



# VineKross Whitepaper 2023



Vinekross

Whitepaper

2024

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# Introduction

## Krosscoin's Vision

To make blockchain useful for and used by every african, daily. We are a goal driven and super ambitious company, proven by our resilience, innovation and products. That is why we are building Africa's largest native blockchain community to help make our stated vision a reality.

Through our native **Kross blockchain**, which is **Africa's first programmable chain and Nigeria's First Blockchain network** and **Hashgreed**, which is **Africa's First asset tokenization platform**, as well as other platforms, we are beginning to make this a reality. Hashgreed is our first major user facing web3 product and Kross blockchain is our blockchain infrastructure. There will be more products developed by Krosscoin Project and also by third party developers on the Kross chain and monetized with the KSS coin.

Together we will make Africa a global force of innovation using the power of Blockchain technology and Artificial Intelligence convergence.

# The Ecosystem

## World's First 100% Real Estate Backed Layer 1 Coin:

The Krosscoin project ecosystem contains a native Layer 1 blockchain infrastructure called Kross blockchain, an Asset tokenization/NFT marketplace, called Hashgreed and a mobile app wallet for KSS coin, Kross based assets and NFTs called HashPay. HashPay is the first NFT management app from Africa listed on both the Google Play store and the Apple app store.

Together they allow for tokenization of real world assets at scale without paying fees to a third party blockchain, such as Real Estate, Companies, Commercial properties so that anybody can own fractional ownership of revenue producing assets. Our core business is Asset tokenization and we are Africa's first Asset Tokenization Platform.

The KSS coin is 100% backed by Real Estate. Current circulation before this updated whitepaper has been backed by equivalent value in Real Estate. All future KSS sale proceeds by the Krosscoin project will be used to acquire Real Estate assets at the earliest level.

Liquidity Providers and Registered/KYC'd Liquidity Providers can step in with confidence to provide exit liquidity to KSS coin holders. Only Registered Liquidity Providers can exchange KSS directly for KAT tokens. KAT (Kross Asset Tokens) is the proxy token for acquired and tokenized real estate assets from KSS coin sales.

This is an innovative and novel approach to bringing value, reducing excessive volatility and speculation of Layer 1 coins. It allows users to build with confidence on the Kross blockchain, knowing their acquired KSS coins is backed and can be used as loyalty rewards, marketing, and retention of their product users.

# The Problems facing the African Youth

Africa is the continent with the youngest population worldwide. As of 2021, around 40 percent of the population is aged 15 years and younger, compared to a global average of 26 percent. (source: statista July 2022). Also at least there are 450 million Africans aged 15-45 years and these are the problems hindering them from achieving their highest potential.

## Problem 1: Under-employment

With a continental literacy rate of about 70%, and a much higher rate of literacy of Africans in the diaspora, the continent still suffers from under-employment leading to millions of underpaid people. This can be attributed to corrupt governments, high cost of internet and data services, low or absent manufacturing in many parts of Africa, insufficient direct foreign investment and Very poor lending culture of the banks to the SMEs.

## Problem 2: Lack of inclusion in prime investing opportunities

The low wages compared to that of developed countries further excludes a majority of africans from participating in prime investing opportunities and prime asset ownership. As a result, they are the most susceptible to declining purchasing power due to high inflation and currency devaluation. Only the rich and high middle class can afford to invest in early stage tech and manufacturing startups, receive financing for prime real estate development and be able to beat inflation. Majority are excluded and are just worrying about surviving.

## **Problem 3: Intellectual Property theft**

IP Protection laws are hardly enforced in Africa, especially in Africa's largest economy- Nigeria. Nigeria is a haven of creativity, culture and innovation. It leads the continent and even now the world in music, arts and has produced several unicorns in the last 2 years. Content creators and visual artists need protection from copycats, content thieves to maximize their output. There needs to be a safe and quiet way to prove ownership of intellectual property at any time without going through lots of bureaucracy and difficulty

## **Problem 4: Inefficient Marketplaces**

There are a plethora of ecommerce platforms in Africa. With increasing access to the internet, and the proliferation of smartphones, Africans are embracing digital web2.0 platforms for both B2B, B2C and B2BC trade. Nevertheless, insufficient electricity generation, several points of failure and suboptimal communication networks render payments with debit cards inefficient.

Dispute resolution time takes too long (21-30 days), and rampant fraud is committed by both merchants and buyers. Also merchant financing is costly due to the overhead costs of managing lending.

## **Problem 5: Currency Devaluation**

Several African countries are facing ever increasing inflation and hence devaluation of their currencies. This erodes purchasing power by 50% on average every 2 years in Africa. As a result, savings accounts are no longer a good way to store money. Africans need a way to save in their local currencies while escaping or reducing the effects of inflation and currency devaluation.

# Our Solution

## Krosscoin Ecosystem

Krosscoin has already developed the necessary platforms and infrastructure to solve these problems. The Kross blockchain, a non-turing complete blockchain and hence insusceptible to outside hacks on its smart contracts, is the safest native blockchain in Africa. It allows for greater scalability of solutions, has a high throughput (over 100 tx/s) that is at least 13 times faster than Ethereum and 33 times faster than Bitcoin. Hashgreed, Africa's first NFT Marketplace is a multipurpose nft marketplace and super dapp and is loaded with easy to use web3 solutions to address a variety of Africa's problems. Kross AMM (Automatic Market Maker) and KrossLend are being developed and will help to improve liquidity of assets, power both secured and unsecured lending to individuals and businesses at very low interest rates.

## With Hashgreed, You'll be able to:

1. Create and Sell your own NFTs.
2. Invest in Real Estate NFTs.
3. Invest in Scalable Startups.
4. Buy Airtime and Data and get bonus.
5. Buy Electricity (for prepaid smart meter) and get bonus.
6. Save in USD and withdraw at anytime or Stake and get up to 5% APY.
7. Send and Receive payments in HASH (1 HASH = 1 Naira).
8. Send and Receive payments using your nickname.
9. Protect your intellectual property using our File Certification tool.
10. Send and Receive blockchain certified emails to prevent email based fraud and theft.
11. Create and send blockchain certified agreements with up to 5 counterparts.
12. Own exciting and high utility Fan NFTs of top African Celebrities.
13. Buy and Sell merchandize, clothes, electronics, groceries on our web3 commerce section- Hashdeals Marketplace.
14. Access Merchanlen.

## **Hashgreed Key Features:**

1. File/Document Certification and Storage (First IPFS enabled dapp in Africa)
2. Send and receive blockchain certified emails
3. Create blockchain certified mutual agreements with up to 5 counterparties
4. 14 NFT Economies and counting
5. Send, receive, mass send crypto and stablecoins using Nicknames or Hashgreed address
6. 5 DeFi (decentralized finance) tools; Lending, Freelance, Escrow, Staking and Trading
7. Built on Kross blockchain which has high speed, fixed and cheap transaction fees.

## **First Solution: Free Relevant Skills Training**

Hashgreed will empower Africans with relevant training and skills such as web3, blockchain and decentralized applications development. Both tech and soft skills will be in high demand in the blockchain space over the next 20 years. Already Hashgreed has trained over 100 Nigerians for free on web3 courses. Krosscoin will also invest in developers who are building solutions on Kross blockchain. Web3/blockchain knowledge provides Nigerians with global in-demand skills to earn in foreign currencies while living and investing in Nigeria which will lead to a cascading effect of job creation in the thousands.

## **Second Solution: Tokenization and Fractionalization of Assets**

Hashgreed is already the leader in Africa on Asset tokenization. Over \$40m and counting worth of assets has been allocated to Vinekross for tokenization. Tokenization and fractionalization of prime real estates, tech startup equity and other inflation resistant assets will eliminate the barrier of entry into these asset classes and increase participation and inclusion. Hashgreed's vision is to see low

income earners or seasonal workers such as students, petty traders, vocational workers own fractional shares via NFT in local prime real estates, tech and manufacturing companies as well as participating in Government bonds and other securities as a hedge against inflation. This distributes financial resilience among all the strata of society and increases participation in the capital markets.

### **Third Solution: Blockchain powered File/Document Certification and Storage**

Hashgreed's blockchain and IPFS enabled File Certification solution allows creators, institutions, businesses and individuals to quietly and safely certify, store and protect their intellectual property. The digital signature (called a hash) and the timestamp of the certification is stored in hundreds of blockchain nodes (computers) and is resilient to hacks, loss and fire.

Hashgreed seeks to partner with the copyright and IP protection agencies in Africa to equip them with this innovation and to partner with governments to strengthen IP laws. A strong IP protection culture will inadvertently encourage inventors to base in Africa and subsequently more direct foreign investments.

### **Fourth Solution: Hashgreed Commerce, Stable Coins and DeFi Lending**

Powered by secure smart contracts (which are simply programs stored on a blockchain that run when predetermined conditions are met. They typically are used to automate the execution of an agreement so that all participants can be immediately certain of the outcome, without any intermediary's involvement or time loss.), Hashgreed's web3 marketplace, Hashdealz, allows for trustless commerce between merchants and customers.

