

The logo for Estate X Change features the words "ESTATE" and "CHANGE" in a blue, serif font. The letter "X" is a large, stylized graphic composed of three parallel lines that converge at the top and bottom, with two small arrows pointing upwards and to the right from the top-right corner of the "X".

ESTATE X CHANGE

The Phigital Way to Invest in Real Estate



Abstract.....	3
1. Introduction.....	3
2. Market Analysis.....	4
3. Problems.....	5
4. Solution.....	7
5 What Is EstateX?.....	9
5.1 The Estate Xchange.....	9
5.2 Mission & Vision.....	9
5.3 How It Works.....	9
5.4 Reserve Tokens.....	10
5.5 How Property Agents/Brokers Fit Into The System.....	11
5.6 Other Participants & Components Of Estate Exchange.....	12
6. Revenue Streams For Estate Xchange.....	12
7. Two Components Of Estate Xchange.....	13
7.1 Tokenizing Real Estate.....	13
7.2 Trading On The Exchange.....	15
8. Blockchain & Smart Contracts.....	15
8.1 Blockchain For Tokenization Of Real Estate.....	16
8.2 Smart Contracts.....	16
9. Staking.....	17
10. Target Users Of Estate Exchange.....	18
11. Roadmap.....	20
12. Team.....	21
13. Legal Disclaimer.....	21
14. Citations And References.....	22



Abstract

Real Estate Is One Of The Fast-Growing Industries Around The World. But, Even This Sector Has Its Ups And Downs. The Growth In Real Estate Is Never Constant And The Industry Is Full Of Problems That A Real Estate Company Or Broker Would Be Very Well Aware Of.

Some Of The Most Common Problems Of The Real Estate Sector Include Limited Liquidity In Properties, Lack Of Transparency In The Pricing Of Real Estate, And Availability In Large Chunks (Property Size) That Small Investors/Buyers Cannot Afford To Buy, Especially Because Transactions Are Mostly In Cash, The Problem Of Cash Crunch Due To Large Financial Commitment, Real Estate Being An Unorganised Sector Largely Dominated By Unskilled Or Inexperienced Real Estate Agents, Low Integrity Amongst Buyers, A Significant Drop In Transactions When Markets Are In Bad Shape, And A Cumbersome Process To Get A Loan Against Property.

We Are Building A Blockchain-Based Solution To The Above Problems. It's Called Estate Exchange Or EstateX.

The Estate Exchange Is A Real Estate Exchange Platform That Will Work Similarly To Other Recognised Exchanges Such As NSE And MCX To Completely Transform The Real Estate Market By Turning It Into An Organised Sector. This Will Be Achieved Through The Tokenization Of Real Estate. The Exchange Will Essentially Convert All RERA-Registered Real Estate Projects Into Tokens, Which Will Be Listed On The Exchange For Trading. A Person Looking To Buy A Registered Property Can Go To The Exchange To Buy The Tokens For That Property. The Estate Exchange Through Its Real Estate Tokenisation & Trading Platform Will Solve All Of The Above Problems.

In This Whitepaper, You Will Get A Detailed Look Into How Real Estate Tokenization And Trading Services Of Estate Exchange Will Help Solve Various Problems In The Real Estate Sector. We Also Talk About The Project In Detail, How It Works, The Tokenization Process, Benefits For Investors, Brokers, Etc., Future Plans, And So On.

1. Introduction

The Growth In The Real Estate Market Is Unpredictable At Best As The Industry Suffers From A Range Of Problems, Including Limited Liquidity. This And Many Other Problems Of The Real Estate Sector Can Be Solved Through Tokenization, Which Refers To The Process Of Splitting A Real Estate Property Into Digital Tokens On The Blockchain. Tokenization Will Help Increase Liquidity In Real Estate, Making It More Affordable And Convenient For People To Buy Premium Properties From Top Builders.

Estate Exchange Is A Blockchain Project That Involves Building The Country's First Official Exchange For Real Estate Tokens. The Platform Will Provide Two Major Services - i) Tokenization Of Real Estate And ii) Trading Of Real Estate Tokens.



