



REITCIRCLES

WHITE PAPER V1.0.0

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INTRODUCTION

“FREEDOM, FLEXIBILITY AND PEACE OF MIND FOR ALL REAL ESTATE OWNERS”

Reitcircles is a decentralized housing protocol being built upon Cardano that enables any house or asset owner to sell a part of their asset and get liquidity when they need it most. Small investors can now invest in real assets for small denominations. Large retail investors now have an international platform to invest in assets hosted directly by the owners and have an instant settlement via this platform. Due to legal requirements we are limited to hosting assets for sale only where there is full ownership.

The platform also enables many of the stakeholders of real estate such as Estate agents to host their business on this platform. They can manage the end to end process chain related to hosting the assets, selling or renting them, collecting rents and other stuff, entirely on this platform.

In addition this platform will enable self management of assets for different segments of this industry. Starting from individual house owners, to later on extend to vacation rentals, office space and corporate assets.

Each asset hosted on the platform will be managed via a DAO (Decentralized autonomous organization) and tools built around this will enable a better distributed management of the wealth in these assets.

Because we are based on a decentralized POS (Proof of Stake) network of cardano, we can now swap liquidity generated due to tokenization, with other tokens in the network using stake pools. This connectivity of liquidity of different asset classes, allows creation of financial instruments that can finally allow small retail investors (as against accredited investors only) to spread risk and generate returns.

As next generation blockchain platforms such as Cardano, become more mature, the flow of liquidity in a decentralized way becomes more common. The value unlocked from the real estate using this platform (and DAOs therein), will enable a better way to manage and spread wealth among smaller investors globally.

This whitepaper, and the RC (Reitcircles) Protocol with associated tokenomics, will continue to evolve over the next several months leading to a full-scale launch in the coming year. We deeply believe in creative destruction and moving toward a more straightforward and elegant solution for tokenizing global real estate and provide an opportunity to all for investment in this field.



EXECUTIVE SUMMARY

BUILDING A DECENTRALIZED PROTOCOL FOR TOKENIZING GLOBAL REAL ESTATE USING THE PROOF OF STAKE NETWORK OF CARDANO AND THUS ALLOWING SMALL RETAIL INVESTORS TO PARTICIPATE IN VERIFIED REAL ESTATE TO DIVERSIFY THEIR INVESTMENT PORTFOLIO AND FOR HOMEOWNERS TO RAISE CAPITAL WITHOUT THE NEED OF CENTRALIZED INSTITUTIONS SUCH AS BANKS.

With the massive amounts of wealth of pension funds, institutional investors and the home owners lifetime savings, being locked up in real estate, the need to unlock this value and let it be circulated in different forms is increasing. Currently when sales happen for these assets it is mostly done for the whole asset for the individual home buyers. Many times this segment of users land up with huge amounts of their life savings locked up in these assets.

We have now, due to a massive amount of financial stimulus due to Covid, breaks in the global supply chain and wars raging in eastern Europe, landed up in a very uniquely bad situation. High inflation (> 8% nominal and more that 20% real) combined with close to zero interest rates.

This is now pushing us in a direction of seeking investments that can hold value over time and real estate is going to be one of the segments that will benefit from this. It is also one of the safest asset classes that has given good returns over a long period of time. This asset class will get even more attention as the banks are now charging money for keeping money with them (so called negative interest rates) thus driving the flight towards some value holding assets such as real estate.

As digital forms of currency CBDC (Central bank digital currency) are introduced the bridge between crypto and real world assets will become better. We will slowly but surely transition to a new economy where we can buy into real estate as easily as buying stocks and other commodities. Reitcircles is leading the way into this transition. Verified real estates that are in good condition and location, are stable stores of values over time.

In coordination with our partners who are providing bridge to real world FIAT bridge we will be setting up different instruments allowing investors on this platform to get liquidity for their assets convertible to FIAT. Also long term loans and bonds using real estate as collateral will be made possible, except it will be peer to peer based.

In order to provide security for holding these assets using tokens, we are actively seeking compliance with regulators as well, so that over a longer time period, people get protection for holding these assets.

REIT tokens are the fuel for this ecosystem. It will act not only as a governance token, but can also be used to transact in different assets hosted on this platform. In addition, since we have a POS network, we will enable staking returns for REIT token holders providing a more sustainable return.



PROBLEM



SOLUTION

- | | |
|---|---|
| <ul style="list-style-type: none"> • Home owners invest their life savings in their house. There is no way to unlock this equity in an easy way other than selling off the entire house or taking a reverse mortgage where the interest rate is determined by the banks. | <ul style="list-style-type: none"> • House is locked into a smart contract and if the house is well maintained and verified on the platform, the owner can now sell parts of the house using an auction mechanism on the platform and later even buy back the tokens from the open market. • Possibility will exist to even sell time limited bonds using NFT so as to raise capital and retain equity. |
| <ul style="list-style-type: none"> • Under difficult circumstances when the house owners may lose their jobs or other emergencies occur, high interest loans are in the market and people fall prey to them. | <ul style="list-style-type: none"> • Using the house as a collateral one can issue a bond that ensures peer to peer loan, on RC (Reitcircles). |
| <ul style="list-style-type: none"> • Corporate real estate owners would like to generate some cash flow and bring liquidity using their investment. | <ul style="list-style-type: none"> • Same process as the single homeowner but with some legal bindings, they can use the platform to issue bonds or equity tokens to raise funding. |
| <ul style="list-style-type: none"> • Elderly people, after retirement may need to dilute their ownership for funds they need for daily living. Normally they sell off their entire asset and then move to a smaller place in order to bring in this liquidity. This is value destruction as the extra cash lies in the bank which gives no return. Inflation also eats away their cash deposits. | <ul style="list-style-type: none"> • Either via their agent or self registration on the portal will allow them to easily host their asset after due diligence. • Once they obtain the tokens representing a portion of their asset, they are able to then sell them / buy them back later, according to their needs. In this way they retain ownership while gradually raising funds as required. |
| <ul style="list-style-type: none"> • Centralized institutions like banks and other large real estate monopolies dictate the housing prices. Because they are the ones that negotiate the prices of the assets. This creates a gap in the actual price and only feeds the pocket of the middleman and their commissions. | <ul style="list-style-type: none"> • Since this is a peer to peer platform where all financial transactions happen via blockchain, there are no banking intermediaries. We do all the legal verification as the banking institutions, but the final transaction cuts out all intermediaries and ensures low cost value transfer of assets. |

SHORT & LONG TERM VISIONS

SHORT TERM VISION

In the following aspects: We have performed rigorous market and structural research on the global real estate, blockchain and NFTs landscape and understand that no competitors' offer the same innovation, the gap we seek to bridge is unique. Our software development team comprises top notch professionals who built the web platform and an app.

The platform will have a straight forward interface to help layman users and strive to make it sophisticated enough for institutional investors. We understand the need for compliance with regulators around the world, therefore we actively monitor the global real estate and crypto climate and will follow procedures to obtain the required licenses.

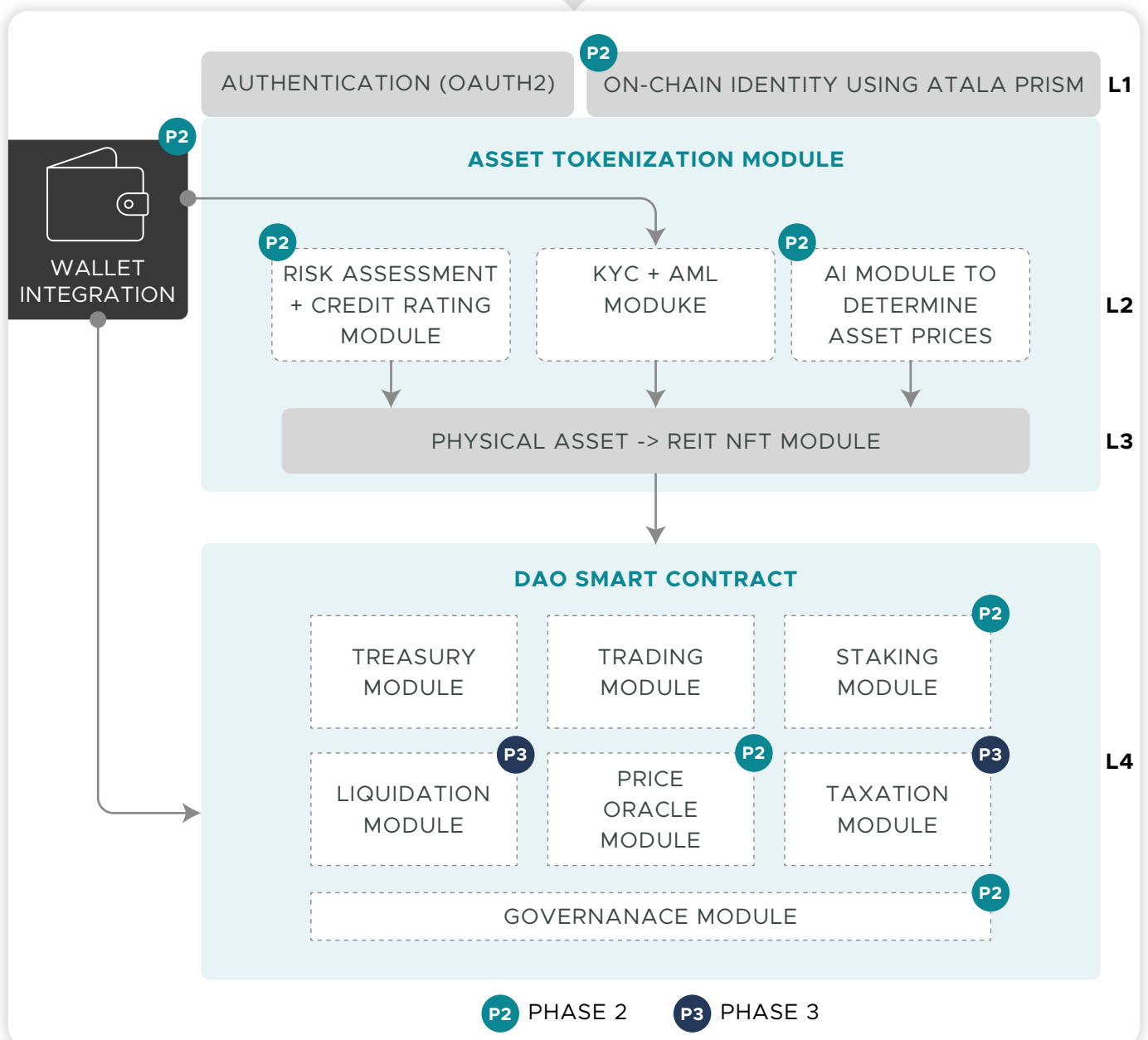
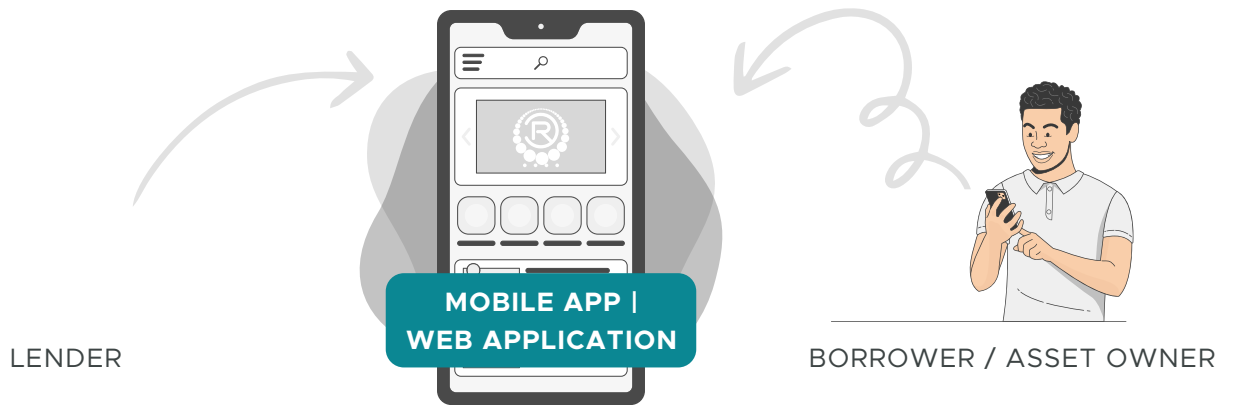
LONG TERM VISION

The long-term purpose is to become the world's best Real Estate trading platform



ARCHITECTURE

DESCRIBES THE DIFFERENT COMPONENTS OF THE PROTOCOL



MOBILE APP / RESPONSIVE WEB APP:

The final touchpoint for the user is a simple mobile app / responsive web-app, where they will interact with the platform backend without having to know the different complex interactions the platform handles for them.