Customers can release funds to the smart contract to take a buying position without trusting the other party.

Customers can cancel payments via signing a transaction on Hashdealz if the merchant doesn't deliver or delivers an inferior product. Alternatively Hashgreed protects merchants from losses if they delivered the right product in a timely manner. Dispute resolution is in hours as opposed weeks in currently well known e-commerce platforms and refund is automatic. Hashgreed also partners with licensed trade financiers to provide credit to its merchants and will provide smart contract powered lending to merchants as well. The blockchain also allows for a trustless and transparent credit score profile which lives in an immutable ledger and is not prone to manipulation. Hashgreed also powers pan-African and international commerce using local and international stable coins, such as HASH Naira which is the equivalent of e-Naira on Kross blockchain.

## **Fifth Solution: NFT Banking**

By leveraging tokenization and fractionalization of both local and international assets, hashgreed introduces a new kind of savings account. Africans can now save their medium and long term money in inflation resistant assets which may be denominated in more stable currencies. To strengthen the local currency, Hashgreed has launched Food/Beverage NFTs which tokenizes production and wholesale distribution of staple foods and ingredients such as rice, beans, salt and peanuts. Producers are largely immune to inflation as costs are passed down to the consumers, so by deploying idle funds to production, mechanized farming, processing and wholesale distribution, Africans can weather inflation and devaluation as well as increase the monetary value of exports and promote balance of trade..

# The KSS Coin

The KSS Coin is the network currency of the Kross Blockchain. The Kross Blockchain currently relies on a system of 23 (and counting) validating nodes with Leased Proof of Stake (LPoS) consensus that can support very short block time and very low and fixed fees. It is also 100% Real Estate backed.

This means you can send KSS coins as well as any tokens created on the Kross chain for a fixed fee of 0.001 KSS. Dapp transactions cost 0.005 KSS from a regular address and 0.009 KSS from a scripted address. These fees are hardcoded and unchangeable. Kross also allows for Sponsored assets where project owners can monetize their dapps using only their own KSS backed utility token.

Anyone can run a full KSS node and be a validator or block generator. It costs only 1000 KSS for a node to be a block generator allowing that node to earn the block reward (1 KSS) and all transaction fees within that block.

## Features of Kross Blockchain

- 100 million KSS supply with a 0.527% inflation
- Leased Proof of Stake Consensus
- 20 validating nodes and counting
- Smart contracts and Dapps enabled
- Sponsored asset enabled
- Average block time of 1 minute with micro blocks of 3 seconds
- High throughput of 100 TPS (transaction per second)
- Standalone blockchain

Not EVM-compatible (therefore not prone to EVM susceptible hacks)  
Non-turing complete (greater security and stability of smart contracts)  
Supports creation and transfer of several kinds of digital assets such as tokens and NFTs  
(non-fungible tokens)  
Supports Leasing to validator nodes  
Gasless transactions (fixed and very low cost fees)

## KSS Utility

The KSS coin has several utility as follows:

1. KSS is the network coin of the Kross Blockchain and used for all transaction fees
2. Free NFT fractions for some tiers of holders
3. Stake and Earn KSS
4. Earn KSS from running a Kross chain node
5. Use KSS to participate in voting and governance of the protocol
6. Hold KSS to contribute on KSSPAD, our upcoming ICO Launchpad.
7. Earn income by holding KSS. **Up to** 30% of Vinekross profits is distributed to KSS holders who perform announced project marketing tasks.
8. Lease your KSS to a node to help its weight and earn your share of the node rewards.

## Current Dapps and Products on the Kross Chain

1. Hashgreed- Africa's first NFT Marketplace and super dapp (Hashgreed is also on the Waves chain)
2. NFT Minter - for minting singular or huge number of NFTs
3. Kross Mobile Web Wallet - mobile web lite KSS wallet
4. Desktop Wallet - desktop Kross wallet
5. Kross Explorer - for exploring kross addresses, dapps and nodes and getting statistics
6. Kross API - for connecting to the Kross blockchain and building Kross based dapps or for exchanges to connect to Kross assets.
7. HashPay: Pay Seamlessly - The first African app for NFT storage and stable coin payments on both Apple App store and Google Play store.
8. Kross Shield Bot - Our Telegram bot for creating wallet accounts, deposits, withdrawals, Leasing, creating own crypto, tipping other users on Telegram and querying statistics on the Kross network.

## Upcoming Kross based Platforms

1. Kross AMM - an automatic market maker
2. Hashgreed mobile app version on Play store and App store
3. Kross DEX Hybrid Exchange
4. KrossLend- stand alone DeFi lending platform
5. Kross IDE - development environment for Kross
6. Kross Signer - for integrating kross wallets with mobile and web applications
7. Kross Keeper - for integrating with applications on the desktop
8. Kross dapp - a web platform for running smart contracts

# KSS Tokenomics

Krosscoin has designed one of the best tokenomics in the cryptocurrency space. It ensures protection of KSS value, liquidity and guarantees a more positive price discovery over time. **Buying KSS tokens is not for investment purposes but for utility purposes on the Kross Blockchain, Hashgreed, NFT Minter Platform, KSSPAD, KrossSwap and other platforms.**

## Supply

The KSS coin has a current supply of about 104.7 million KSS, as of this writing, with an annual inflation rate of 0.527%. As a block is generated every 60 seconds on average and a block reward of 1 KSS is generated and paid to the generating or validating node, there will be a total of approximately 527,000 KSS paid to generators every year. As most of these rewards will likely be paid to the project's own nodes, the KSS coins received by the Project as block generator payments will be added to the strategic reserve of KSS for future developmental and security use.

## Demand

The demand of KSS is bound to be ever increasing, as users (both individuals and institutions) flock to Hashgreed and other Dapps powered by the Kross chain.

Vinekross generates real revenue off-chain, and will deploy its marketing budget to hire mostly KSS holders and this will support a thriving and united ecosystem community. Also there will be several third party projects building and monetizing on the Kross chain.

## Outstanding Supply

Krosscoin has published all wallet addresses holding the outstanding supply of KSS. Outstanding supply refers to coins that are not yet sold, providing liquidity or vested to holders and founders or for other future designation. Simply type the word “Project” on our telegram group, and the Project controlled wallets and their designated uses will be displayed. Regulators and the general public are able to monitor these wallet addresses.

## The KSS Coin Tokenomics

### Total Supply

104.7 million (plus 527,000 created and paid to block generators annually)

KSS Supply is divided into the following buckets. For current numbers, kindly type the word “Project” into our Telegram community chat, and the distribution of KSS into these buckets will be displayed.

The buckets are:

1. Founders Vesting
2. Remaining unredeemed circulating supply (swaps from previous chains)
3. Sales on Exchanges
4. KSS Node Group
5. Pegs and wrapped KSS on other chains
6. Rewards and Incentives
7. Reserves

### Monthly Purchases of Early Stage Real Estate Assets

Every month, proceeds of KSS coin sales from the Exchange Sales bucket are used to acquire early stage real estate assets. These assets are intended for commercial use so that the value keeps growing over time. Assets such as Large acreage mechanized farms, Solar Power generation farms, Recreational and Luxury, Industrial assets will be acquired and developed and tokenized.

A minimum of 80% of KSS sale proceeds will be used for asset acquisition, and the remaining 20% for securing, registering and processing the assets for tokenization. The value of the assets will always be 100% of the KSS coin proceeds.

The Krosscoin Project will declare these purchases to the community on the 1st of every month, including the proof and trail of payments for these assets.

## Regular VS Registered Liquidity Providers

As all the proceeds from KSS coin sales to users and developers have been used to acquire early stage developmental real estate assets, there is a liquidity gap. Here comes the Liquidity Providers (LPs).

Regular LPs are LPs that supply buy orders liquidity for the KSS coin on the exchanges or for the KAT tokens if their jurisdiction or nationality permits them to own our tokenized assets. They do these on exchanges where KSS is listed or on our own exchanges. Centralized exchanges regularly require KYC verification, either absolutely or on a tiered basis. Decentralized exchanges which use smart contracts and non custodial wallets do not usually collect KYC information. They however do not usually have fiat on and off ramps if KYC is not collected.

Registered LPs are LPs that are preselected and registered on our database and authorized to swap KSS coins directly for KAT tokens. They can subsequently swap KAT tokens for specific asset NFTs, on a first come, first serve basis. The Krosscoin project requires KYC verification for AML/TF compliance. Certain countries are exempted from participating as a Registered Liquidity Provider. Registered Liquidity Providers can only swap 50% of their aggregated KSS in their registered wallets at any given time. This is to promote the culture of true asset investing and allow the Krosscoin Project to leverage about half of the acquired assets stake for meeting working capital requirements in new regulated territories for the betterment of the community.

## Founders Vesting

Founders own 20% of the Initial Coin supply of 100 million KSS (20 million KSS), and they are vested at 1-5% in USD value of their KSS allocation for every \$1M in KSS coin liquidity.