Tokenization Essentially Means Virtually Converting A Physical Asset Into Digital Tokens On The Blockchain. In Other Words, The Physical Asset Such As A Building Will Be Virtually Split Into Smaller Parts, Each Of Which Will Be Represented By A Crypto-Token That Can Be Traded (Bought And Sold) On The Estate Exchange. This Will Help Solve Many Problems In The Real Estate Sector (Which We Will Discuss In Detail In The Next Few Sections) And Make It Easier For Anyone To Get Entry Into This Space Even With A Small Amount To Invest.

Estate Exchange Will Essentially Act As A Platform, Where Real Estate Companies And Brokers Can Register As A Member To Get Their Properties Tokenized In Order To Increase Their Liquidity And Make Them More Accessible To People Across The World. The Exchange Component Will Allow Members To Sell Their Tokens To Someone Who Is Looking To Buy Or Invest In The Property.

Estate Exchange Uses Blockchain Smart Contracts For The Purpose Of Tokenization And To Ensure Secure & Transparent Handling And Trading Of Ownership Records Of Real Estate. It Will Be A Public Blockchain, Where Everyone Can See The Ownership Data Of A Real Estate Property, Including Transactions And Price History. The Trading Of Real Estate Tokens Will Be Handled Through Smart Contracts Without Middlemen To Minimise Errors And Increase Transparency.

Go To Section 6 For Complete Details About How Estate Exchange Works.

2. Market Analysis

According To An IBEF Report, The Real Estate Market In India Was Valued At US\$ 200 Billion In 2021 And Is Expected To Reach US\$1 Trillion In Size By 2030. By 2025, The Sector Will Be Contributing 13% To The Country's GDP. This Is A Fast-Growing Sector, Which Is One Reason Why Investors, Both Local And International, Are Always Eager To Get A Chunk Out Of The Handsome Returns The Real Estate Industry Has To Offer.

But, The Entry Into The Real Estate Sector Is Anything But Smooth. The Growth Of Property Values Is Quite Unpredictable And Too Much Dependent On Market Factors. For Example, The Covid-19 Pandemic Nearly Wiped Down All Transactions In The Sector For About Two Years Between 2020 And 2021. The Growth In The Sector Was Negligible During The Period, As No Properties Were Selling. More Than Anything, The Pandemic Resulted In A Serious Cash Crunch In The Market, Which Gave Birth To A Liquidity Crunch For Real Estate Developers, As The Cash Flow Was Interrupted By The Ongoing Stress On The Global Economy.

According To A Statista Report, The Property Prices Are Highest In The Top Cities Of India Like Mumbai, Bengaluru And Hyderabad. In The Mumbai Metropolitan Region, For Instance, The Average Real Estate Cost Is INR 6,885 Per Square Foot. This Highlights The Second Major Problem Of The Real Estate Sector, Which Is The Need For Huge Cash Or Assets When Someone Is Looking To Buy A Decent Property In A Top-Tier City In India.

A Big Portion Of Real Estate Transactions Happens In Cash Because Developers Are Not Often Willing To Report The Entire Sum In Their Tax Returns And Some Of It May Go Unaccounted For. Also, They Need Quick Cash That They Can Invest In The Next Project To Maintain The Cash Flow. But, Not Everyone Can Afford This Kind Of Money, Especially In Cash. To Buy A Decent 1,000 Sq. Ft. House In Mumbai Metropolitan, You Would Need To Have About INR 68,85,000, A Percentage Of Which The Developer May Ask To Be Paid In Cash.

And When There Is So Much Cash Involved, The Chances Of Corruption Are Also High. For Instance, The Above Figures May Not Necessarily Show The Correct Price Of A Property, As The Developer Can Choose To Sell It For A Much Higher Rate Depending On The Demand. However, He Will Only Show The Above Figure In Records, Which Means A Lot Of Cash Goes Unreported. This Creates The Problem Of Corruption And A Lack Of Transparency In Property Prices.

To Sum Up, There Is A Dire Need To Make The Real Estate Sector More Organised To Deal With Problems Such As Lack Of Liquidity And Transparency And Curb Corruption By Limiting Cash-Based Real Estate Transactions. Let's See How Tokenization Can Just Be The Most Perfect Solution For The Problems Of Real Estate

3. Problems In The Real Estate Sector

3.1. Lack Of Transparency In Price Discovery

Lack Of Transparency In Pricing Is One Of The Major Problems In The Real Estate Market. What It Means Is That Potential Buyers And Investors Have Practically No Way To Discover The Real Price Of A Property That They Are Interested In Buying. This Is Because The Sector Is Largely Unorganised And Lacks A Common Platform To Find The Price Of Real Estate.