LAYER 1: IDENTITY ON BLOCKCHAIN

This layer is there to register the user on the blockchain (user metadata). We may need to integrate technology such as Atala prism for this as they already have this module in place.

LAYER 2: BACKGROUND DATA TO HELP TOKENISE THE ASSET

This layer is there to register the user on the blockchain (user metadata). We may need to integrate technology such as Atala prism for this as they already have this module in place.

1. RISK ASSESSMENT & CREDIT RATING MODULE:

This layer is there to register the user on the blockchain (user metadata). We may need to integrate technology such as Atala prism for this as they already have this module in place.

2. KYC + AML module

Know your customer and Anti money laundering module where we will have to study the capital flowing and the person involved in that, so that we are not held responsible for these anti-regulatory behaviour.

3. AI MODULE FOR DETERMINING MARKET VALUE OF REAL ESTATE

Using these modules we can derive the housing prices based on the geographic location and the recent buy/sell prices of similar real estate in the neighbourhood.

LAYER 3: SMART CONTRACT TO ISSUE NFT AGAINST THE ASSET

Based on the information provided by L2 we use a smart contract to issue an NFT equivalent in value to the requested Loan amount against the real estate. This NFT issuance will be hence put as a debt against the House and reported to the local authorities where the House is registered. Therefore, it will be a Lien against the House, and provides the right of the Lien owner (the lender) to get the amount back in case the borrower defaults.

LAYER 4: DAO (DECENTRALISED AUTONOMOUS ORGANISATION) MODULES

In this layer we can have separate modules that can be attached to the NFT issued on the platform (L3), via the DAO.

Below is the description of the different modules:

1. TREASURY

This module takes care that a part of the transaction costs that happens due to the asset transactions goes into the treasury and this reserve will serve the real-world funding needs of this Asset for maintenance, legal advice, liquidation agency fees and such other needs. This module will also hold 10% -20% of the asset tokens which cannot be transacted at all and can be used in extreme case of bad weather scenario.

2. TRADING

This module takes care of the distribution of the tokens (NFT-bond or equity tokens) from the initial owner to the investors and then subsequent trading among the investors. This trading will have the facility to trade under regulated environment of country laws.



3. STAKING

This module will take care of using the treasury funding module and distribute the stakes among different stake pools.

So that the locked-up capital can be used to secure the Cardano Network and gain staking rewards in return.

4. LIQUIDATION

This module will take care of bad weather scenario, where the borrower could not return back the capital that was taken. Think of NFT-bond issuance principal and interest is not deposited on time, and this default needs to be handled or rental payments using cryptocurrency is not paid and hence a default occurs.

5. PRICE ORACLE

All transactions of tokens that happen within the DAO of an asset, can be published on-chain using this module and this data feed then can be used to feed real estate synthetic assets created for derivative trading.

6. TAXATION

According to the country laws, this module will create compliance modules for respecting tax payment rules for all equity token transactions.

7. GOVERNANCE

The governance needs of the DAO will be handled by this module. Think of staged voting for decision making. On chain decision making especially related to real estate topics. And host of related issues.



TOKENS

SPECIFICATION OF THE NFT TOKENS ISSUED FOR THE ASSETS

The NFT tokens that are issued on the platform are the single source of truth about the Asset that is being sold. Therefore it is important to specify the different metadata carried by this Token. Currently there is no specific standard for this, hence we define what we feel as adequate for value representation of the Asset on chain.

SOME BAD WEATHER SCENARIOS WITH NFTS

Cyber-attacks on NFTs are a possibility. However, owing to the distributed and decentralized nature of crypto technology, the entire blockchain network upon which our NFTs are based cannot be "hacked" in the same way that an email or Amazon account can. A paradigm shift in our understanding of information security and digital dangers would be required, as well as an enormous amount of processing capacity.

As a first line of defense against this risk, Blockchains store information over a network of nodes rather than a single server. If one, two, or more nodes are attacked by hackers, the other nodes can still keep the data they store safe.

Our technical team will work with the NFT market place operators on whose platform our tokens will be accepted so that if a cyber-attack is discovered, there will be a possibility of stopping transactions with our NFTs on their platform.

Real-life backups to other sophisticated servers of our blockchain data may be investigated in the future.

To sum it all up, while the Cryptocurrency and Blockchain industries continue to develop, we can be confident in the integrity of our NFTs because security professionals are constantly working on new ways to protect them from cyber infiltration.



SECURITY TOKEN STANDARDS

THE CORE REQUIREMENTS THAT DRIVE SECURITY TOKENS

The tokens created as part of the DAO and associated with each Asset on the network can be directly tied to the value of the collateralized Asset. As a result, there is a very good likelihood that these tokens will be classified as securities by regulators.

As a result, we are currently pursuing compliance through a bottom-up method that will align existing security token standards with those applicable to fractional real estate. The specification will enhance adoption by enabling standard third-party integration and reducing the friction and cost associated with off-chain operations that may be required for compliance purposes.

Additionally, standardization would enable on-chain actions to be consistent with real world investor needs aimed at fostering a more safe, secure, and interoperable environment. The standardizing process will enable future-proofing this framework by adding on top of existing definitions.

Transferring a security's issuance, trading, and lifecycle management events to a public ledger requires a standardized method of representing ownership via identity and equity ownership tokens. A security token must have the following characteristics: Capability to correlate metadata with non-fungible securities Permissions and control flexibility Capability to control securities transfers via an on-chain codified rule set or via off-chain approvals The connection between public data and security (issuer details, legal documentation).

REQUIREMENTS

The security token ecosystem must meet the following requirements:

- ✓ MUST have a standard interface to query a transfer and would be successful and return a return for failure.
- ✓ MUST be able to perform forced transfer for legal action or fund recovery.
- ✓ MUST be able to emit standard events for issuance and redemption.
- ✓ MUST be able to attach metadata to a subset of a token holder's balance such as special shareholder rights or data for transfer restrictions.
- ✓ MUST be able to modify metadata at time of transfer based on off-chain data, on-chain data and the parameters of the transfer.
- ✓ MAY require signed data to be passed into a transfer transaction in order to validate it on-chain.
- ✓ SHOULD NOT restrict the range of asset classes across jurisdictions which can be represented.

PARTIALLY FUNGIBLE TOKEN

Divided into any number of tranches. These tranches can be associated with securities metadata for that tranche.

Additional benefits or features can be associated with token ownership within certain tranches for example special rights associated with primary token issuance (STO).

The metadata associated could be used to record additional data about groups of securities that can be used for transfer restrictions, reporting, authorization, authentication and other lifecycle events.

SIGNED IRREVERSIBLE DECISIONS

This provides a structure for an authorized entity (e.g. legal enforcement agencies) to enable revoking of permissions and that this revocation is permanent.

For example, if there is a dynamic decision made to restrict the number of tokens minted to be capped, this should be enforceable via this standard.

RESTRICTED TRANSFERS

Transfer of security tokens can fail due to lack of different real-world requirements. For example, lack of authorization, time period mentioned as lock-in period etc. Therefore, different layers related to security, authentication and other parameters needs to be introduced.

For utility tokens balance Of and allowance functions provide a way to check that a transfer is likely to succeed before executing the transfer and for security tokens check Security Token Send function can be introduced to check the different metadata related and other external constraints related to the transfer.

In order to provide a richer result than just true/false, a byte return code is returned. This way additional log information about the transfer can be inferred, and should show the reason/class for failure.

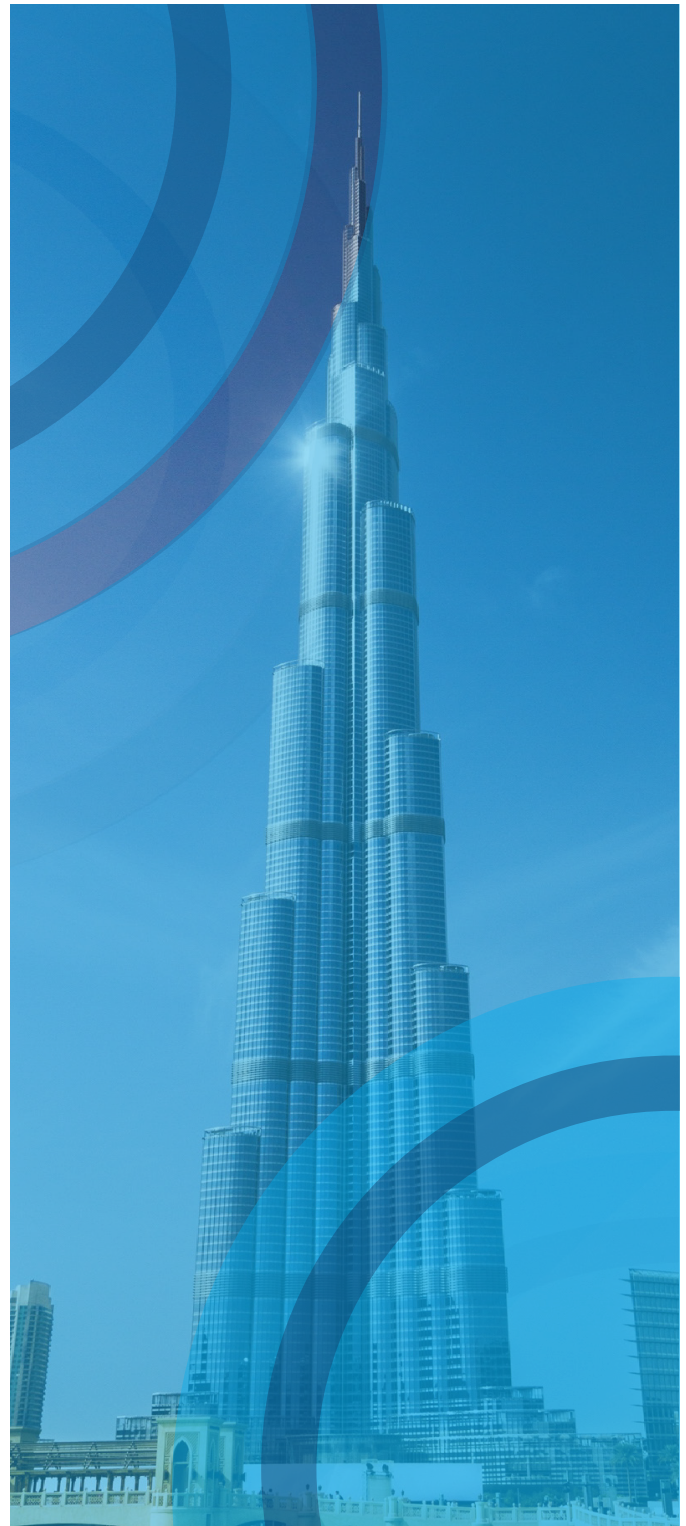
IDENTITY

Whether an individual is able to receive and send securities will likely depend on the characteristics of the individual entity. For example, after a KYC/AML checks an investor may be categorized as an accredited investor or otherwise. That information may qualify / disqualify him to invest in certain assets.