## Insurance

All real estate assets acquired by KSS coin sale proceeds will be insured, so as to mitigate against loss of value of the assets.

## **Asset Tokenization and Impact on the Assets**

Assets acquired will be tokenized and registered with the Securities Regulator in the countries in which they were acquired. This exposes the assets to increasingly greater liquidity and operational expansion across the world. The Krosscoin project is actively seeking VASP authorization in several jurisdictions across the world.

## **Governance**

KSS holders will vote on how some of the outstanding supply is deployed, such as grants to developers and third party projects building on Kross. Also updates on the Kross chain will be implemented by voting or validating Kross nodes. Token holders will also vote to allow or deny tokens to be listed on the Kross DEX, projects raising money on KSSPAD, Lending rate on its DeFi lending platform and other important deliberations.

## Tokenomics at a Glance

- Our tokenomics is the safest in crypto
- Total Supply: 104.7 million KSS (0.527% inflation)
- Founders: 20M KSS
- Circulating: ~115,000 KSS
- Exchange Sales: 15.885M KSS
- Wrapped KSS: 8M KSS
- Rewards: 5M KSS
- Reserve: 51M KSS
- Assets are purchased and reported every 1st of each month
- Assets are tokenized. Preliminary nfts are created pending final registered tokens
- KAT tokens, the proxy token for the asset nfts are created and supply updated with each asset acquisition
- Regular LPs can provide liquidity to acquire KSS and also KAT and Hashgreed tokenized assets if allowed by their regulators
- Registered LPs are allowed to swap KSS directly to KAT tokens.
- Proper insurance and asset protection

# Technicals

## Byzantine Fault Tolerance: The need for consensus algorithm

A blockchain is a system of recording information in a way that makes it difficult or impossible to change, hack or cheat the system. A blockchain is essentially a digital ledger of transactions that is duplicated and distributed across the entire network of computer systems on the blockchain.

The major problem of a distributed system is the “Byzantine general problem”, that causes malfunctioning of the consensus system. The consensus system will work effectively when all the nodes in a network work in a balance. If a single fault occurs in one node then the whole network becomes faulty. Therefore the Consensus Algorithm must avoid such a type of problem so it can be said to be fault tolerant then Byzantine.

This consensus mechanism will not consider whether the participants of the system trust each other or do not trust at all. The mechanism's direct role is to accept certain principles of functioning that would be applicable and beneficial for all.

## Major objectives of Consensus Algorithm

1. Fault-tolerant
2. Unified Agreement
3. Fair and equitable

In the case of cryptocurrencies, the consensus algorithms are a crucial element of every blockchain network as they are responsible for maintaining the integrity and security of these distributed systems. Proof of Work is the first cryptocurrency consensus algorithm created and designed by Satoshi Nakamoto, implemented to overcome the Byzantine faults, which allows the creation of bitcoin as a Byzantine fault tolerant system. It means that the bitcoin blockchain is highly resistant to malfunctions. Not only because of the decentralized network but also because of the proof of work algorithm.

Other blockchains have developed their own way solving the Byzantine problem,

as a result there are 14 recognized consensus algorithms; some of which are Proof of Stake (PoS), Delegated Proof of Stake (DPoS), Leased Proof of Stake (LPoS), Proof of Elapsed Time (PoET), Proof of Activity (PoA), Practical Byzantine Fault Tolerance (PBFT), Proof of Burn (PoB), Proof of Importance (PoI), Proof of Capacity (PoC) , Proof of Authority (PoA) as well as a few others.

## **Leased Proof of Stake (LPoS)**

It was developed by WAVES, a decentralized blockchain platform where the custom token is created. This type of blockchain consensus protocol creates a centralized community within a decentralized platform and allows the smallholders to get their chance of staking. The coin holder can lease their coins and can benefit from the leased coins. This coin makes the node stronger or gives it more weight, thus increasing the chances of being allowed to add a new block to the chain.

Kross blockchain is built with the Leased Proof of Stake Consensus algorithm.

## **RIDE Programming Language: Non-Turing-completeness**

In short, Turing-Complete smart contracts support various codebases and allow building very complex structures with any computable functions, which often leads to more ways of breaking and exploiting them (hacking); Non-Turing-Complete programming languages, on the other hand, are more specialized; they do not support concepts like loops, recursions, or other similar processes that usually do not terminate on their own.

When Ethereum was preparing to launch, Turing-completeness seemed like a good idea as it promised significantly broader creative capabilities. But at the time, nobody had any decent ideas about how useful it would actually be. The creator of Ethereum, Vitalik Buterin, addressed this topic by himself in Ethereum white paper, saying:

“Turing-incompleteness is not even that big a limitation; out of all the contract

examples we have conceived internally, so far only one required a loop, and even that loop could be removed by making 26 repetitions of a one-line piece of code. Given the serious implications of Turing-completeness, and the limited benefit, why not simply have a Turing-incomplete language?”

Despite blockchain having no need for Turing-Complete functionality, Ethereum still ended up being Turing-Complete. (Source: Mintlayer.org- Why Defi's Future Is With Non-Turing-Complete Smart Contracts).

And they have suffered hacks to the tune of millions and billions of dollars every year since 2016. Even the EVM-compatible blockchains such as BSC, Polkadot, and several others are routinely hacked leading to massive loss of user funds in Defi smart contracts and bridges.

Non-turing complete blockchains such as Waves, Kross has never been hacked since inception. However hacks can occur when seed words of addresses controlling smart contracts and pools are exposed carelessly.

The RIDE Programming language, a non-turing-complete language, is the smart contract programming language in use on Kross blockchain. It was developed by the WAVES team.

Kross and WAVES smart contracts are open source just like other blockchain smart contracts. Some of our Dapps such as Hashgreed have its code stored in a private Github repository. Kross blockchain source codes are stored in a public Github repo and can be viewed by anyone. See under the Links section.

## REAL ESTATE TOKENIZATION BY VINEKROSS TECHNOLOGIES LIMITED

**Prepared for the Nigeria Securities and Exchange Commission on July 18, 2023**

An all-time high of US\$830 billion was invested in commercial real estate globally in 2019. Real estate has always been one of the least liquid asset sectors due to its high capital requirements and time-consuming, expensive transaction procedures. Real Estate Investment Trusts (REITs) have performed better than other methods of entering the real estate market because they are more liquid than other significant asset classes. The S&P Global REIT Index rose by 18.7% in 2019. The need to change the real estate investment landscape is growing as new investors desire greater access, and old investors need greater liquidity. The financial sector is experiencing a new wave of technological advancements that will increase efficiency, increase security, and reduce costs. Tokenization is one such advancement that will usher in novel real estate solutions for the digital era.

The practice of fractionalizing real estate into tokens kept on a decentralized database is known as real estate tokenization. Blockchain is the name given to this decentralized database, which functions as a kind of digital ledger for information storage. The blockchain network verifies, synchronizes, and shares the distributed ledgers on which real estate tokens are recorded with all network participants practically instantly, permanently documenting an accurate ledger of transactions that is broadly available to the public.

Since the Block chain system enables potential investors within a specific class to "crowd fund" Real Estate investments and enjoy the same advantages as Big Real Estate Developers, HNIs, and Institutional investors, Real Estate Tokenization resolves the issue of very low income earners having to save for decades to own a piece of Real Estate investment.

Non-fungible tokens (NFTs), which are non-interchangeable data storage units that may be purchased and traded, are used to construct real estate tokens. The ownership of a unit or units of a real estate asset will be specifically identifiable and traceable on the blockchain because each NFT has its own identity on the

network. A NFT for real estate might stand for, among other things:

- Ownership of a portion of real estate
- Ownership of the whole piece of real estate
- An ownership stake in a company that manages real estate
- A stake in a loan with real estate as security, or
- A claim to a portion of the earnings derived from real estate

The development and distribution of financial products, as well as the way money is raised, are all being affected by asset tokenization. Through the capital market, it can also be used to accelerate inclusive growth and financial inclusion.

Initial Coin Offerings (ICOs), Security Token ICOs, and Digital Asset Token Offerings (DATOs) have all been categorized by the Nigeria Securities and Exchange Commission (SEC) as falling under its regulatory purview.

These advantages can be used by the Nigerian capital market to encourage capital formation and increase market penetration.

**The first asset tokenization platform in Africa is called Hashgreed and is built on the blockchain by Vinekross Technologies Limited (RC 1883948)**

# GENERAL BENEFITS OF ASSET TOKENIZATION

## Fractionalization:

By allowing interests in an asset to be more easily distributed over a larger pool of investors, tokenization lowers the entry barriers for investment in assets that typically have high upfront capital requirements. This democratizes access to the asset.

A blockchain-based digital register of members (ROM) securely manages fractional ownership. With a fee structure that includes an access premium for the previously inaccessible investment opportunity, new financial products could be disseminated to a larger pool of investors at a reduced per-unit cost.

## Operational Efficiency:

On the blockchain, smart contracts are programmable activities that make it possible to automate procedures like compliance checks, investor whitelisting, and post-issuance issues like dividend distribution. Additionally, smart contracts make it possible to program tokens with special properties, enabling the creation of adjustable fee structures and sharing class-specific attributes for tokenized assets at a relatively low operational cost.