Because Buyers Have No Better Way To Find Out The Right Price Of The Property They Are Looking To Buy, They'd Generally Quote The Price Of The Last Transaction In That Particular Building Without Actually Considering Real Market Factors. Another Thing That Drives The Cost Of Real Estate Is The Need Of The Buyer And Seller. If The Seller Is Too Desperate To Sell The Property, He'll Accept A Lower Price, And If The Buyer Is Desperate To Buy, He Will Pay A Higher Price.

As One Can Imagine, This Leads To A Big Gap Between The Actual Price And The Asked Price Of Properties. And In Most Cases, The Buyer Ends Up Paying A High Rate Because Of The Lack Of Transparency In Price Discovery.

3.2. Real Estate Is An Illiquid Asset

Real Estate Investments In Properties And Lands Are Considered Non-Liquid Assets Because It's Not Easy To Sell These Assets Quickly And The Process Of Finding A Buyer May Only Take Months Or Sometimes Years. So, You Cannot Possibly Rely On Real Estate For Your Emergency Cash Needs. The Money Of A Large Number Of Real Estate Companies And Investors Got Stuck When The Market Went Downhill During The Covid-19 Pandemic As They Were Unable To Find Buyers To Sell Their Properties.

There Is Always The Option Of A Loan Against Property For An Emergency, But Even That Can Be A Long And Cumbersome Process In Many Cases.

3.3. Large Investment Size

The Large Ticket Size Of Many Real Estate Properties, Especially In The Premium Segments (1500 Sq Ft And Upwards), Requires The Buyer Or Investor To Arrange A Lot Of Cash Up-Front, Which Is Not Easy For Everyone.



Many Properties, Including Apartments, Houses, Offices And Other Commercial Properties Come In Large Sizes. And Because Real Estate Cannot Be Split, The Buyer Has No Option But To Buy The Entire Property And Arrange The Cash Anyhow If They Are Interested In The Opportunity. In Other Words, The Current Market Doesn't Give You The Option To Buy A Fraction Of A Real Estate Property.

3.4. Cash Component In Transactions

A Large Number Of Real Estate Deals In India Take Place In Cash. Many Small-Scale Real Estate Developers Prefer To Trade In Cash For Two Reasons: To Maintain Cash Flow And To Save Tax On Any Additional (Usually Unaccounted) Income Or Profits Generated By Selling The Property.

But, This Creates A Series Of Problems For The Sector. First, Not All Buyers Can Accumulate Such A Large Sum In Cash On Short Notice, Which Creates An Entry Barrier To The Sector. Also, Large Cash Transactions, Especially The Ones Involving Unaccounted Cash, Are Responsible For Corruption In The Industry.

3.5. The Financial Burden On Buyers & Their Families

Purchasing A Property Like A House Is A Big Deal For Middle-Class Families Because It Involves A Large Financial Commitment, Which In Some Cases Requires The Buyer To Keep Paying Loan EMIs For At Least A Couple Of Decades.

Not Many Middle-Class Families In India Can Afford To Buy A House Or Any Other Property By Paying The Full Amount Upfront. Most Of Them Seek Loans To Purchase A Property, Which Binds Them Into An Agreement Where They Have To Keep Paying Interest And Instalments To The Lender. This Happens Because Buying A Property Is A Costly Affair And There Is No Option To Buy A Fraction Of A Property.

3.6. It's An Unorganised Sector

The Real Estate Industry Is Largely Unorganised, Especially Tier 2-3 Builders, Developers And Brokers Who Also Generally Deal In Cash. This Means A Major Part Of The Indian Real Estate Market Is Not Governed By The Rules And Regulations Of The Government.

Because A Major Portion Of The Real Estate Sector Is Unorganised, There Are All Kinds Of Unregistered Players In It, Including Real Estate Agents, Brokers & Agencies Who Either Have No Real Background Or Knowledge Of Real Estate Or Have Little Experience In It. They Still Levy A Hefty Commission On Every Trade And Yet Rarely Provide Any Actual Help To Either Buyer Or Seller. Moreover, A Large Number Of Real Estate Companies And Agents Never Report (Or Are Not Required To Report) The True Number Or Value Of Their Transactions, Which Means A Lot Of Cash In Real Estate Transactions Goes Unaccounted For And Is Never Taxed.