We will finally (phase 2 or later) rely for authentication / authorization based on on-chain data regarding the individual.

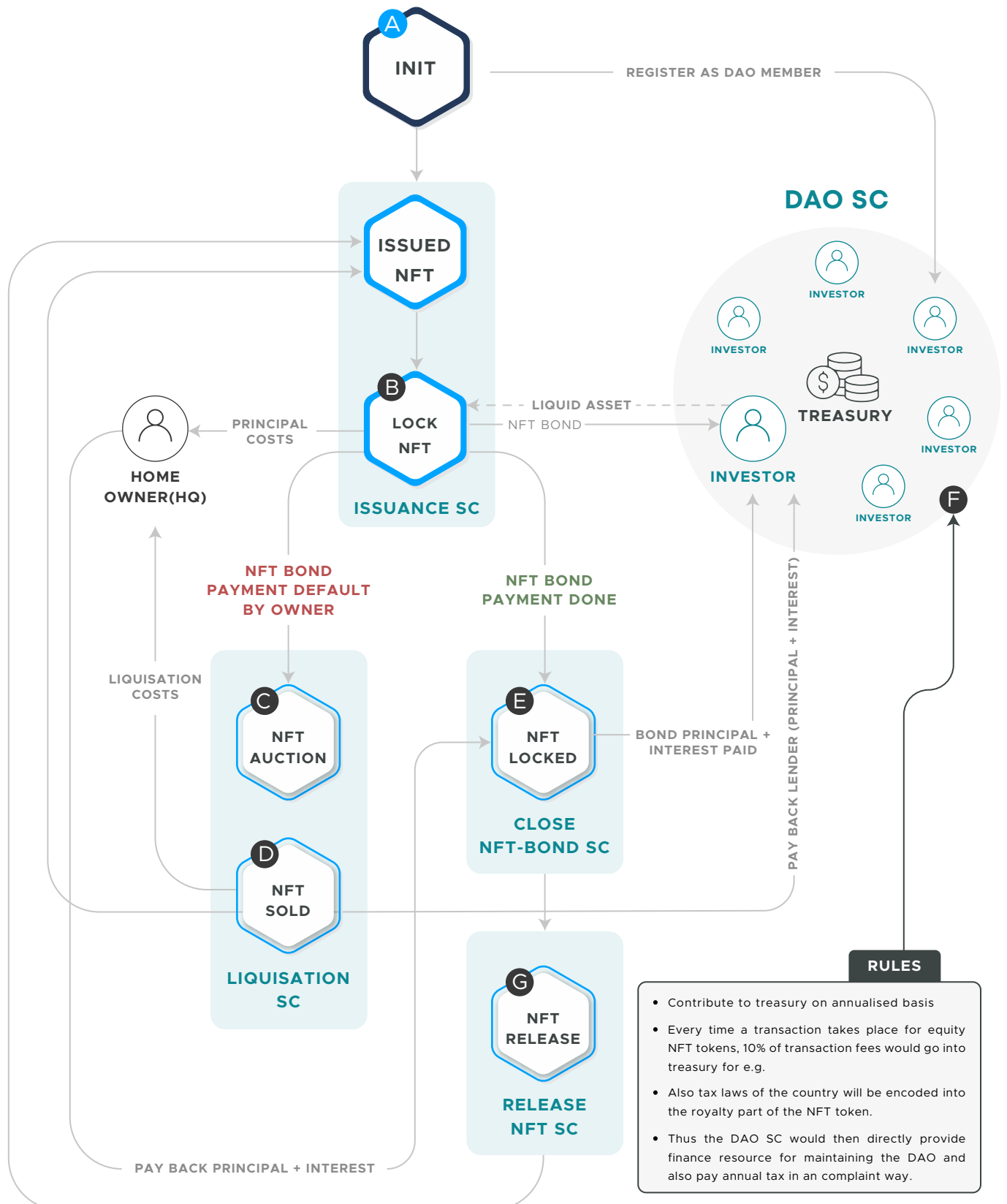
SECURITY INFORMATION

When an asset is issued it may be useful or required to associate documents with it. This could be details of purchase deed, title deed, insurance on title and Asset etc. These documents (public) can be associated with a unique URL based on the document hash (as used in IPFS) or for private documents may be encrypted and permissioned cloud storage.



NFT BOND

TIME LIMITED LENDING USING REAL ESTATE AS COLLATERAL



DAO SC

The user on the platform (buyer or seller/owner) first is registered as a new user on the DAO of the real estate Asset using this Smart Contract.

ISSUANCE SC

In Cardano we do not need Smart contract for minting the NFT. A cardano-cli can as used as well. But for time based locking of the NFT and issuance of some proxy NFT to the user, Smart contracts are required.

LIQUIDATION SC

This will mainly fulfil the following functions:

1. Unlock the NFT and publish it on an NFT marketplace (can be automated using script).
2. Once NFT is sold, then distribute the proceeds to the owner and the investors are done.

CLOSE NFT-BOND SC

Once a successful weather scenario happens, we need to transfer the liquidity and the House/asset tokens to the stakeholders (buyer/seller/treasury) and this is the contract that does it.

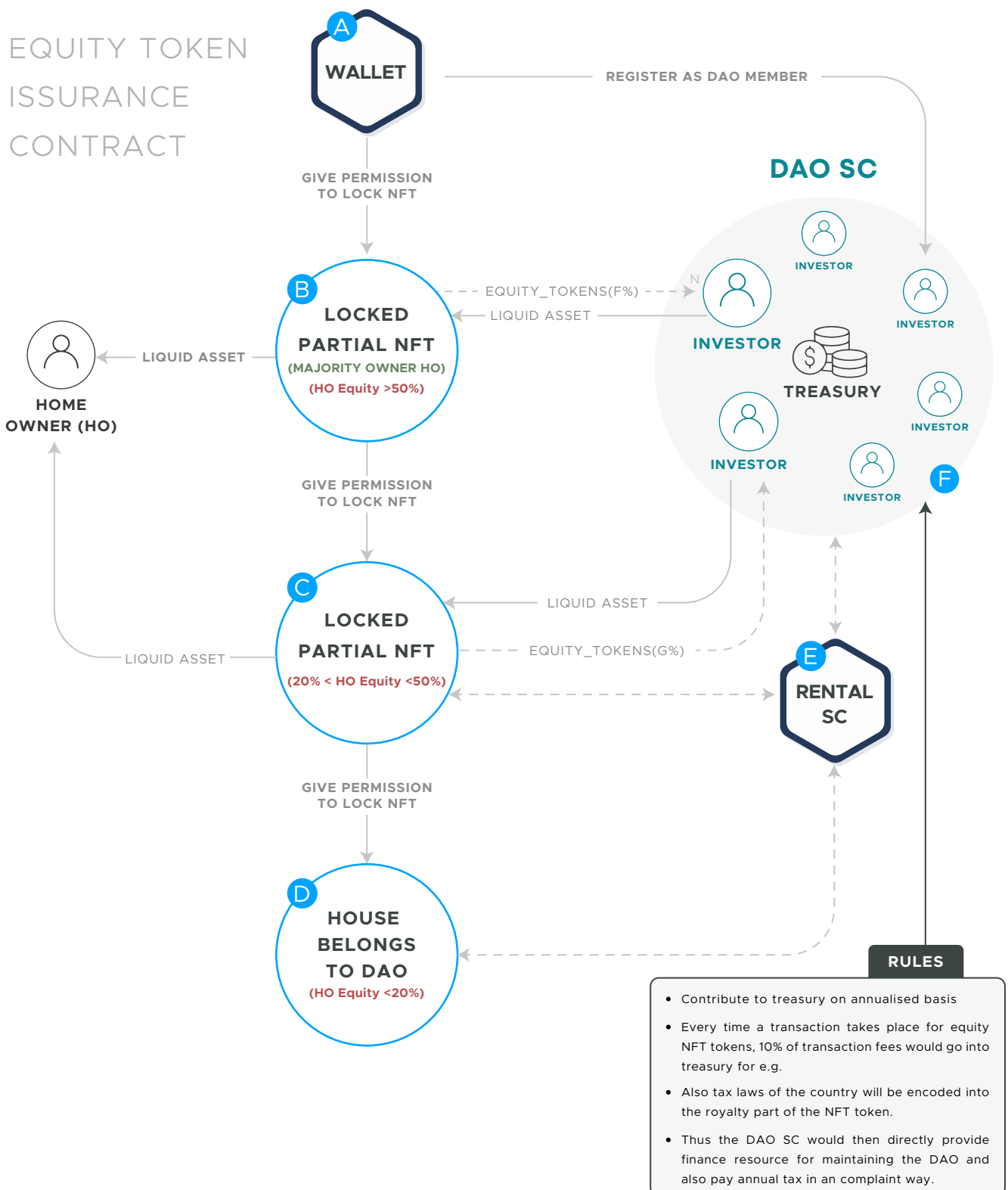
RELEASE NFT SC

This releases the NFT tokens from being locked to a free state and returns it to the owner.

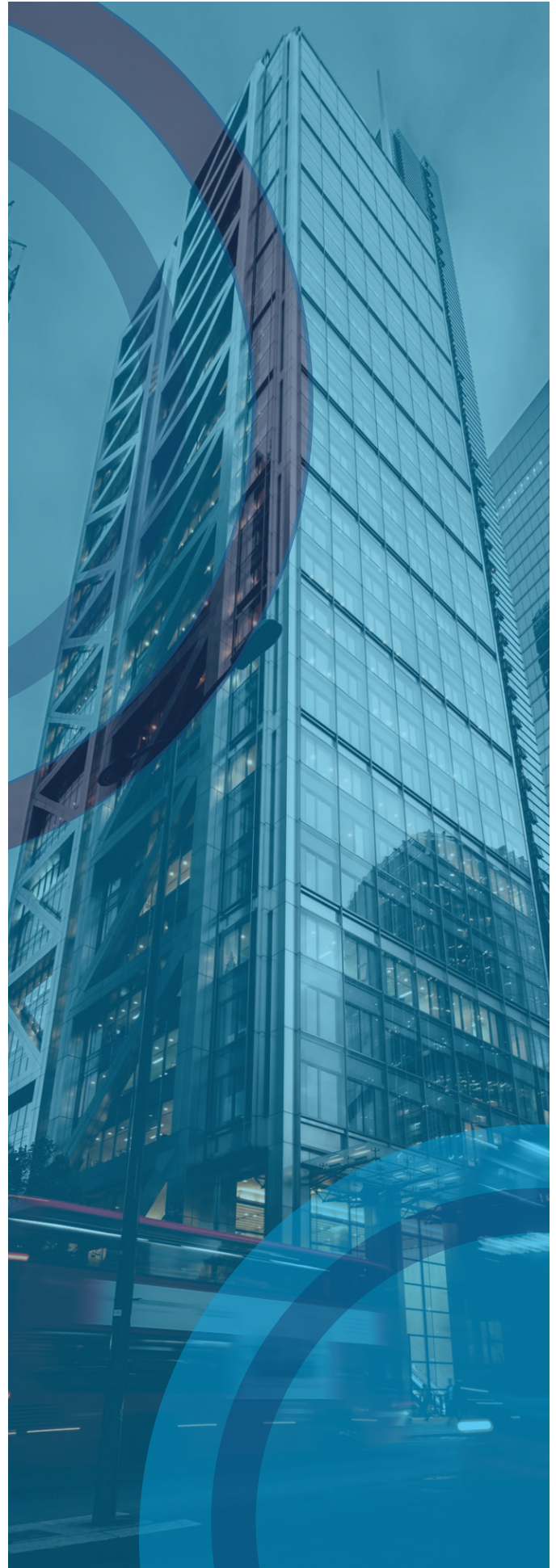


EQUITY TOKENS

CAPITAL RAISE BY DISTRIBUTING TOKENS REPRESENTING THE EQUITY IN THE ASSET COLLATERAL.