## Reduced Settlement Time:

Unlike traditional financial transactions, which may take days or weeks to resolve, transactions involving tokenized items can be settled relatively quickly.

## Data Transparency:

Due to data being dispersed across a network of participating nodes rather than a single centralized database, distributed ledger technology like blockchain is

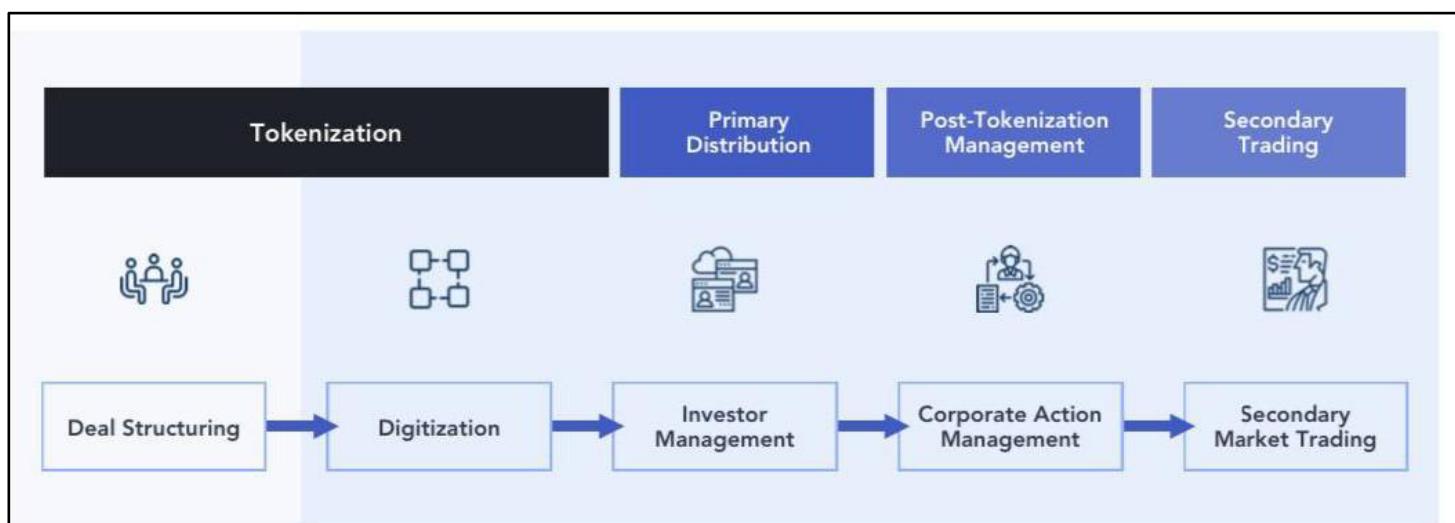
renowned for its immutability and resilience to cyber-attacks. Blockchain allows for the tracking and visibility of transaction information, while cryptographic hashes ensure that data privacy is maintained.

## Flexibility:

The aforementioned factors allow for investment flexibility: fractionalization allows for flexible portfolio construction and diversification; operational effectiveness and a shortened settlement period enable faster transfer of investment interests; and data transparency provides up-to-date information for investment analysis.

## Liquidity:

By permitting the safe transfer of shares between investors, with every transaction being recorded on the digital ROM, tokenization facilitates liquidity. Global public market liquidity for tokenized securities is also well on its way, with regulatory regimes around the world adopting and building frameworks for the regulation of digital securities exchanges.



# A TOKENIZED SECURITY'S LIFECYCLE

The lifecycle of a tokenized security can broadly be divided into five stages.

## **Stage One: (Deal Structuring between Vinekross and Issuer, also involving Consultants)**

Important choices must be made about the terms and conditions of the security token during the first contract structuring stage. No matter what kind of technology is used, deal structuring is an essential component of any securities offering. Tokenization is not intended to be a mechanism to circumvent adherence to any applicable legal or regulatory standards; rather, the use of technology is designed to fundamentally enhance operational procedures to support cutting-edge financial solutions. The stages in the schematic with blue shading are those where technology can have a big impact.

## **Stage Two: (Issuer mints NFTs on NFTMinter Platform)**

In the digitization stage, security tokens are issued, and data that was previously saved in paper or document form is uploaded to the blockchain and written in smart contracts.

## **Stage Three: (Primary Distribution via Compliance embedded Swap Kross Smart Contracts on Hashgreed Marketplace and transfer to holders HashPay mobile app wallet)**

Tokens are awarded to investors as payment for their money during the primary distribution process, and the details of the investors are stored on the digital ROM (record of members).

## **Stage Four: (Post-Tokenization Management using customized Kross chain smart Contracts)**

Corporate action management procedures such as dividend distribution and shareholder voting are included in post-tokenization management, many of which can be automated by smart contracts programmed into the token. Management after tokenization will continue until the token's maturity or redemption.

### **Stage Five: (Secondary trading on Hashgreed Marketplace and approved secondary exchanges)**

Secondary trading is the final stage, and it is here that the value of tokenization in increasing liquidity is realized. A token holder can trade tokens with another investor in an over-the-counter or exchange transaction.

## STAGE 1: DEAL STRUCTURING

Security tokens are often issued by a corporation or an individual and give the token owner certain rights, such as ownership, the right to receive a certain amount of money back, or the right to a portion of future profits. In addition to determining the rights and obligations that an investor has with respect to the underlying asset and, ultimately, the type of return they will receive, the form and structure of a tokenized security serve as the foundation for determining how gains and losses on the security should be taxed.

Additionally, tokenization might have an impact on the valuation procedure, which might have an impact on the security token's trading price. The analysis of the aforementioned problems must be done case-by-case because tokenization is still a young field.

However, if transaction data for tokenized securities accumulates for institutional study, this could change in the future.

Differently structured securities will benefit from tokenization in various ways. To assess how tokenization technology could complement the purpose and increase usefulness, asset owners and managers should take into account the primary goals of the securities product and the logic supporting the structure. A real estate bond, for instance, matures very quickly compared to a real estate private equity (PE) fund. A tokenized bond product would benefit more from streamlined operations and automated post-issuance corporate action management, such as coupon distribution, compared to traditional issuances, while PE funds could benefit significantly more from enhanced liquidity.

The regulatory framework governing tokenized securities will differ between jurisdictions, while the various tax regimes across jurisdictions could have a significant impact on the price of the tokenized securities and their cost-effectiveness. The issuer of tokenized securities must also seek professional advice to make informed decisions about which jurisdictions to include in the structure of the product.

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effectiveness. The issuer of tokenized securities must also seek professional advice to make informed decisions about which jurisdictions to include in the structure of the product.

## **Governance**

Security tokens and their offerings have rather clear regulatory consequences and applications for the business community, in contrast to the first wave of fundraising for digital assets, which was mostly accomplished through uncontrolled Initial Coin offerings (ICOs). The regulatory framework includes licensing, risk monitoring, and reporting requirements for token issuers, their service providers (such as token exchange operators), and token investors. The creation, ownership, and transfer of security tokens are generally governed by the same regulatory frameworks as regular securities. As a result, similar governance and regulatory factors such as legal ownership, investor Know Your Customer (KYC) protocols & compliance, accounting, and investment due diligence should be taken into account. Some of these factors are illustrated below.

### **Legal Ownership:**

Creating the requisite funds or trust arrangements to hold the underlying assets and making sure that token holders are given ownership rights through the proper legal channels.

### **Investor KYC & Compliance:**

Ensuring that token owners and service providers are monitored in line with local AML/KYC laws, among other things, and that issuers, investors, and technology suppliers are aware of and adhere to local regulatory and licensing requirements.

### **Accounting:**

If the underlying asset's nature is not made clear, the security tokens may be

classified as "Inventory" instead of "financial assets" in accordance with accounting norms.

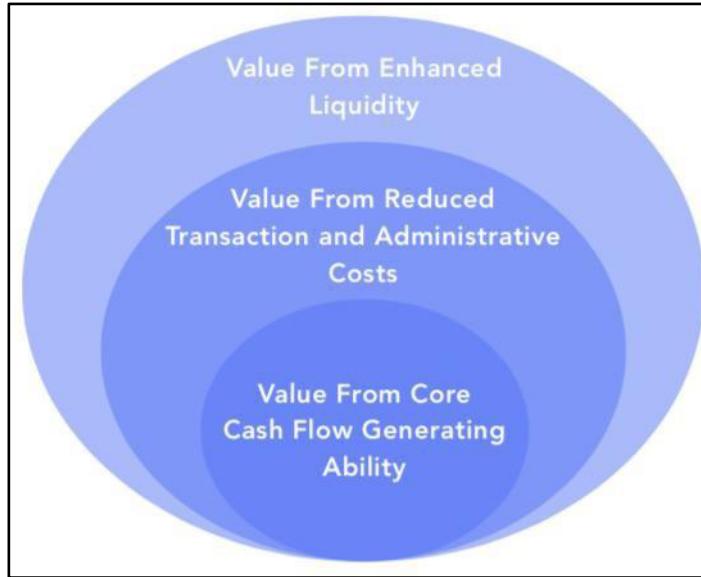
## **Investment Due Diligence:**

Gaining knowledge of the market participants, including the history of the technology providers, the assets supporting the tokenized security, the rights associated with security tokens, and the issuance and transaction flow of the security through the issuance, distribution, and/or exchange platforms.