3.7. Lack Of Integrity Among Participants

The Real Estate Market Operates On Trust. The Buyer Trusts The Broker And The Seller To Provide Them With A Good Building/Land. On The Other Hand, The Broker Trusts The Buyer To Pay The Brokerage Fairly And On Time. However, There Seems To Be A Lack Of Integrity Amongst Buyers, Sellers And Brokers (Especially Towards Paying Brokerage And Any Other Related Fees), Which Forces The Need For Stricter Regulations In Real Estate Transactions.



3.8. Real Estate Can Be A Risky Investment

Real Estate Can Be A Very Risky Investment, Primarily Because The Value Of Real Estate Greatly Depends On Demand, Which Can Be Influenced By Market Conditions And Fluctuations. For Example, Real Estate Transactions Were Nearly Washed Out When Markets Were In A Downward Trend During The Pandemic, As There Were No Buyers Of Properties.

Real Estate Is Also Risky Because It Requires A Huge Investment On The Buyer's Part. In Most Cases, The Money To Buy Real Estate Is Raised Through Interest-Bearing Loans, Which Further Increase The Purchase Cost And Make It Much More Difficult For The Buyer To Make A Profit On Their Investment.

3.9. Getting A Loan Against Property Isn't Easy Or Feasible

The Process Of Getting A Loan Against Property (LAP) Can Be Cumbersome And May Take Months In Some Cases. Moreover, The LTV (Loan To Value) Is Typically 50% Or Less Of The Actual Market Price Of The Property, Which May Make It A Not-So-Interesting Deal For Some Property Owners. In Simple Words, You May Not Be Able To Get A LAP Of More Than Half The Value Of Your Property, Which Means This Is Not Always The Most Suitable Option For Emergencies And Huge Cash Requirements.

4. Solution – Real Estate Tokenization

Tokenization Is The Answer To All The Above-Mentioned Problems Of The Real Estate Sector And Some More. The Process Involves Splitting A Piece Of Real Estate Into Fractions, Which Can Be Bought, Sold And Traded As Individual Entities, Which Increases The Liquidity And Will Make It Possible For Everyone To Buy/ Invest In Real Estate Even With Limited Funds. Here Are Some Other Benefits:

4.1. Provides Transparent Price Discovery Like The Stock Markets

The Process Of Real Estate Tokenisation On The Estate Exchange Will Involve The Tokenization Of All RERA-Registered Properties. The Exchange Will Work Like NSE And MCX To Provide A Transparent And Fair Price View Of Real Estate Tokens In Real-Time. This Will Be A Publicly-Accessible Global Exchange With Centralised Access, Which Means The Owner Will Have The Final Control Over How The Exchange Works But Users Will Always Have Full Control Over Their Data And Funds At All Times. Real Estate Tokens On The Estate Exchange Will Represent The Real-Time Price Of Physical Assets Attached To Them.

4.2. It Will Make Real Estate A Liquid Asset

One Of The Biggest Benefits Of Tokenization Is An Increase In The Liquidity Of Real Estate. The Sector, Which Is By Default Considered Illiquid, Can Hugely Benefit From Tokenization, Which Will Enable People To Sell Their Buildings, Lands, Etc. Much Faster Or Seamlessly Trade Their Physical Assets Through Tokens On The Exchange.

It Is Much Easier And Affordable To Buy Real Estate Through Tokens, As The Price Of Each Token Will Be Much Less Than The Value Of A Complete Building Or A Piece Of Land.



4.3. The Minimum Investment Size Gets Smaller

Through Real Estate Tokenization, The Ticket Size (Minimum Purchase Value) Will Reduce Drastically, As People Can Buy A Minimum Of 1 Sqft = 1 Token At A Time. This Will Lead To Increased Liquidity And Open Doors For Millions Of Beginners Who Were Restricted Because Of The High Investment Size In Real Estate. This Will Enable Practically Everyone To Buy Or Invest In Any Real Estate Project Anywhere In The World, Which In Turn Will Lead To More Planned Purchases, As Investors/Buyers Will Have More Scope And Time To Plan Their Real Estate Investments.