- A.** The House once hosted on the platform is put into a DAO (Decentralised autonomous organisation) and an NFT is issued for this Asset. If the owner chooses to use this Asset as a collateral and raise capital then members of a DAO community may extract value against an asset using an equity token. After necessary verification and hosting of a house on the platform, the house owner grants permission to have it locked in an NFT.
- B.** The locked NFT then gets converted to equity tokens, that are distributed to investors. These investors in turn become part of the DAO. 20% of the house tokens are locked into the DAO and acts as security buffer for the DAO participants.
- C.** The owners are selling the equity rights of more than 20% of the House. but still has more than 50% equity left. He may or may not have to pay rent in order to stay in the House. That depends on the country laws.
- D.** When the house owner sells further equity and loses the majority stake in the House, then the default situation is that the owner becomes now a renter in his own House. And a rental contract has to be then signed for the same. The House ownership is now granted to the DAO investors community. From here on the decisions about the House needs to be taken together using community voting or something similar.
- E.** Rental fee on the property returns into the DAO SC treasury; this, together with 10% transaction fee charged on NFT bond transactions, makes up the financial resource for maintaining the DAO and settling annual Tax.
- E.** This represents the DAO community as explained above Contribute to treasury on annualized basis.



TREASURY

A TREASURY SERVES THE PURPOSE OF MAINTAINING FUNDS FOR ASSET MAINTENANCE AND DEVELOPMENT

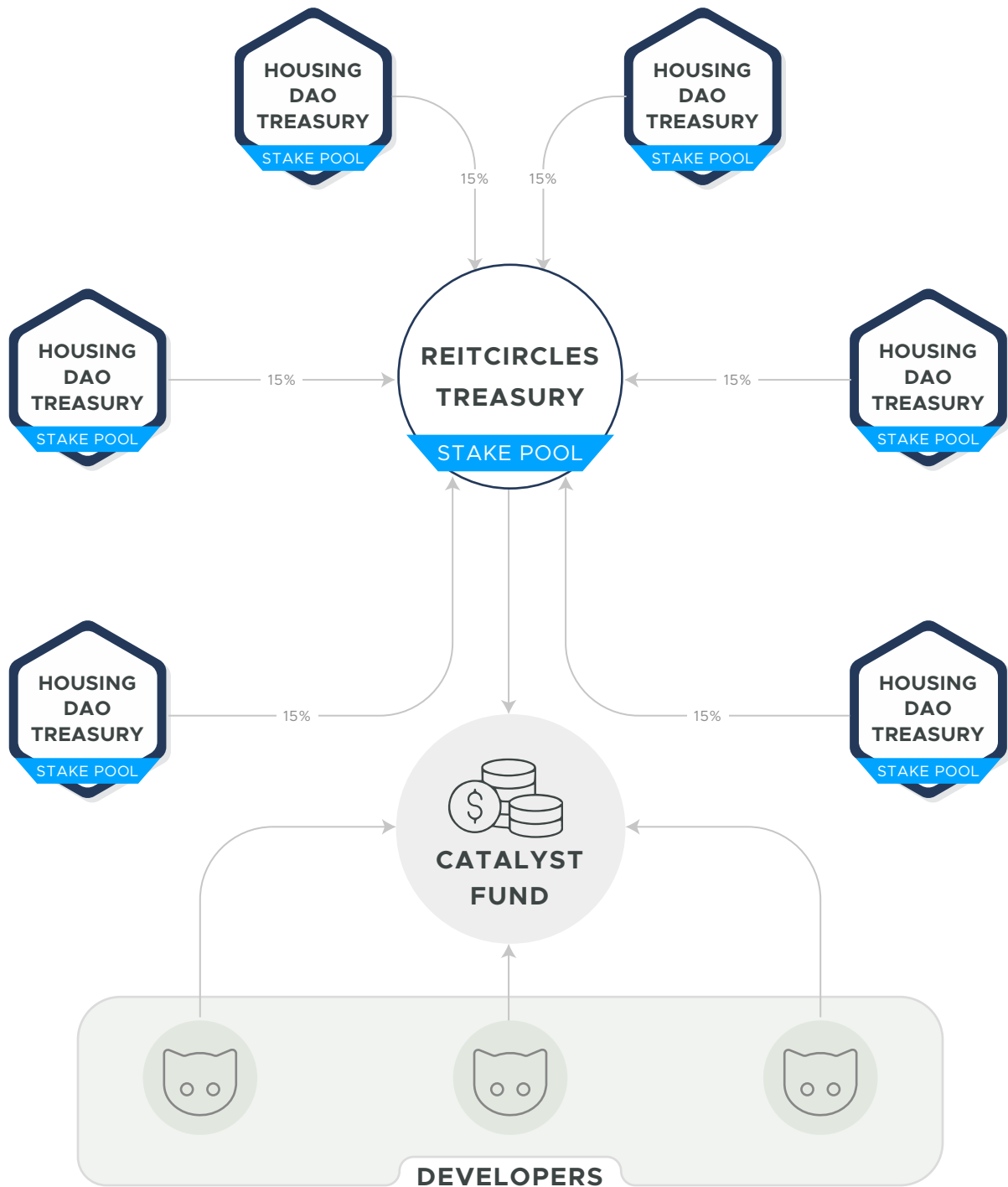
Following rules of transactions will be imposed on all transactions on the platform.

1. Every time a transaction takes place for equity tokens, 10% of transaction fees would go into treasury.
2. The tax laws of the country will be encoded into the royalty part of the NFT token. If later the exchanges and wallets implement the CIP-0027.
3. The DAO SC would then directly provide financial resources for maintaining the DAO and also pay annual tax.
4. Finally, 15% (adjustable) of the funds collected in the individual house DAO will be sent to the platform Treasury of Reitcircles to be used for the overall platform maintenance.
5. The percentage of transaction cost deducted for the treasury will be held above the minimum of 10% even if there is voting based adjustment.
6. The rewards provided for staking the DAO treasury will initially be funded from the REIT treasury. And it is meant to promote creating tools within the DAO ecosystem that enables transactions and liquidity.



STAKING

HOW THE PLATFORM PLANS TO USE THE STAKING NETWORK OF CARDANO TO PROTECT THE NETWORK



**DECENTRALISED ECOSYSTEM LEVERAGING
DAO AND STAKING POOLS OF CARDANO**

Every DAO of the house will have a treasury (in Blue above). The Treasury funding is done according to the rules stated above. And now these treasury funds instead of sitting idle, shall be used to protect the Cardano network, which natively provides the mutually beneficial relationship of staking rewards.

Therefore, subject to market conditions, the staking can be enabled and extra returns generated for the DAO participants.

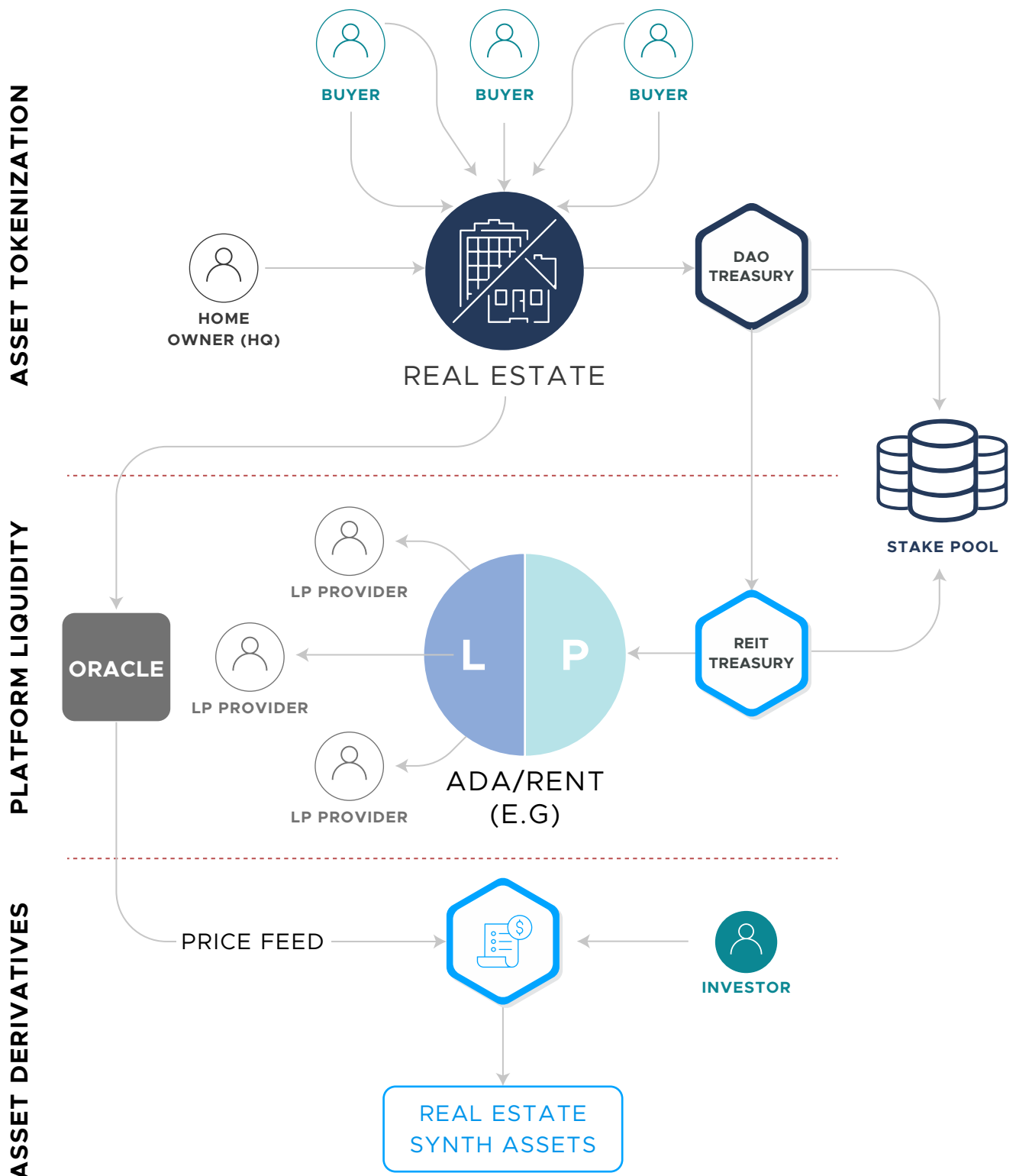
In addition to the DAO treasury of the assets, there is a central platform treasury of Rietcircles, that also gets support from the different house DAO by getting a minimum of 10% of the funds.