## **Valuation: How Tokenized Real Estate and Business Valuation Matures**

There are numerous components to valuation. Other aspects, such as transaction costs and market liquidity, should be examined in addition to the underlying asset's or business's future cash flow generating capacities, such as the ability to earn rental income or sales revenue.

The underlying asset's or business's ability to generate cash flow remains unchanged in the case of a tokenized asset. The tokenization process, on the other hand, can provide value by increasing the liquidity of an otherwise illiquid asset while also significantly lowering transaction and administrative expenses, particularly for fractional ownership and secondary trading.



### **Value From Savings of Administrative Costs**

The tokenization process has the potential to drastically lower the administrative costs of asset ownership. Periodic administrative operations such as quarterly reporting or income distribution can also be automated using built-in smart contracts, lowering administrative and compliance costs even more. Assets having a long life and frequent administrative tasks, such as real estate or private equity funds, are particularly well positioned to profit from the cost savings provided by tokenization.

### **Value From Liquidity Premium**

The ability of an asset to be easily changed into cash without suffering a significant discount is referred to as liquidity. A liquid financial asset is the stock of a publicly traded corporation, such as Alibaba or Apple. An investor can quickly acquire and sell the company's stock without waiting or incurring hefty commission expenses. When an asset is not liquid, an investor may be unable to buy or sell it immediately, resulting in price fluctuations between the time an investor decides to buy and the time the transaction completes. Because of the asset's illiquidity, transaction costs may be significant.

Large commercial properties are good examples of illiquid assets because each

one is unique (lack of standardization) and requires a significant initial investment. Due to the high transaction costs, such investments have a protracted transaction period, and once invested, the owner tends to hold the asset for an extended period of time. The normal time span between identifying a property and closing the purchase is 6 months to 2 years, with transaction costs ranging from 1% to 3% of the asset value.

Real Estate Investment Trusts (REITs) that are publicly traded are one type of liquid real estate investment. However, the process of offering and listing a REIT on most major exchanges throughout the world is very demanding and typically requires more than two years of planning. It can also be costly, with charges ranging from 3% to 10% of the assets' market value, resulting in costs of up to several million dollars. For owners of a single asset or a small portfolio of properties, using a REIT to provide liquid real estate investment is not a viable choice.

Tokenization, on the other hand, is appropriate for owners of a single asset or a small portfolio of assets due to the significant time and cost savings in providing investors with the ability to engage in fractional ownership and subsequent secondary trading.

The section on primary distribution will look at how tokenization can affect liquidity and consequently the valuation of a single real estate asset, while the section on secondary trading will look at valuation implications in private equity fund tokenization.

## Taxation

Investing in digital assets that ultimately derive their value from real estate does not imply that standard tax regulations regulating direct holdings of real estate apply, unless the digital asset in question legally constitutes a direct, fractional ownership in the real estate itself.

If the digital asset is a security, such as a share or bond in a company or a partnership interest, the rules governing the taxation of gains or losses on the sale

of shares, bonds, and partnership interest, as well as distributions consisting of dividends, interest, and partnership distributions, should apply.

If the applicable regulatory framework allows for digital ownership, it is generally expected that local tax rules will apply in the same way as for direct ownership in traditional scrip form (though if this is not possible, a trust or custodian type arrangement may be required).

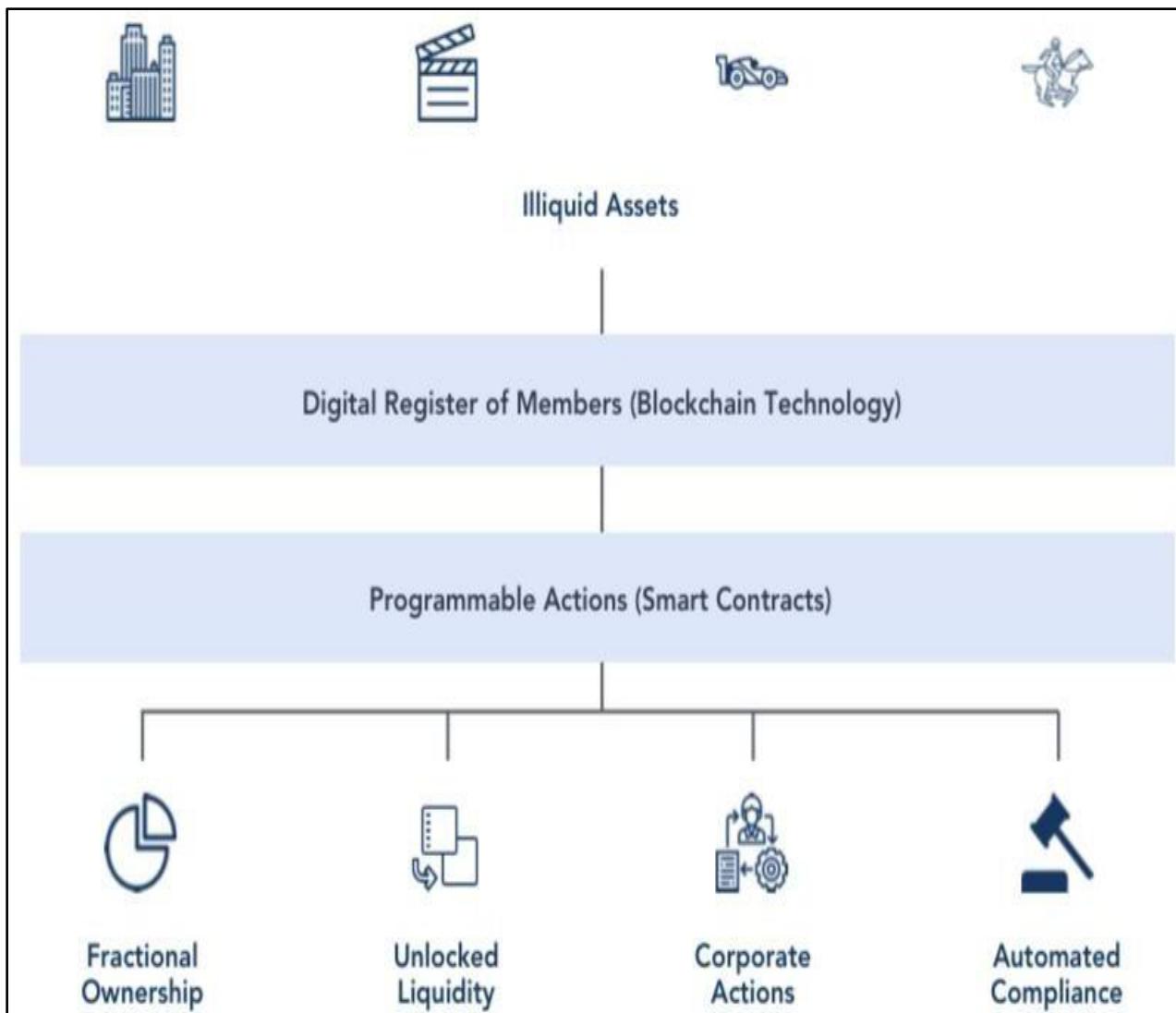
As a result, the fact that shares or partnership interests are held in digital form and transactions take place via smart contracts is not likely to change the taxes regulations that regulate those holdings. The tax regulations in certain jurisdictions may be fairly simple, but in others, where facts and circumstances dictate tax treatment, numerous outcomes may be possible.

## **STAGE 2: TOKENIZATION**

Tokenization increases liquidity by allowing for fractional ownership and lowers the barriers to entry for illiquid asset investment.

Blockchain technology and smart contracts are two key components of tokenization. Blockchain technology aids in the automation of processes by enabling various parties secure access to the same copy of data, which cannot be altered without the approval of other stakeholders. The data at the heart of tokenization is a digital ROM for the tokenized asset, which is uploaded to a blockchain as a comprehensive record of ownership.

Although fractional ownership is not a unique concept, keeping the ROM on a blockchain makes fractional ownership management significantly more efficient because the digital ROM can be updated almost immediately and is resistant to unlawful adjustments by unknown parties. Each transaction is encrypted and recorded on the blockchain, allowing sensitive data to be traced while also being protected via smart contracts.