4.4. Purchase Real Estate Without A Lot Of Financial Burned

Unlike Before When The Purchase Of Real Estate Used To Be An Enormous Deal Money-Wise, Thanks To Tokenization, People Can Now Buy Fractions Of A Building Or Land Without Causing Any Real Financial Burden On Their Families Or Themselves. For Example, A Building That Originally Costs INR 1,00,00,000 To Buy Can Now Be Purchased For As Little As INR 1000 If The Entire Property Value Is Split Into 10,000 Digital Tokens Each Representing 1 Sq Ft. This Way, One Can Purchase Just One Token Or More As Per Their Financial Ability.

4.5. No Cash Involved

The Entire Process Of Real Estate Tokenization And Trading, From Converting The Real Estate Into Digital Tokens To Trading Them On The Exchange And Payment Of Brokerage Will Be Digitally Performed On The Exchange. Since The Tokens Are Traded Over An Exchange, There Are No Cash Payments Involved In Any Transaction. All Payments Are In Cryptocurrencies. This Will Help Curb Corruption In Real Estate Transactions As Well As Reduce The Burden On Buyers.

4.6. Downtrends Are No Longer A Threat

Real Estate Companies And Investors Are Always Worried About The Next Recession Or When The Markets Start Behaving Bearish. That Should No Longer Be A Concern After Tokenization. Even When The Markets Are In A Downtrend, There Is Enough Liquidity On The Exchange (Global Stock Markets Are A Classic Example) And Property Buyers-Sellers Can Keep Trading Without Having To Worry About A Thing.

In Fact, Downtrends Can Actually Be A Good Thing For It Will Enable Newer Participants To Enter The Sector, Same As Stock Markets Where New Investors Generally Enter At Bearish Times To Buy Stocks At A Reduced Price.

4.7. Eases The LAP Process

The Overall Process To Take A Loan Against Property Can Become Extremely Easy And Convenient Through Tokenization. Because Transactions On The Estate Exchange Are Token-Driven, A Person Seeking A Loan Against Property Will Simply Have To Deposit Their Tokens To The NBFC (Non-Banking Financial Company) And Can Get A Loan In A Matter Of Hours, If Not Minutes.

Not Only The Loans Against Real Estate Tokens Are Instant But Also Very Secure And Free Of Fraud Thanks To Blockchain Technology.



5. What Is Estate Exchange?

5.1. The Estate Xchange

Estate Exchange Is Being Created And Will Be Launched As A First-Of-Its-Kind, Blockchain-Based Exchange Platform For Real Estate Tokens. It Will Work Along The Lines Of NSE/BSE/MCX, I.E. Provide Transparent & Legitimate Trading Services To People Who Are Looking To Make Profits By Investing In The Real Estate Sector Or Want To Buy Real Estate With Limited Capital Via Fractional Ownership.

One Of The Core Benefits Of The Estate Exchange Is That It Enables Everyone To Invest In Real Estate Irrespective Of Their Experience And Wallet Size.

For Ease Of Understanding, EstateX Will Do To Real Estate What MCX Did To The Commodities Market ... Total Transformation. The Real Estate Market At Present Is Completely Unorganised And Full Of Problems (As Listed Above). This Not Only Makes It Difficult For People To Actually Make Any Profits By Investing In Good Real Estate But Also Limits The Government's Ability To Earn A Healthy Tax Income From The Growth Of This Sector.

The Estate Exchange Will Provide Two Main Services:

- Tokenization Of Real Estate
- Trading Of Real Estate Tokens

The Project Aims To Eventually Tokenize Every RERA Registered Project And List Its Tokens On The Estate Exchange. The Proposed Settlement Period Is T+5 Because It's A New Product And People Might Need Some Time To Understand And Adopt It. NSDL/CDSL Will Be Onboarded To Act As The Depository (Responsible For The Safekeeping Of Tokens Deposited To It) And RERA Will Act As The Regulator Just Like SEBI For Stocks.

The Trading Interface Of Estate Exchange Is Under Development And The Beta Is Expected To Be Released By The End Of The Year (Check Out The Roadmap For Details).

5.2. Mission & Vision

Vision: To Achieve Transparent Price Discovery Of Real Estate Assets Globally And Make It Easily Available To The Masses By Reducing Ticket Size.