Finally, part of the funds from the treasury will be allocated for developing the ecosystem via catalyst project funding or creation of proper VC funds for entrepreneurs.



LIQUIDITY AND PRICE ORACLES

PLANS FOR LIQUIDITY MANAGEMENT OF THE TOKENS GENERATED ON THE PLATFORM



ASSET TOKENISATION

In this stage a real estate asset is tokenized. Owners can sell equity or borrow against this asset. In any case token-based liquidity is generated. The platform having its own bidding / swap platform is able to get an exact price feed of the various bids for a particular asset. In this way real time pricing can be obtained for a particular asset.

This data is fed into a Decentralised oracle such as chain-link. As we will see later, this data feed is critical to create a synthetic platform for real estate. In addition, each asset will have a DAO treasury where part of transaction fees is deposited. In addition, 20% of the house (may vary) is locked into this.

As a result, the treasury maintains a reasonable level of liquidity at all times, which may be used to earn staking profits via Cardano stake pools.

PLATFORM LIQUIDITY

The platform itself has its own treasury that will initially give out rewards to the community for providing capital using liquidity pools. The funds generated in this pool can also be used to invest into staking and into real estate Bonds / equity tokens for generating returns (equity appreciation, bond returns or rental returns).

This mutually beneficial relationship of the platform supporting liquidity needs of the real estate (initially at least) and in turn the DAO treasury feeding back into platform treasury, will lead to a positive growth curve for the ecosystem and its participants.

ASSET DERIVATIVES

As time progresses, and real time data feed becomes better, connectivity can be established to platform like Maladex and other similar ones.

Then for each asset a synthetic can be created allowing investors to create derivative instruments that are trade able. In this way the platform benefits from earnings generated from the oracle feeds and also enables greater exposure of the assets and price discovery in these markets.

Publishing the real-time bidding prices of the assets.

The price feeds that are available from trading the assets would be available for consumption by the oracles. The exact oracle partnership is yet to be announced.

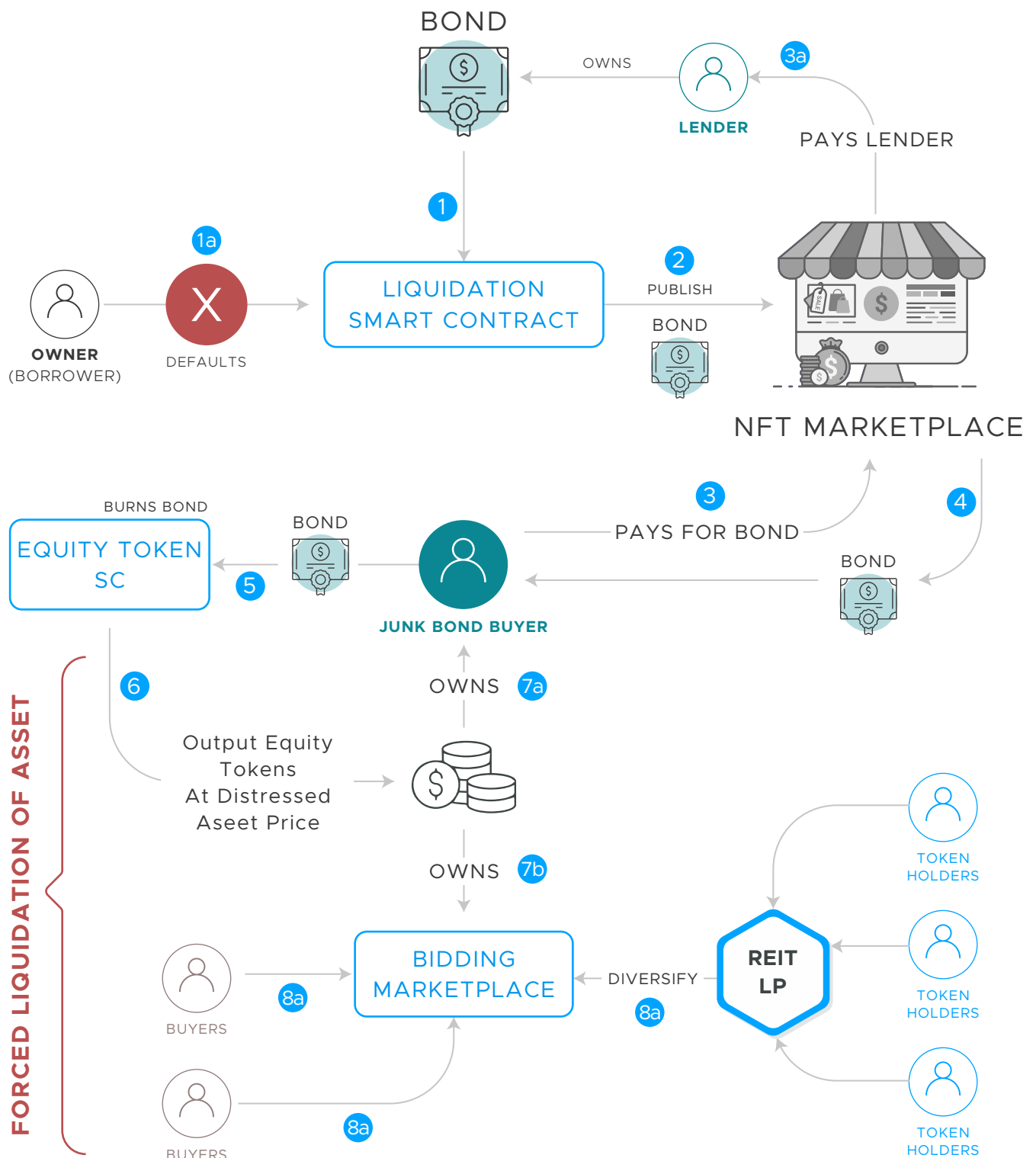
These oracles will help to create the synthetic assets associated with the assets. Such derivative instruments associated with the Asset will open up price discovery and further improve liquidity in the real estate market.



LIQUIDATION

THE PROCESS OF LIQUIDATION OF ASSETS

THE PROCESS OF LIQUIDATION OF AN ASSET IS TRIGGERED IN THE BAD WEATHER SCENARIO, WHERE THE ASSET OWNER COULD NOT REPAY BACK THE LOAN.



STEP ID	DESCRIPTION
1	The bond owner (Lender) submits the Bond at the maturity date
1a	Owner who borrow the money using NFT Bond contract defaults (unable to pay back the principal and interest).
2	The liquidation contract auto publishes the Bond in the NFT marketplace
3, 3a	Junk Bond buyer now buys the Bond from the marketplace at a discount. The money given is now transferred to the original bond owner.
4	The marketplace smart contract now transfers the Bond to the wallet of the Junk bond buyer.
5	Now Junk bond buyer submits this Bond to the Smart equity contract for forced Liquidation of the Asset (the owner cannot object as he has defaulted).
6	At a pre-agreed rate, part of the House is liquidated (remember that the House NFT is already locked in the Smart Contract, and hence this is possible).
7a	The equity tokens are transferred to the Junk Bond owner.
7b	The bond owner now can put the tokens in the marketplace or hold them as they will appreciate over time and, in certain circumstances, will also enable rental income to be acquired as passive income.
8	The bidding marketplace attracts buyers from REIT token holders (who have contributed to the liquidity pool). These investors now have the opportunity to diversify in small amounts into real estate.

DAO APPLICATION & MEMBERSHIP

DAO APPLICATIONS

Due to asset tokenisation and greater liquidity generated for the assets on the platform, and the management of the asset using DAO as the governing entity, we now have the ability to connect the different parts of the ecosystem in one single application. This application will be oriented towards the end consumer and connect the different parts of the value chain.

A concept for this is being worked upon and will be published later.

MEMBERS - DAO PARTICIPANTS

1. TOKEN ISSUERS

Property owners who are looking to digitise their real estate will require approval by the governance body. There will be provisions and guidelines for governance participants to authorise and issue the following types of asset tokens:

- **Real estate assets:** property bond-type tokens, property shares type tokens.
- **Digital assets:** asset derivative tokens, digital native tokens

2. OFFLINE GOVERNANCE

Offline governance consists of a group of real estate facilitators and representatives selected by active participants. Offline governance has a contractual relationship with the issuer of real estate tokens and is responsible for the approval of asset tokens.

Verification agencies for example would fall in this category. They are not active DAO participants but help to validate the tokens issued on the platform.

3. ONLINE GOVERNANCE

Online governance consists of active participants and delegations. The online governance group has the authority to review and approve asset tokens proposed by the offline governance team. Participants may also vote for other policies related to the protocol.

Real estate agents or House owners that actually participate in hosting the assets on the platform would fall in this category. They have an active role in selling the tokens and maintaining the value of the assets.

4. DEVELOPER GROUPS

The business model revolves around supporting of treasury of the Reitcircles platform. And part of the treasury fund will fund development of dApps on the platform for supporting global expansion of the platform.

Hosting of hackathons, virtual global conferences and such similar events will be part of this, to promote the assets on sale.

5. AGENCIES

Agencies that contribute to the protocol's core components (issuance, distribution, liquidations, pricing) will assist in securing and maintaining the entire system. They will be incentivised by collecting fixed fees during the execution of each component.

1. ORACLE NODES

Oracles provide real-world asset prices to protocols. The current price will be the leading indicator for the issuance, distribution, and liquidation of asset tokens.

2. BOND BUYERS

Licensed companies or individuals assigned to refinance property bond-type tokens in case the issuer fails to redeem the tokens before the deadline. During a mortgage agreement, the tokens can be claimed at a lower price than the usual acquisition price, and if the issuer fails to repay the outstanding charges the property will be liquidated and the entire proceeds will be distributed to the asset token holders.

3. LAW FIRMS

Designated law firms will provide legal services related to the review, consultation, and documentation for real estate token issuances. These firms will receive fees from real estate token issuers depending on the type of services involved.

4. DEBT COLLECTORS (LIQUIDATORS)

Liquidators will monitor the real estate prices and its representative tokens to reduce liquidity risk.



TOKEN ALLOCATIONS

TOKENOMICS

The native Token for this project on the Cardano Blockchain is Reittoken.