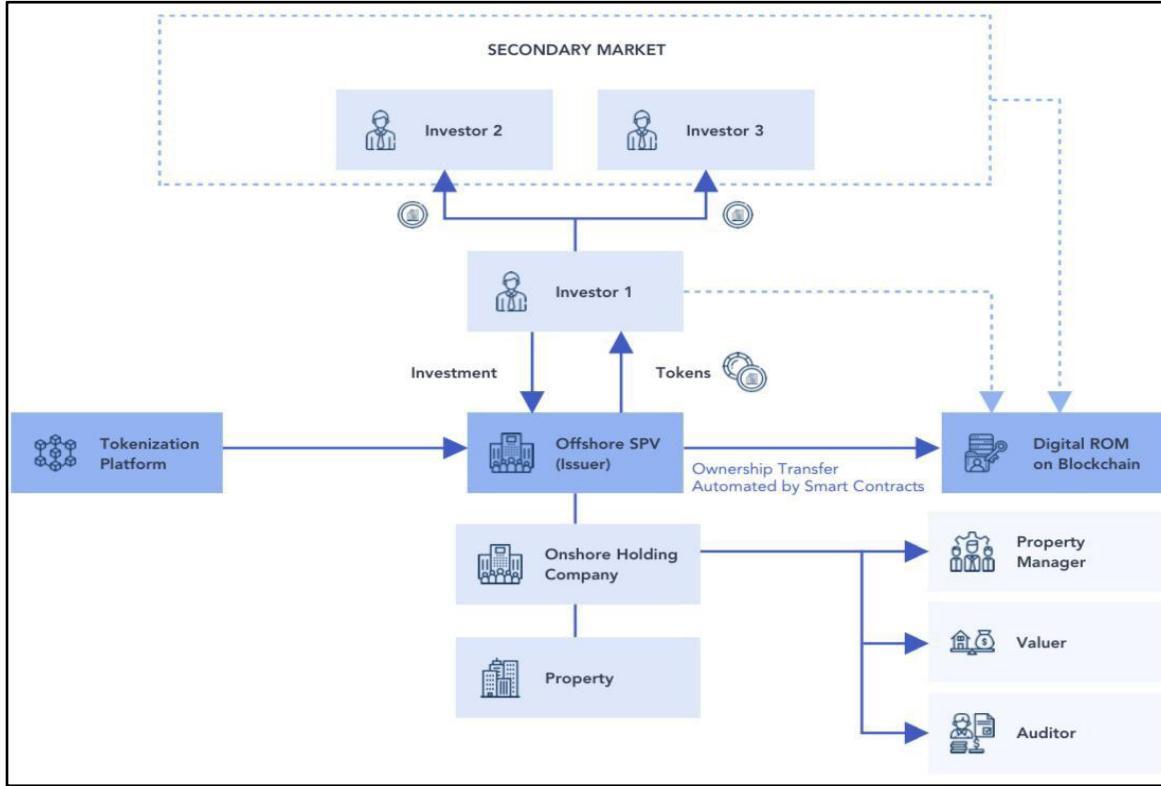
Smart contracts provide the foundation for programmable actions, which are the key to unlocking liquidity. Smart contracts are programmed to carry out compliance processes, due diligence, KYC, and anti money laundering (AML) procedures as established by regulatory regulations and further specified by particular issuers. Smart contracts can also help with near-instant transaction resolution.

Immutable blockchain transaction records and a high degree of automation offered by smart contracts provide much-needed process improvement and efficiency to investment. Investor and corporate action management, such as dividend distribution and shareholder voting, are also programmable throughout the investment lifecycle.

Technology allows for the secure management of fractional ownership as a digital record, the automation of investor due diligence and compliance requirements, and the completion of transaction settlement digitally. The net result of these improvements is that the time and economic costs involved with selling previously illiquid assets have been greatly reduced, benefiting both asset owners and investors through liberated liquidity. Secondary market trading for tokenized assets will thrive as regulatory regimes around the world improve to meet these technical innovations.

### **Example: Single Asset Tokenization Deal (eg Hotel)**

A local SPV that owns the property is also responsible for its management, which includes collecting rent on leased property, hiring personnel, paying salaries, paying stamp duty to the local government, and so on. An offshore SPV owns the entire local SPV. The hotel's current owners will retain a 51% stake in the offshore SPV, representing a 51% ownership stake in the property and management firm.



49% of the shares in the offshore SPV will be tokenized and distributed to smaller-ticket investors in the form of security tokens representing a 49% ownership interest in the property and management company.

Participating investors will benefit from the possibility to co-invest in real estate while requiring a substantially lower initial capital investment. These investors' information will be saved on a digital ROM.

The future change of control and sale of the property will be faster and more safe thanks to blockchain technology. Investors will also be able to sell some or all of their real estate tokens to other investors, providing secondary market liquidity.

## STAGE 3: PRIMARY DISTRIBUTION

### Example: Shares in a Company which Directly Holds a Property

The cost of investing in a single real estate asset is extremely high, with considerable upfront financial requirements that may be prohibitive to the average investor. Until recently, the notion of fractional ownership was used to solve this barrier to entry, mostly through real estate investment trusts (REITs), which allow investors to purchase a fractional ownership stake in a portfolio of real estate holdings.

Tokenization improves on this approach in numerous ways: it makes fractional ownership easier to establish and administer, and it simplifies ownership transfer and settlement.

Tokenization allows for flexible fee structures that include access premiums for previously inaccessible investment possibilities and lower liquidity premiums for previously illiquid assets.

Unlike traditional investments in a single property asset, a building tokenized for distribution as private equity might be dispersed to a bigger pool of investors at a reduced per unit cost.

To tokenize an individual property, the property's ownership is held through a special purpose vehicle (SPV).

Tokenization software is used to generate a digital ROM that records the full ownership of the SPV (and thus the property) on blockchain. Smart contracts are coded to reflect the terms of ownership, and tokens reflecting fractional ownership in the SPV (and thus the property) are issued to investors. The digital ROM stores each investor's fractional ownership, and smart contracts are designed to automate some business management tasks like dividend distribution and shareholder voting.

## Valuation of a Tokenized Single Real Estate Asset

A tokenized asset can generate the same amount of cash as a regular asset. Furthermore, tokenization improves value by improving asset liquidity and lowering transaction and administrative costs associated with the investment. All of these advantages should be considered by an investor when determining the value of an asset.

Tokenization is appropriate for owners of a single asset or a small portfolio of assets since it saves time and money by giving investors the right to participate in fractional ownership and subsequent secondary trading.

The initial creation of a fully new tokenization procedure can be estimated to take 2 to 3 months, depending on the project's complexity. Additional time will be required for initial investor verification and onboarding.

After the initial token issue, however, fractionalized ownership interests can be traded simply and efficiently inside their designated network or marketplace, as most investment procedures, including KYC and AML, will be automated in the tokenization process.

For transactions involving fractional ownership interests in real estate, the time savings via tokenization can range from 6 months to 1 year as compared to typical financial transactions. The cost of secondary trading will almost certainly be a fraction of the cost of typical real estate transactions.

## Taxation of Tokenized Shares in a Company which Directly Holds a Property

Consider a hypothetical situation in which a Nigeria-based corporate investor subscribes for fresh shares in a Cayman Islands-incorporated and tax-resident corporation, the ownership of which is represented by a digital token. The Cayman business then uses the funds to purchase fresh shares in a Nigerian company, which subsequently purchases Nigerian real estate and has no other assets.

Because the asset in this scenario will be tokenized Cayman business shares,

standard Cayman and Nigerian tax rules should be expected to apply. The Cayman and Nigerian tax rules on the sale of tokenized shares should be straightforward. There will be no Cayman Islands tax, but there will be a 10% Nigerian tax on the gain made by the Nigerian investor.



## STAGE 4: POST-TOKENIZATION MANAGEMENT

Smart contracts enforce automated corporate action management processes, such as dividend distribution and shareholding voting, in post-tokenization management. Smart contracts help speed up the settlement of token transfers. Issuers maintain ultimate approval or rejection authority over investors who pass automated restrictions before token transfers are executed. Every transaction that occurs during the life of a security token is immutably recorded on the blockchain.

### Example: Bonds Secured by Real Estate

Bonds secured by real estate are fixed-income investments or loans with a relatively stable yield.

Tokenization can drastically reduce the cost of bond issuance by streamlining and

minimizing the numerous costs incurred during the lifecycle of a bond by employing blockchain technology for digital issuance, trading, and management.

Following the recording of company information on the blockchain, smart contracts are created with the terms of the bond issuance. Tokens, which are a digital version of the bond, are distributed to investors.

Smart contracts can handle settlement, trading, and post-issuance coupon payments.

## **STAGE 5: SECONDARY TRADING**

One of the most significant advantages of tokenization is its capacity to provide liquidity via secondary market trading. Globally, real estate is a desirable asset. The demonstrated market hunger for traded REIT products illustrates the desire for real estate investment product secondary market trading. Real estate illiquidity is most likely caused by high capital needs, extended lock-up periods, and difficult transaction processes, rather than a lack of demand.

The lack of control over the rebalancing of exposure to particular assets within the REIT portfolio is a downside of REIT investing. Tokenization first addresses the issue of accessibility through fractional ownership, then allows for the quick settlement and transfer of these fractional interests in single real estate assets, allowing for flexibility and customizability in portfolio construction that REIT products do not provide.