To Become The Most Trusted Platform For The Tokenization Of Real Estate And The #1 Exchange For The Trading Of Real Estate Tokens Around The World.

5.3. How It Works

Step 1 : A Real Estate Developer Looking To Tokenize Their Property (Under Construction Or Ready To Possess) Can Join The Estate Exchange And Apply For Tokenization.

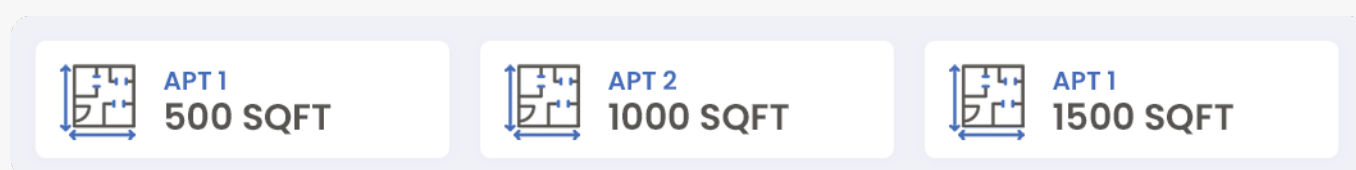
Step 2 : The Property In Question Will Be Tokenized On The Blockchain Such That It Becomes Liquid And Easy To Buy/Sell Digitally Anywhere In The World.




The Tokens Can Be Sold In Stages To Meet The Funding Needs During Different Stages Of Construction. The First Set Of Tokens Will Most Likely Be Sold At A Discount To Attract More Investors Quickly In Order To Raise The Initial Capital To Start The Construction Work.

Each Token Will Represent 1 Sq. Ft. Of The Said Property Of A Particular Developer.

1 Token = 1 Square Feet

Suppose The Builder's Property Has Apartments With The Following Specifications:



 APT 1 500 SQFT	 APT 2 1000 SQFT	 APT 1 1500 SQFT
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The Total Number Of Tokens In The Project Will Be Equal To The Total Saleable Area (In Sq. Ft.). So, For Example, If There Are 10 Apartments Of Each Type, The Total Saleable Area Would Be $5000+10000+15000 = 30,000$ Sq Ft., And So The Total Number Of Tokens In The Project Would Be 30,000.

Step 3 : The Developer Will List Their Real Estate Tokens On The Estate Exchange To Allow Interested Investors/Buyers To Buy Tokens In Order To Buy Ownership Rights To The Physical Property.

The Tokens Can Be Traded On The Exchange. At Every Stage Of Construction, The Developer/Builder Can Sell The Required Tokens At Market Price To Fund Further Construction.

Each Token Represents 1 Sq. Ft. In The Project.

Step 4 : The Buyer Looking To Buy An Apartment From That Developer Will Go To EstateX And Purchase The Required Quantity Of Tokens. For Example, If They Want To Buy A 500 Sq. Ft. Apartment, They Must Purchase 500 Tokens Of That Property.

Step 5 : The Buyer Will Then Deposit The Tokens With A Clearing/Settlement Agency (Like NSDL/CDSL), In Exchange For Which They Shall Receive The Ownership Of The Physical Property (Apartment). The Title Deed Will Have To Be Registered As Usual.

Note: The Actual Token Value Would Be Based On The Particular Project/ICO's Assets And Its Approved CoinMarketCap Assessment And Will Be Provided Once The Project Is Finalised.