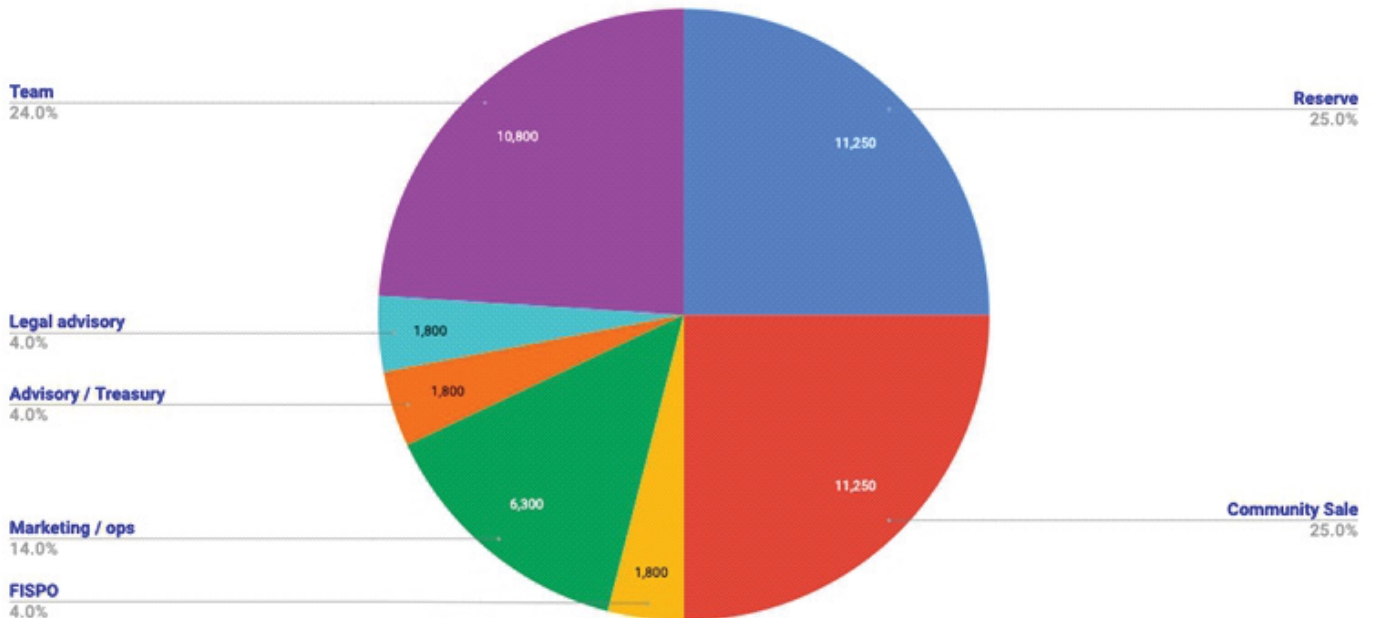
MAIN USAGE OF THIS TOKEN

1. Transactions fees for buying and selling of the real estate NFT assets using decentralised network.
2. Governance of the protocol
3. Treasury
4. Minting unique NFT's

OUT OF A TOTAL OF 100% TOKENS:

- 24.0% goes for the team
- 4.0% goes for legal advisory
- 4.0% goes for Advisory/Treasury
- 14% goes for marketing
- 4.0% goes to FISPO
- 25% is held in reserve
- 25% community sale

REIT token Distribution (in Millions)



PRIVATE SALES

The private sales will be a channel to reserve some tokens for mid/large cap investors who would like a direct channel to acquire the tokens at a presumed fixed valuation corresponding to an early sale.

INITIAL STAKE POOL OFFERINGS (ISPO)

ISPO is the fairest way to democratize participation in initial token distribution and allows a proportionate distribution of value across all segments of investors. A fixed number of tokens will be allocated for this value distribution channel.

TEAM REWARDS

This is a natural extension of reward distribution to the employees and advisors of ReitCircles. They will have a stake in the development and progress of the company they are working for and participate in developing this protocol. The exact distribution and split will be determined later and published here.

MARKETING OPS

This budget will help grow the platform and ecosystem for interoperability in partnership with DEX and existing real estate platforms.

RESERVE FOR STAKING

We are working on decentralizing as much as possible the entire protocol, related to transactions for real estate bids and other functionalities on this platform.

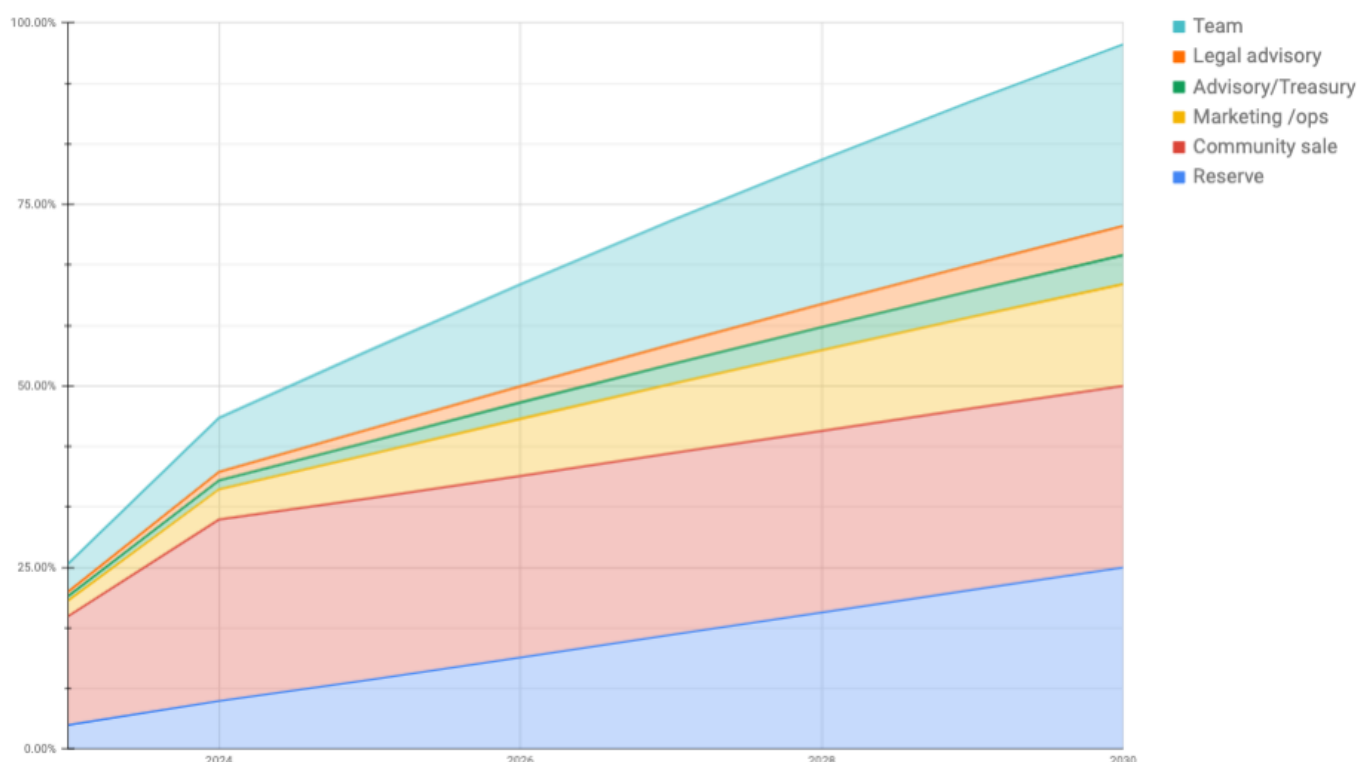
It means we will be using appropriate technology in Cardano and use the POS network for this process. Thus all work related to verification of assets, hosting of assets should be decentralised and marketplace participants will be incentivised for their work using staking based returns.

So returns in reward for work done to host / verify / review / other platform related activities.

TOKEN SCHEDULE AND ALLOCATION

The tokens will be released in phases so that the token distribution is more uniform and spread across different project phases. It also allows investor participation at a later stage

REIT Token release over years



FOUNDATION

The Foundation will be an organization and will have the following goals.

1. Work on setting goals for the protocol so that it spreads power to the edges in the area of real estate transactions.
2. Work on creating partnerships to enhance the utility and value of the protocol.
3. Work on enabling a global developer ecosystem platform that takes care of Decentralised application development on the tool chains built, and this will genuinely ensure that even the smallest of the real estate agents in a remote part of the world can use this platform to enable their small team to deliver a world-class experience to their local community in terms of buying/selling of assets.
4. Work on creating a global mindset and far-reaching collaboration with the largest of real estate players so that it is a win-win for all and ensures the goal 1 set above.
5. Work on developing proper B2B channels both to large-cap clients and government organizations as real estate sits at the boundary of these.

LABS

The labs are for developing the protocol and kickstarting the initial set of tools to kickstart the ecosystem. Laying the base protocol will be handed over to the Foundation, who will maintain and extend it.

THE GOALS OF THE LAB ARE:

1. Work on developing the basic protocols that lead to decentralization of the critical functions in the real estate transactions.
2. Integrate with other partners in the ecosystem, not recreate the wheel.

Make the protocol function in a specific segment of the prominent real estate ecosystem and create a real-world example showing use and utility.



RISKS

LIQUIDITY RISK

The acquisition of Tokens has liquidity concerns that could result in a Token holder losing money: Our Tokens have no existing trading market, and we cannot promise that they will be traded on any exchange or secondary market. The Tokens are a fresh issuance of digital assets for which no public market has been established.

Finally, due to poor or non-existent demand or negotiability, it may be difficult to sell real estate assets at times. In such situations, we may have difficulty negotiating or disposing of such assets at a reasonable price or within a reasonable time frame.

In order to address the liquidity concerns above, the Reitcircles platform has taken an integrated approach as shown in 'Liquidity' product section".

This will enable cycling of liquidity between the real estate market and the platform Liquidity pool, by using treasury system. In addition passive income generation will be enabled using staking pools in the Cardano ecosystem.

PHYSICAL RISK

The chance that an investment property would incur unanticipated charges or capital expenditure due to its physical condition is known as physical asset risk. This is especially true for older homes that have been neglected. These properties may require costly repairs or modifications, reducing the investment's profitability. Before concluding a sale, investors can limit physical asset risk by doing technical due diligence.

Note also that Reitcircles will have provision provided to the owners to reduce this risk by asking them to upload "House Report conducted by an external verification agency". This minimizes the risk of people investing into an asset with false claims, and reduces the reputation risk of the platform.

Reitcircles will only onboard projects after extensive due diligence. Reports by established agencies will be used to review the current condition and pricing of the assets.

We have plans to introduce regular auditing of the assets to see that the investors are being properly served.

GEOGRAPHIC RISK

The population, demography, and job growth within the property's market are all determined by its geographic location, all of which can have an impact on the size of the renter pool and accompanying demand. Primary markets with a bigger tenant pool provide a cushion in the case of a market slump, but they are also more expensive.

A crucial consideration is the market in which an investment property is located. A robust market is marked by high occupancy rates and continuously rising rental prices. A surge in new developments within the market or a weakening economy are both risk factors that can affect the supply and demand for property and land.

As we go ahead, data analytics will be introduced into the platform for people to decide for themselves the risk vs reward of owning assets in a particular geography.

DEVELOPMENT RISK

There is development risk connected with a property that requires considerable development or redevelopment, which might take the shape of construction risk or entitlement risk. Construction risk refers to the possibility that the project may not be completed on time, resulting in greater construction expenses, or that problems will be discovered after completion. If the investment contains a development component, it is critical to ensure that the sponsor has relevant experience in construction project management.

When attempting to acquire a property and develop it for a specified purpose, there is a danger that government authorities with jurisdiction over the property will refuse to grant the necessary approvals to allow the project to move forward. This is common in new development projects, which often necessitate a lengthy entitlement process to acquire construction approvals. This must be completed before work can begin.

The length of time it takes for approval to be obtained is frequently unpredictable, and it can cause construction dates to be pushed back, affecting the property investment's profitability. We will be working with already existing Assets initially and hence this risk will be minimal from our point of view.

In order to avoid this risk segment totally, the platform will focus only on established assets and not on half complete assets. Hence till the time we allow fund raising for new projects this risk is non-existent for Reitcircles.