Tokenization also improves liquidity for a broader range of real estate assets. For example, capital invested in project funding is currently locked up for an extended period of time, and delays in development could result in significant losses. A tokenized fund for project financing would have the advantage of allowing for secondary trading, allowing investors to withdraw their investment before the fund's term expires.

## Example: Real Estate Private Equity Fund

Real estate funds have received a lot of attention in the field of tokenization because their intermediate structure is especially ideal for the technical implementation of tokenization, which involves the initial step of generating a digital ROM on the blockchain. Interests in a fund can be tokenized whether or not the fund's underlying assets are tokenized, while tokenized real estate assets may offer more customizability and flexibility due to their direct relationship to underlying value generators.

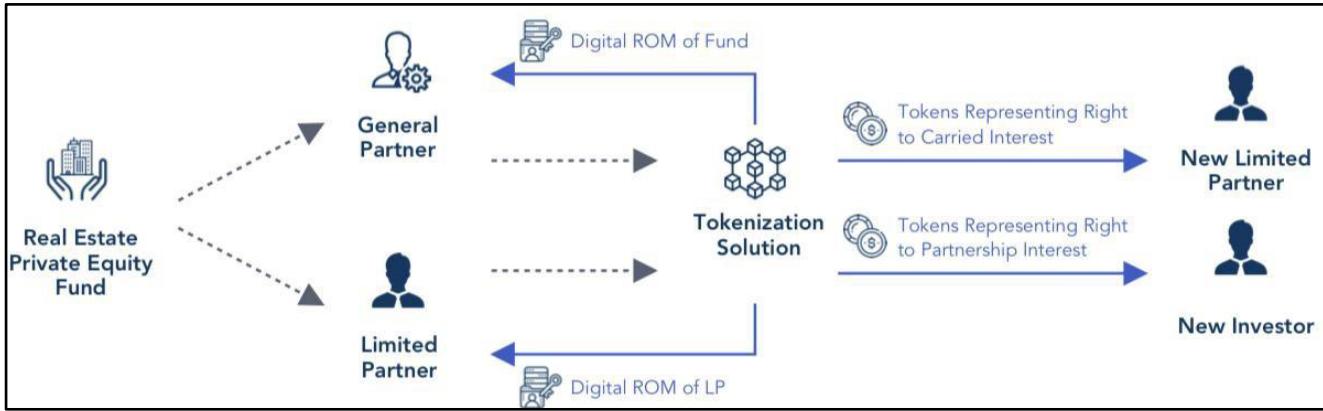
At the fund level, tokenization of fund interests can provide benefits such as fractionalization, operational efficiency, and liquidity, particularly for private equity firms with long lock-up periods and large minimum investment amounts that operate as a significant barrier to entry.

Tokenization can benefit both the general partner (GP) and limited partner (LP) partnership interests in private equity (PE) funds with a partnership structure.

The GP would maintain a portion of its ownership for management purposes while tokenizing a portion of its economic interests in the fund, allowing the GP to have more capital available for future acquisitions or other commercial needs.

Tokenization of LP interests in a fund would facilitate liquidity by allowing existing LPs in the fund to transfer all or a portion of their fund interests to new investors, who would be included into the fund's digital ROM upon transfer of the LP tokens. This means that investors who want to rebalance their portfolio can transfer their interest in the fund to another investor and cash out before the fund's term expires.

This would provide much-needed flexibility and liquidity to real estate fund investments, allowing a broader base of investors to engage in a more liquid market. When compared to over-the-counter trading, the expenses and burden associated with allowing transfers of fund interests between LPs would be greatly reduced for fund managers using tokenized fund interests.



## Valuation of Tokenized Private Equity Funds

The advantages of time and cost savings apply straight to PE funds, another (traditionally) very illiquid asset class.

Traditionally, once an investor commits to a PE fund, they can commit for up to ten years or more. If an investor needs to exit the investment before the end of the term of the PE fund, the investor must go through an arduous and difficult process that includes finding a potential buyer, allowing the potential buyer to complete due diligence, and then agreeing on the form of legal documentation for the sale of its interest in the PE fund. This procedure can take 6 months to a year, and the selling investor will almost certainly have to sell its shareholding at a discount to net asset value (NAV).

Recognizing the benefits of tokenization for investors in illiquid funds, many private equity funds in the United States and Europe have already begun tokenizing fund interests, allowing limited partners (LPs) to transfer ownership of fund interests much more effectively.

The option pricing model, which assesses the cost of purchasing an option that can hedge the price movement within a set period, is one of the approaches that valuation professionals use to analyze the liquidity premium or discount. The time to maturity and volatility of the asset are the most important elements in determining the option price.

For example, the option to hedge the price of a stock in 6 months with projected 10% volatility is roughly 3% of the current stock price, and if the time to maturity is increased to 1 year, the option price will climb to around 4.5% of the current stock price. A valuer can analyze how much it would cost to establish a private contract with a broker to hedge the price for the duration of the transaction time to determine the value of the tokenization process's time-saving factor. When compared to purchasing a conventional stock option, a private hedging contract is nearly usually substantially more expensive, if available at all.

The liquidity premium when a private firm goes public might range from 10% to 50%. However, most tokenized assets, such as significant commercial properties or PE funds, are now only available to qualified investors, who are high-net-worth individuals or institutions. As a result, the additional liquidity premium from tokenization is still not equivalent to a company's IPO. Nonetheless, as blockchain technology and related applications such as tokenization gain recognition, as well as the evolution of legal frameworks of governments across the world on tokenized assets, the liquidity premium of such assets will rise.

## **Example: Tokenizing a Hypothetical Fund**

The Fund invests in illiquid assets, which necessitates (i) a long Fund term to ensure that the Manager has enough time to acquire, appreciate in value, and dispose of investments, and (ii) a closed-end structure, which means investors do not have the right to redeem or withdraw their interest from the Fund.

Because this Fund is the first in a series of funds that the Manager will establish to invest in the same class of illiquid assets, it has been established as the first segregated portfolio under a Cayman Islands-domiciled segregated portfolio company (SPC), which provides certain time and cost efficiencies.

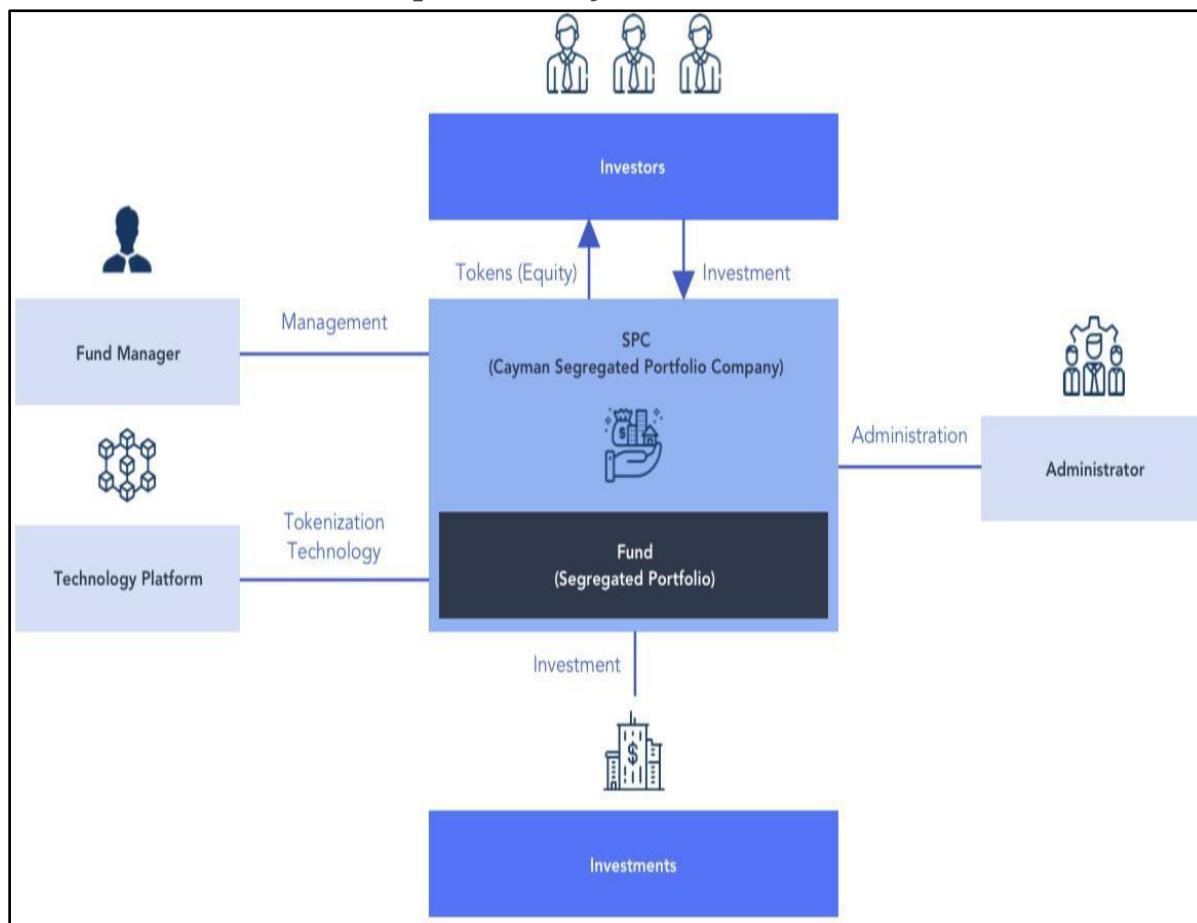
To reach a broader audience of investors, the Manager enlisted the help of a technological platform to tokenize 100% of the Fund's equity holdings, allowing for secondary market liquidity.