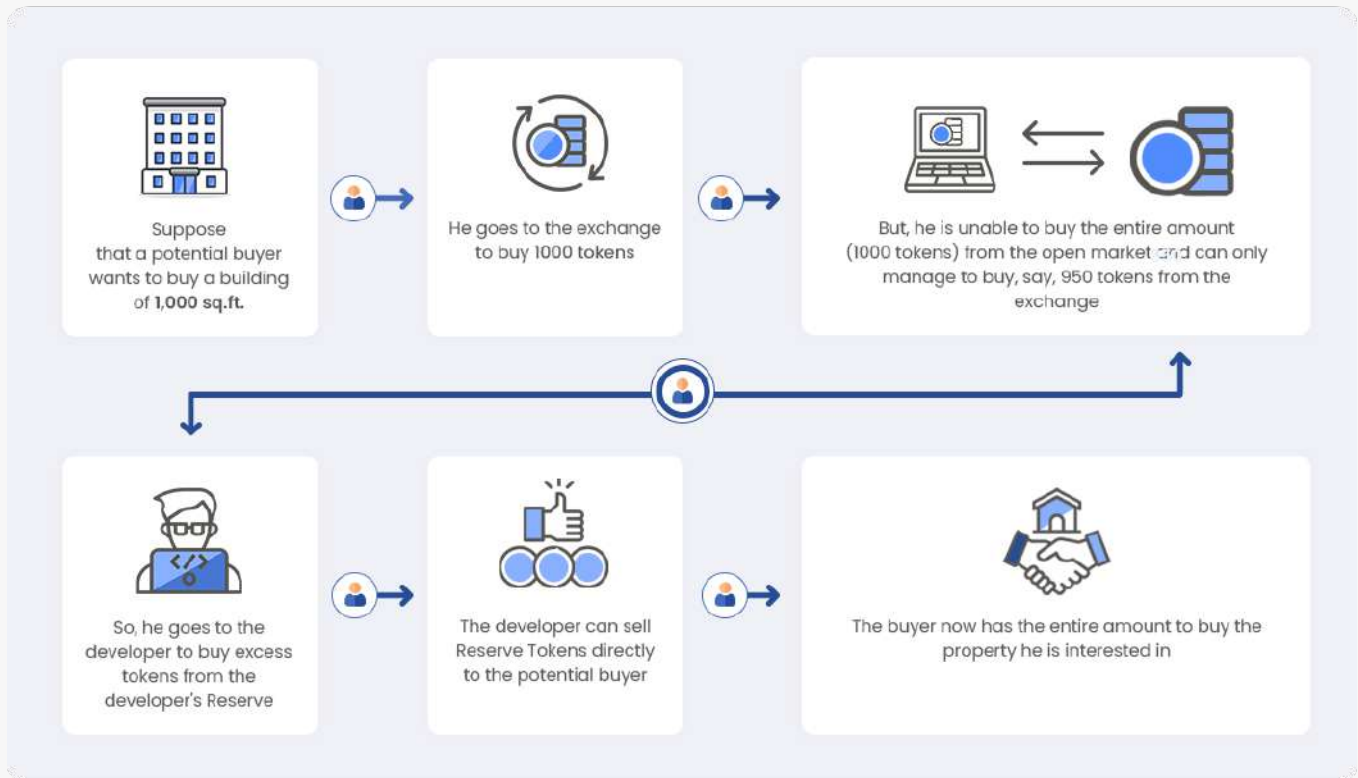
5.4. Reserve Tokens

The Builder Can Choose To Keep Certain Tokens As Reserved. In Case A Potential Buyer Is Unable To Buy The Desired Quantity Of Tokens From The Exchange, They Can Buy Tokens Directly From The Builder's Reserved Quota To Get Ownership Of The Physical Asset. Other Than That, The Builder Can Use The Reserve Tokens For The Maintenance Of The Common Amenities In The Property, Thereby Reducing The Maintenance Load Of The Apartment Owners.

Once The Entire Project Is Sold, The Reserve Tokens Will Be Transferred To The Society, Which Can Sell The Same And Use The Proceeds Towards The Upkeep And Maintenance Of The Society.

There Are Plans For The Entire Process, Including The Transfer Of Ownership, To Be Eventually Moved To Blockchain To Reduce The Overall Processing Time And Cost And Increase Transparency.

How to use Reserve Tokens?



****Reserve tokens are the tokens that are kept reserved with the project developer/owner.**

5.5. How Property Agents/Brokers Fit Into The System

Property Agents Or Brokers Will Have A Crucial Role To Play In The Estate Exchange's Blockchain-Based Real Estate Trading System. They Will Continue To Offer Their Brokerage Services To Property Buyers And Sellers And Help Them Find The Right Property/Buyer In The Same Way As With Physical Assets But In A More Regulated And Organised Environment. There Will Be Three Types Of Brokers/Agents In The System:

Main Brokers - Large Real Estate Brokers Like JLL, CBRE, Etc. Will Be Onboarded As Members Of The Estate Exchange.

Sub Brokers - The Smaller (Tier-2,3) Real Estate Agents Can Become Sub-Brokers Of The Main Brokers Or Choose To Take Their Own Membership.