LEGAL AND REGULATORY

We are required to comply with the applicable laws and regulations of various jurisdictions. We cannot guarantee that our internal policies and procedures will be sufficient to prevent or detect any inappropriate practices, fraud or violations of law, especially by other participants.

Within the ecosystem, affiliates, employees, officers, executives, partners and agents. We will do our good diligence by collaborating with credible KYC service providers and make the verification process as stringent as we can.

We urge all investors to also exercise reasonable diligence as we shall not be responsible for any violation incurred or suffered by lack of doing diligence. We urge all participants to carefully access the risks and only take risks they are confident of taking personal responsibility for.

Further, kindly ensure that your dealing with our platform is at all times consistent with the legal code of your country, as we would bear no responsibility for your infractions.

SMART CONTRACT RISK

Smart contract technology is currently in the early stages of research, and its use is purely experimental.

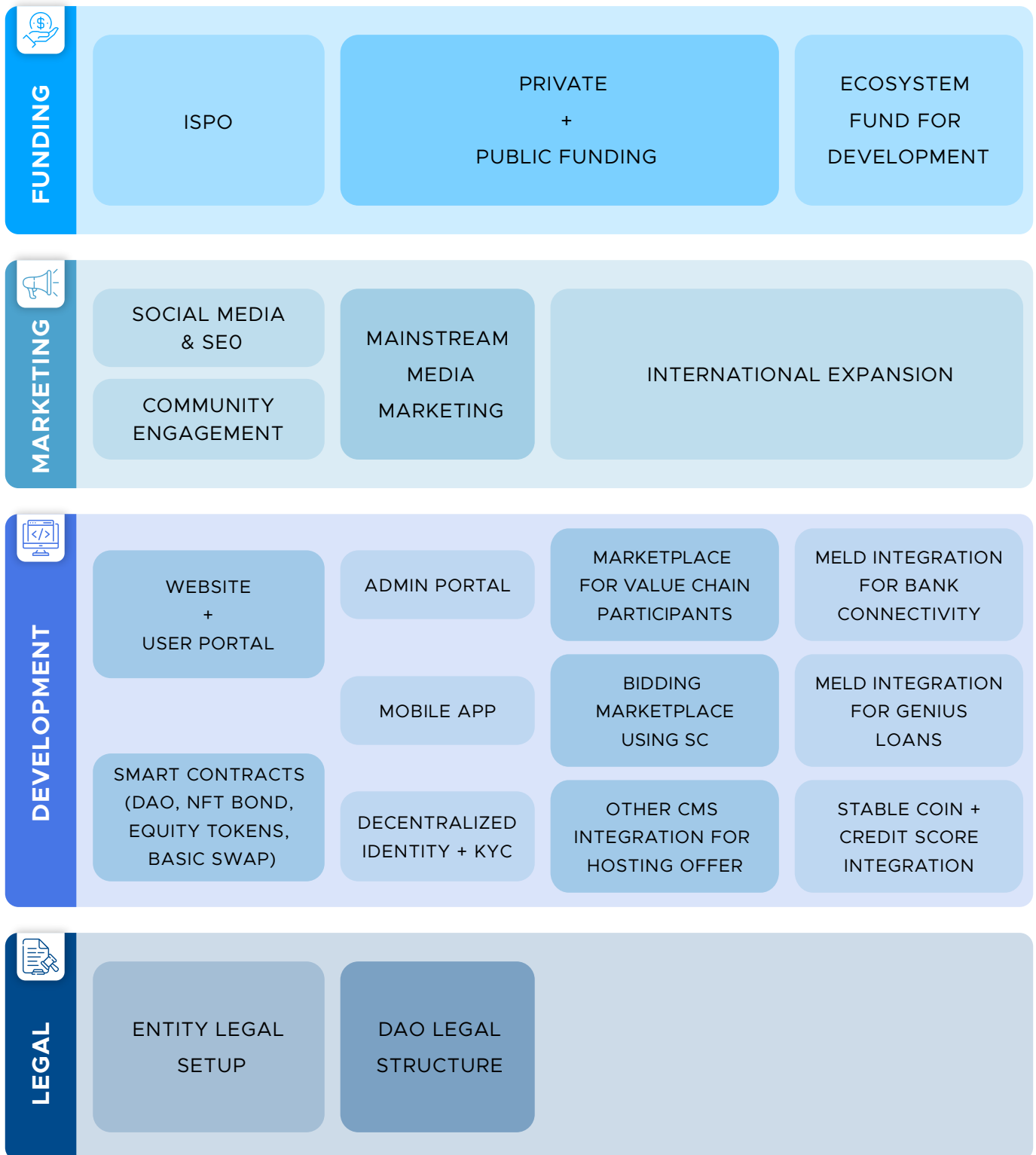
Significant operational, technological, regulatory, reputational, and financial risks are associated with this. Smart contracts may not be suitable for the Issuer's intended purpose and may contain faults, vulnerabilities, or other concerns, resulting in technical difficulties or the loss of all Tokens.

In order to reduce risk, and vulnerability of smart contracts, we in Cardano ecosystem, will enable auditing of the contracts by external companies.

This in-depth testing and vetting of the contracts is possible because of the underlying technology of functional programming using Haskell and predictive transaction pricing model using eUTXO for accounting.

ROADMAP

OVERVIEW OF THE TEAM ROADMAP



***NOTE : That this roadmap is strictly provisional and may be subject to changes as the need arises. Also, there is no set time frame to implement this roadmap; execution would be made in due time as financial and other relevant resources become available.

MACRO ECONOMY

THE MACRO-ECONOMIC SITUATION THAT MAKES TOKENIZING THE REAL ESTATE MARKET MORE ATTRACTIVE

HOUSE OWNERSHIP

The NFT tokens that are issued on the platform are the single source of truth about the Asset that is being sold. Therefore it is important to specify the different metadata carried by this Token. Currently there is no specific standard for this, hence we define what we feel as adequate for value representation of the Asset on chain.

First, we take a look at the demographic of the USA for the coming decade. It clearly shows that younger people (30-35-45 yrs) will dominate the overall population in the coming 10-15 years, as shown in Fig 1. Therefore, these millennials will want to settle down with their growing family, and on the other hand, the retiring age group (55-65+) would want to release the equity of their houses to beef up their retirement bucket (for cash flow).

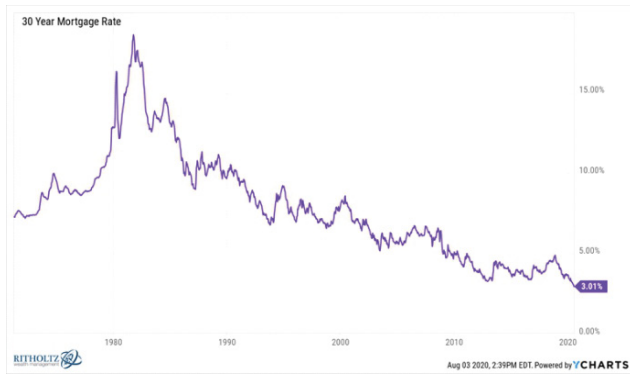
Rank	2020	2025	2030	2035
1	25 to 29 years	30 to 34 years	35 to 39 years	40 to 44 years
2	30 to 34 years	35 to 39 years	40 to 44 years	35 to 39 years
3	35 to 39 years	25 to 29 years	30 to 34 years	30 to 34 years
4	20 to 24 years	40 to 44 years	25 to 29 years	45 to 49 years
5	55 to 59 years	20 to 24 years	20 to 24 years	25 to 29 years
6	15 to 19 years	15 to 19 years	45 to 49 years	20 to 24 years
7	60 to 64 years	60 to 64 years	5 to 9 years	50 to 54 years
8	10 to 14 years	Under 5 years	10 to 14 years	15 to 19 years
9	50 to 54 years	5 to 9 years	Under 5 years	10 to 14 years
10	Under 5 years	10 to 14 years	15 to 19 years	5 to 9 years

Source: US Census

***FIG 1: USA demographic by age group dominance (in numbers of people in the country in that age range).

So, for example, 25-29 years of age people will be the most significant number in 2020 in the USA. By 2035 this age group would be shifted to 40-44 years.



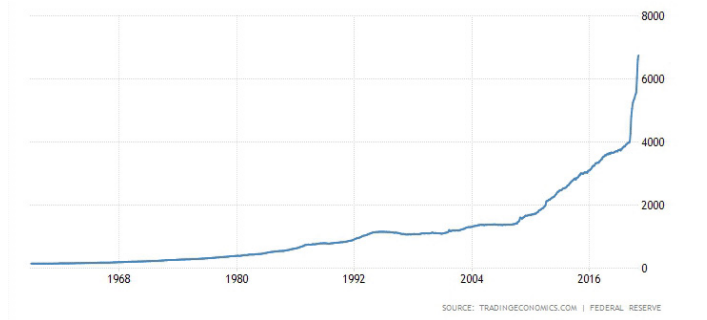


***FIG 2: The USA's long-term 30 years mortgage interest rate. We are at the point of lowest interest in the last 30 years. This is not sustainable, and hence owning a house will eventually become more and more expensive over the coming decade.

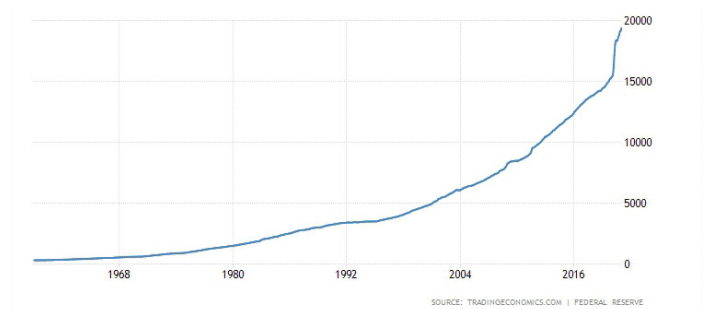


***FIG 3: The supply of the new housing permits has also dipped during this COVID-19 crisis. This lower supply means that the demand curve would likely outweigh the supply side, keeping the prices of houses higher (while mortgage interest rates remain lower).

We are going forward into this decade because of COVID-19; we have had a massive increase in money supply (free money without any productive labor) given to the working population in the USA. This can be seen in the money supply (M1 and M2) charts in Fig 4 and Fig 5. We have printed more money in 2 years than what was printed in the last 40 years!. Because of the nature of real estate in preserving the value of money over time, much of this capital will be poured into mortgage repayments and cycled into the housing market.



***FIG 4: Money Supply M1 in the United States increased to 6750.90 USD Billion in January from 6619.40 USD Billion in December 2020. M1 money supply includes coins and currency in circulation and not held by the US treasury or Federal reserve.



***FIG 5: Money Supply M2 in the United States increased to 19395.30 USD Billion in January from 19186.90 USD Billion in December 2020. M2 money supply includes M1 and includes savings, money market funds, certificates of deposits, and other time deposits.



These artificial injections of capital will have a long-term impact of stealing the future generation's wealth. Money cannot be printed out of thin air. It has to be borrowed from somewhere. Either from productive human labor or, in this case, from the taxes to be paid by the future yet- to- be- born generation. In principle, what we are doing is that the future generation will be indirectly/directly taxed in all areas of their life and pay for the misdeeds and greed of the current generation.

