will be looking to create automated reports for the DAO to show the history of a stake pool when it submits the application for membership.

Any changes of tickers will be questioned and compared to other stake pools with the same or similar tickers.

The only real way this will be abused is through established pools building more pools. If a pool whose ticker has changed shows no other signs of affiliation with other stake pools, it can only be assumed that they are doing so for their

own brand and as such should be accepted as acting honestly. This has already happened plenty of times throughout the short history of Stake Pools and SPOs.

### **Fake Membership to Groups Or Alliances**

The final way gamification can happen is through SPOs pretending to operate in accordance with certain groups to benefit from being a member of a smaller DAO Group or Category.

For Example:

If there are 1000 Single Pools but only 40 Eco Pools, a single pool operator may pretend to run an Eco Pool to benefit from being in a smaller group and thus (potentially) benefiting from a greater pool of delegation.

This could prove quite difficult to manage as any SPO could apply to become a member of an Alliance or Stake Pool Group.

Luckily most of these alliances already require some form of proof and in our view if a Stake Pool is not a member of the specified group, through the appropriate alliance, then their declaration could easily be misleading and the DAO will flag the stake pool to request some proof or evidence.

This again can be easily audited by an individual or through automation, and thus can easily be checked.

The DAO will request some form of evidence to verify which can be double checked by a person employed by the DAO or offered up to the community to vote on. Initially it will be an

individual who will double check until we have a confirmed functioning governance system which will likely be 6-12 months after the launch of the DAO.

## Enforcement Of DAO Decisions

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We will require a membership of the Stake Pool to benefit from the DAO and we will spend time auditing stake pools to ensure that they are conforming to the commitments they agreed when joining the DAO.

If a bad actor is discovered, or an SPO is bending the truth to benefit from the DAO, we will automatically blacklist them. The SPO will be contacted through the provided communication method to rectify the issue within One Epoch or their membership will be terminated along with their delegation being removed.

The DAO will reserve the right to terminate membership immediately without warning if something has been done by a pool which could be considered damaging or dangerous behavior.

As with all other forms of governance and human interaction with Data, this will initially be done by an individual, but as the DAO becomes more sophisticated and we refine the DAO's processes and procedures this will become more and more governed by community voting.

# Project Roadmap

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The StakingDAO is currently under development and is in the very early stages of testing. There is a lot to do in terms of building the platform.

The Project Roadmap includes 1 Year of development and rollout of functionality and Governance to the platform as it grows and becomes more established in the Cardano Ecosystem.

## StakingDAO Roadmap:

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Q1 22

- initial development and testing of functionality and scripts on the Testnet
- Building Web app & UI for Testnet
- Marketing and Partnership development of the DAO ready for Launch

Q2 22

- Open testnet platform for Alpha testers
- Token ICO for early adopters and community members

## Q3 22

- DAO Mainnet Launch
- Onboarding Users

## Q4 22

- Initial IP Governance rollout
- Open Community IP Submittal
- Dev Team application

## Q1 23

- Community IP Voting
- Rapid Response Voting Mechanism
- Initial Committee application

## Q2 23

- Committee Onboarding
- Deployment of Standard Operating Procedures

## Q3 23

- Community Handover of DAO

# Launch of the DAO

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Launching the DAO will be done as simply as possible to avoid any over-complicated mechanics. Launching will happen on Mainnet after a 3 month stress test on the testnet, where the founding team and community members will test different mechanics of the DAO to see how it copes under certain circumstances.

We want to be sure the DAO functions correctly before it rolls out to mainnet, but once it does, it will be a simple prelaunch and user onboarding process, rather than patching bugs.

The DAO will not be governed by the community initially because the founding team will handover governance to the community in phases. This is important to protect the DAO from attacks and enable agile development in the early days, as necessary.

Once the DAO is established within the community it will need a lot less immediate attention and so will be stable enough to start the process of community handover, and removal of the Founding Team.

## 1 Year Launch To Handover

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The 1 Year timescale proposed is a reasonable amount of time to build the DAO and make any immediate adjustments necessary without the time and decision education that is necessary with IPs and voting.

Once the DAO is running well and functioning correctly we can focus on small improvements and onboarding new users



to give as many people as possible ownership and a vote in the DAO's future.

If we feel we can hand over faster then we will, but a conservative estimate is a good place to start and we would rather expect it to happen over a longer period of time than try to rush through it all for the sake of it.

## Closing Statement

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The StakingDAO has a lot of complexity involved that needs to be in place for a functioning autonomous entity.

The DAO has the potential to provide a much needed service to the ecosystem to strengthen the Cardano Ecosystem by distributing stake and thus block prodction across as many pools and continents as possible.

If the DAO is successful it will not only help decentralisation, it will protect Cardano against government entities trying to shut it down, it will protect Cardano from centralisation of stake and MAV's, it will help mitigate the potential damage cause by any Cloud Service Provider outlawing nodes or similar blockchain hosting and it will build a more environmentally friendly and altruistic blockchain that will help set Cardano apart from the competition beyond potential technological differences.

In order for us to succeed in our venture we need the support of the community in getting the initial funding for development through Project Catalyst.

For more information and to stay up to date with developments on the DAO join our discord, follow us on twitter and check out our website where we will publish developments and keep our process open to the community to show how we are progressing with the DAO.

You can view the Catalyst Proposal here:

<https://cardano.ideascale.com/a/dtd/Staking-DAO-Supporting-Single-SPOs/382266-48088>