Investors in the Fund are given digital tokens that reflect equity stakes in the

Fund and are stored in a Kross chain compatible digital wallet. While investors cannot redeem from the Fund during its term, they can sell all or part of their tokens to other investors on the secondary market, subject to compliance with transfer restrictions inherent in the technological platform's smart contract.

The Fund's register of members keeps track of who owns whose equity interests in the Fund. The Administrator keeps a book-entry ledger of members as well as a blockchain-based ledger on the Technology Platform.

Because of the evident benefits that will make investments in closed-end funds more appealing to a wider range of investors, fund managers are expected to embrace tokenization, particularly in the closed-end section of the market.



# CHALLENGES AND OPPORTUNITIES

While tokenization promises to remove numerous barriers and democratize access to real estate investing, given the fledgling stage of tokenization, various challenges must be addressed.

## Legal and Regulatory Uncertainty

Unlike traditional asset classes, the unique nature of security tokens means that the law and rules in this field have not been decided, nor have they been tested by courts and regulatory bodies. Although several regulatory agencies across the world have released recommendations on security tokens, it is expected that new advancements and changes in rules and regulations will be implemented as the technology becomes more widely accepted and the market develops. Furthermore, there is no guarantee that the regulators and countries that are currently supportive of, or do not oppose, the use of tokenization will continue to be so in the future.

As a result, the legal and regulatory requirements and constraints for offering, distributing, holding, trading, and managing security tokens may alter in the future. This may create confusion for both security token issuers and investors, reducing adoption and secondary market liquidity.

It should be emphasized, however, that certain authorities distinguish between security tokens and cryptocurrencies. The method by which value is derived is a key distinction between a cryptocurrency and a security token. The value-drivers of a real estate security token are derived from the underlying real asset itself, making the value of a real estate security token less volatile and easier to predict than the value of bitcoin.

Furthermore, security tokens are often subject to current securities regulations, even in places where cryptocurrencies are unregulated or prohibited, so investors in security tokens may be offered better protections and privileges than investors in cryptocurrencies.

## Confidentiality

In general, real estate finances and transactions are kept private. Managers and participants in such ventures often do not wish to divulge commercial terms or other sensitive commercial information to anyone other than a small group of interested prospective investors who will be bound by nondisclosure agreements. If the underlying project, for example, belongs to a listed or regulated entity, such confidentiality may even be a regulatory necessity.

Historically, maintaining such confidentiality has not been a problem for real estate transactions and funds because they are generally only offered to a small number of institutional, corporate, and high net worth investors who are subject to a long lock-up period, often until the end of the project's term. However, in the case of security tokens that may be published on an exchange for secondary trading, it will be required to disclose commercially sensitive information to a broader range of potential investors in order to enable investments and transactions.

A key area of development will be the balance between the data transparency afforded by blockchain technology and the information privacy required in financial transactions. Protocols such as Zero-Knowledge Proof can guarantee data privacy on public blockchains by allowing one party to authenticate their knowledge of particular data to a counterparty without revealing what the data is.

Blockchain protocols, with further development and careful structure, will provide data transparency, protecting stakeholders from unlawful or inappropriate concealment of information without revealing secret corporate data.

## Current Illiquidity

One of the most significant promises of tokenization is that it will offer liquidity to formerly illiquid assets, particularly by permitting secondary market trading on global exchanges. One of the primary drivers of the security token market will be liquidity. However, security token liquidity on existing international exchanges is currently low, implying that the full potential of tokenization has yet to be achieved.

A lack of secondary market demand for fractionalized real estate investment products could theoretically result in a lack of secondary market liquidity in the future, but the performance of publicly traded REITs suggests that this is unlikely: for example, publicly traded US REITs have an average daily dollar trading volume of \$9.7 billion.

# Coin Price Determination

The Kosscoin Project will be selling its native blockchain utility coin at the base price of \$1 per KSS on the exchanges. The Krosscoin project is a very advanced project and has built technology platforms, innovative new products and achieved extensive media coverage over the last 7 years since 2017.

In the cryptocurrency space, there is an established value foundation of tokens or coins that have a total supply of 100 million to begin with a price of between \$0.10 to \$1.50 based on the level of product and ecosystem development.

However the Krosscoin Project has never conducted an ICO and will never do so. Circulating supply is backed with equivalent value via a real estate asset in Lagos Nigeria.

Below is historical price discovery data of the biggest coins and how their price evolved from starting with just one or zero products to having a native blockchain and several products.

## Ethereum's Price History (2015-2022)

On August 7, 2015, the first Ethereum transaction was carried out using the transaction hash of block 46147.

Since its creation in 2015, Ethereum was under \$1 for the major part of 2015, but by March 2016 Ether crossed the \$10 mark, when it briefly reached \$10.03 on March 4, 2016.

By 2017, Ether had gained popularity and reached the \$100 mark in May 2017. By the end of 2017, Ether had reached a value of \$774.69 and within the first week of 2018, it crossed the \$1000 mark.

After the unprecedented boom, Ether too was consumed by the 2018 cryptocurrency crash (also known as the bitcoin crash) and reduced to under just \$100 apiece in value by the end of 2018.

From 2019 to 2021, Ether once again continued to rally and reached its highest price of \$4,815 on November 9, 2021.

For the first half of 2022, Ether had dipped in value. Ethereum has undergone significant technological upgrades to its blockchain since its inception in 2015. (Source: globaldata.com 2022)

## **Binance Coin (BNB)**

Binance Coin was created in July 2017 and initially worked on the ethereum blockchain with the token ERC-20 before it became the native currency of Binance's own blockchain, the Binance Chain.

Binance Coin was launched with an initial coin offering (ICO) in July 2017. As part of the ICO, BNB tokens were distributed among various participants, including angel investors and the Binance founding team.

Here's a brief breakdown of how BNB tokens were initially distributed:

Founding

team: 40% (80 million BNB)

Angel investors: 10% (20 million BNB)

Public sale: 50% (100 million BNB)

All of the 100 million BNB tokens available for public sale were sold during the ICO at 15 cents per token. Therefore, Binance raised a total of US\$15 million in bitcoin and ethereum.

From the \$15 million that was raised, 35% was allocated to upgrading the Binance platform and exchange system; 50% was allocated for Binance branding,

marketing, and education of new innovators; and the remaining 15% was used as a reserve in case of any emergencies or unprecedented circumstances.

As mentioned in the Binance whitepaper, every quarter, Binance uses 20% of its profits to buy back and burn Binance Coins, destroying them completely. Binance has consistently performed quarterly burns, the latest being the 13th quarterly burn on October 17, 2020.

Binance will continue to perform quarterly burns until it buys back and destroys 100 million Binance coins – 50% of the total supply. The practice ensures that the supply of Binance Coin remains finite, making it scarce and more valuable.

(Source: [corporatefinanceinstitute.com](http://corporatefinanceinstitute.com))

As of this writing (2024 update), the BNB coin is priced at \$585 and is the 4th largest cryptocurrency by market cap in the world.

## Future KSS Price Discovery

The price of KSS on the exchanges will be determined by demand and supply of the KSS coin and the value of the acquired assets by the Krosscoin Project. As the project expands use cases and serves more people, and the acquired assets grow or fall in value, the KSS price may tend higher or lower depending on prevailing market sentiment or demand.



# Conclusion

KSS is the first African cryptocurrency, which started as a token in 2017 and became a coin in 2021 when it launched its own blockchain. The Krosscoin project through its parent company, Vinekross Technologies Limited has shown its commitment to proving the usefulness of blockchain technology through various innovations such as Hashgreed, Africa's First Asset tokenization platform; Kross Blockchain, Nigeria's First Blockchain and has other innovations for the Auto industry, Health industry and Airline Industry, Artificial Intelligence and Social media industry being developed.

Furthermore, backing 100% of circulating supply with developmental and commercial real estate assets at the earliest stage, makes the KSS coin the first of a new class of Layer 1 coins and appeals to the sensitivities of people across all generations, setting the stage for the next level of global adoption of currencies and the blockchain technology and its interoperability with real word assets.

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# References and Links

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7. Twitter (Kross blockchain):

[https://twitter.com/krosscoin\\_team](https://twitter.com/krosscoin_team) Instagram (Hashgreed):

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<https://facebook.com/krosscoin>

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