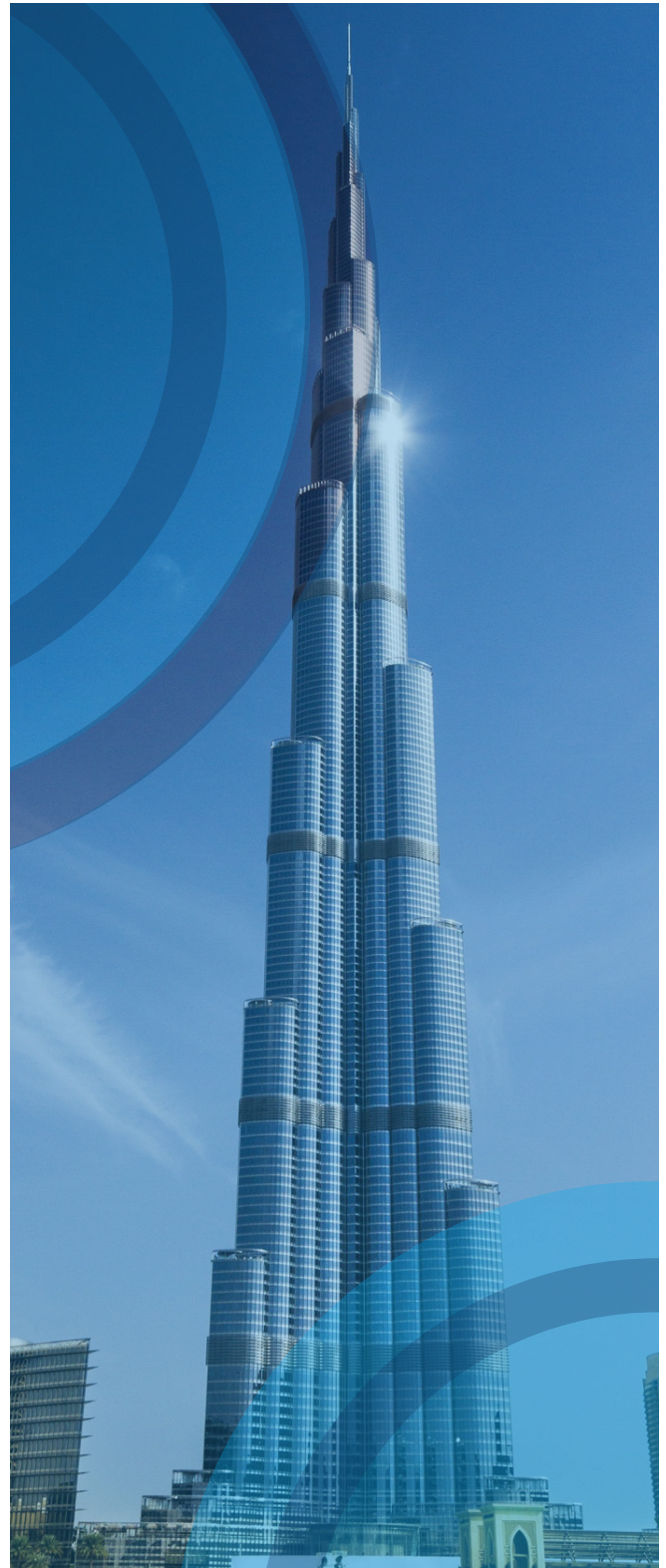
This macroeconomic phenomenon where the free money has been locked up in the real estate, and finally, the burden passed on to the millennials in the form of housing loans will negatively impact.

Therefore, the debt carried by the future working generation will mean the wealth that they generate by working will be spent mainly on financing higher house prices, study loans, and other necessities of life. Therefore, it would mean that a large amount of wealth locked up in their houses may need to be cycled at some point in their career, and for that, the current housing system is ill-equipped to do so.

The banks that control the current system are not set up to help when people fall on difficult times. For example, if a person has been paying his mortgage for 5-7 years and now is unable to pay his dues for 2-3 months because he has lost his job and has no other backup cash flow, then he would have his House seized by the bank and will be put up on the market at a reduced price. All this person's hard work is neither rewarded nor looked into.

So, although the person may have added value to his House, he is unable to unlock this and overcome this period of crisis.

Our platform Reitcircles takes a broader and long-term view on this segment and tries to solve the above macro-economic issues by helping average house owners use their hard-earned Asset to finance some of their daily needs in times of hardship and also to reinvest and diversify into other assets classes, that can bring in higher returns.



SEGMENTS

Market segmentation is the careful sub-division of the market into smaller target units that may participate in the broader ecosystem.

INDIVIDUAL OWNERSHIP

DISTRESSED FAMILIES

Millennials who are passing through difficult times need some stop-gap capital they have invested in their own House. In this case, they could unlock part of the house value using NFT, and then when they are in a good situation again, try to buy back their share in the open market by paying a better price.

MULTIPLE HOUSE OWNERS

In this segment, multiple house owners get 2% or less rental returns annually. In some places like India, rental returns are even lower than 2%. Now, after some time, when these owners want to liquidate part of their holding and take out the capital locked up in the House itself (appreciated over 10+ years, for example) without losing the rental income, they would be able to do that using this platform.

The houses can then be converted to NFT and are auctioned off on the REIT token platform. Right now, it would mean going through the hassle of selling off the House, and if there are tenants, the market will value the House at a 30% discount sometimes and host the hassle of paying taxes, etc. In a word, inconvenient.

INDIVIDUAL OWNED HOUSES

Hosting and transactions involving individually owned houses would be accessible on the Reitcircles platform. After the KYC and other essential verification of house ownership, the House will be cryptographically encrypted in a unique NFT certificate to the Asset.

When the need arises, and the owner wishes to sell a partial interest in his property, he will be locking the above NFT into a contract and issuing partial NFTs traded against REIT tokens on the marketplace.

Government-owned social housing scheme Individuals may only have partial or temporary interest in government-issued social houses. Permitting the hosting and tokenization of such property on the Reitcircles will entail reasonable diligence to ensure the actual extent of individual interest in such property. More care must also be given to ensuring compliance with relevant regulatory requirements in respective jurisdictions.

Social housing schemes permit the tenants to exercise the right to buy the house eventually. For instance, since 2014, most social housing schemes in Canada have been redesigned to serve as mere rental housing, where low-income holders are permitted temporary residency. The housing unit goes back to the government. It might be safer to allow such houses to be hosted on the Reitcircles platform in such a situation.

It could be safely assumed that hosting social housing apartments will be determined based on the particular facts of each instance.

Corporate estate market Corporate real estate (CRE) is a property used solely for commercial purposes or to offer a workspace instead of residential real estate, which is utilized for living purposes. Commercial real estate is frequently leased to tenants to conduct income-generating operations.

This vast estate category can range from a single storefront to a large shopping mall. Corporate real estate houses may include office space, industrial buildings, and retail buildings. Familiar owners whose corporate property is hosted are granted ownership tokens which make them eligible to get rental returns in REIT tokens on the platform. The tokens may be swapped to their preferred national currency in market places.

CORPORATE OWNERSHIP COWORKING SPACES

Large corporate houses own coworking spaces, and many of these could end up being utilized and hence becomes a liability for the owners.

To reduce the risk for owners, they could instead rent out the spaces using NFT on this platform.

Again, the process is similar to homeownership, but instead of just fractional equity ownership, the NFT could represent rental tokens with time-based slots on sale.

Therefore, every rental unit (say a desk or a 2m2 rental) would be minted as NFT. Every account on this platform will be associated with a vault, wallet, and staking address. And all rental returns associated with this NFT, People have a choice to buy and trade these with others in the marketplace.

And these would gain value with time due to the following reasons:

1. They are scarce
2. Enables collection of rental returns on these assets. An app to enable this would be released, which can be used to.

VACATION RENTALS

This is a particular area where the equity tokens issued on the platform can lead to greater liquidity and the ability to raise funds in the open market using targeted and personalized offerings.



CAUTION & LEGAL DISCLOSURE

CAUTION

The ReitCircles shall not, under any circumstances, constitute a continuing representation or create any suggestion or implication that there has been no change, or development reasonably likely to involve a material change in the affairs, conditions and prospects of ReitCircles, or in any statement of fact or information contained in this whitepaper since the date here of.

NO OFFER OF SECURITIES OR REGISTRATION

ReitCircles & the whitepaper does not constitute a prospectus or offer document of any sort and is not intended to constitute an offer of securities or a solicitation for investment in securities in any jurisdiction.

You are not eligible to purchase any ReitTokens in the Recircles platform offering or trade your real estate in any jurisdiction in which tokenized real-estate is not permitted. No regulatory authority has examined or approved of any of the information set out in this whitepaper.

NO ADVICE

No information in this whitepaper should be considered to be business, legal, financial or tax advice regarding ReitCircles. Please consult your own legal, financial, tax or other professional adviser regarding ReitCircles.

LEGAL DISCLOSURE

This Whitepaper discusses an opportunity for the verification and acquisition of real estate assets that will offer sellers liquidity of their real-world real estate properties, particularly in distressed situations. Our tokenized NFTs will

- (i) Provide legal ownership to the holder; Our tokenized NFTs will provide legal ownership to the holder;
- (ii) Aid unlock value and facilitate distribution to small individual investors; and
- (iii) Provide voting/ governance/ typical shareholder rights to numerous partial title holders in a big collective property.

This Whitepaper is not a prospectus, offering memorandum, or other offering document for the Issuer, and it has not been reviewed or authorized by any financial regulator or securities commission in any jurisdiction. Investing in Tokens has a number of risks.

There is no guarantee that Token holders will receive a return on their investment or any good returns on their token purchases. Prospective purchasers should carefully study the portion of this Whitepaper under "Risk Factors" before investing in Tokens, which, although not offering a complete list or explanation of all issues that purchasers may encounter when investing in Tokens, should be used as a guideline.

Prospective purchasers should consider carefully whether a purchase of Tokens is suitable for them considering the information herein and their personal legal and financial circumstances.

Unless otherwise indicated or the context otherwise required, all references in this Whitepaper to "we", "our", "ours", "us" or similar terms refer to the "ReitCircles" team.

FORWARD LOOKING STATEMENT

This Whitepaper may contain estimates and forward- looking statements that are primarily based on current expectations and estimates of future events and trends that affect or may affect the business, financial condition, results of operations, cash flows, liquidity, prospects, and the Tokens' anticipated valuation. Although we believe that these estimates and forward-looking statements are based on reasonable assumptions, they are subject to numerous significant risks and uncertainties, and are made based on the most recent available information. Forward-looking statements speak only as of the date they were made, and we assume no obligation to publicly update or revise any forward-looking statements after we distribute this document due to new information, future events, or other factors. The forward-looking events and circumstances discussed in this document may not materialize, and future results may be materially different from those stated in or suggested by these forward-looking statements, given the risks and uncertainties described above.

Actual events, results, performance, or accomplishments may vary substantially from the estimations or results suggested or expressed in such forward-looking statements due to known and unknown risks, uncertainties, and other factors.

THESE FACTORS INCLUDE, BUT ARE NOT LIMITED TO:

- A. Changes in the political, social, economic, and stock or cryptocurrency market conditions, as well as the regulatory environment in the countries where the Issuer conducts its businesses and operations;
- B. The risk that the Issuer will be unable to execute or implement its respective business strategy and future plans.
- C. Interest rates and exchange values of fiat currency and cryptocurrencies fluctuate;
- D. Alterations in the Issuer's forecasted growth strategy and internal growth;
- E. Changes in the availability and pay of staff required by the Issuer to run their respective businesses and operations.