Independent Agents - The Independent Real Estate Agents Too Will Have To Enter The Formal Sector Either By Taking Independent Membership Or Becoming Sub-Brokers To Large Brokers.



5.6. Other Participants & Components Of Estate Exchange

Other Than Brokers And Agents, Some Of The Most Crucial Participants Of The Estate Exchange Will Be As Follows:

Real Estate Developers & Companies – A Real Estate Developer Or Company Is Someone Who Develops And Sells Real Estate For A Profit. The Type Of Real Estate May Include Commercial Buildings, Apartments, Houses, Villas, And/Or Land. A Developer Will Generally Acquire The Land At A Low Price And Will Then Develop A Residential Or Commercial Building For The Purpose To Sell It For A Profit.

Real Estate Being An Illiquid Asset Can Make It Extremely Difficult For Developers/Companies To Sell Their Buildings, Especially If The Market Is In A Downtrend Or There Is Little Demand For Real Estate. Tokenization Can Be A Wonderful Solution For These Developers To Increase The Liquidity Of Their Real Estate, Making It More Accessible To All Kinds Of Buyers With Different Pocket Sizes.

NSDL/CDSL (Depository) – NSDL/CDSL Will Provide Depository Services To The Exchange Participants, Where It Will Facilitate The Allotment Of Real Estate Tokens Into The Depository Accounts Of The Investors/Buyers And Can Be Approached By Token Holders Who Are Looking To Get The Possession Of Physical Assets In Exchange For Their Tokens.

RERA (Regulator) – RERA (Real Estate Regulatory Authority) Will Act As Regulatory, Providing Registration To Real Estate Projects And Protecting The Interests Of The Investors.

Buyers & Investors – Buyers And/Or Investors Are The Ultimate Beneficiaries Of The Estate Exchange, As They Get Access To A Transparent Way To Discover The Right Price Of Real Estate, Can Compare Real Estate Tokens Based On Merits And Popularity, Buy Fractional Ownership Of A Physical Asset By Purchasing Tokens On The Exchange, And Seamlessly Trade Their Tokens To Earn Profits

6. Revenue Streams For Estate Xchange

Having A Strong And Realistic Revenue Mechanism Is Crucial For The Success Of Any Project. With That In Mind, Estate Exchange Has Come Up With The Following Four Ways In Which The Platform And Its Creators Will Generate An Income To Maintain The Sustainability Of The Exchange And Keep It Going For A Very Long Time.

6.1. Listing Fees For Each Project/Token

Every Real Estate Project Or Token That Gets Listed On The Exchange Will Be Charged A One-Time Listing Fee (To Be Decided Later). The Listing Fee Will Have To Be Paid Upfront Before The Token Could Be Listed On The Platform.

6.2. A Certain Percentage Of The Project's Turnover

The Project Developer Will Have To Pay A Certain Percentage Of The Total Turnover Of Their Project/Token On The Platform. The Platform Will Charge A Transaction Fee In The Range Of .01%-.05% Of The Total Traded Value Of The Token.



For Total Traded Value Less Than \$100,000	.01% Fee Per Transaction
For Traded Value Between \$100,001-\$200,000	.02% Per Transaction
For Traded Value Between \$200,001-\$300,000	.03% Per Transaction
For Traded Value Between \$300,001-\$400,000	.04% Per Transaction
For Total Traded Value Of \$400,001 Or More	.05% Per Transaction

For Example, If The Total Traded Value Of A Token In A Month Is \$100,000, The Fee To Be Paid To The Exchange Will Be \$10 (At The Rate Of .01% Per Month).

Note: Provisional Figures, Likely To Change.

6.3. Membership Fees From Exchange Members

As Mentioned Above, Property Agents And Brokers Will Be Onboarded As Members Of The Estate Exchange. They Will Be Provided With Many Member-Exclusive Services, Including Unprecedented Access To Our Community Of Verified Real Estate Investors And Buyers Along With The Ability To Seamlessly Tokenize Their Projects For Easy Liquidity And Immediate Trading.

In Exchange For These Services, All Members Will Be Required To Pay A Small Membership Fee (Charged Annually). The Membership Fee Structure Will Be Revealed Shortly.

6.4. Trading Fees From Investors & Buyers

Real Estate Investors, Property Buyers And Traders Who Join Estate Exchange And Trade Tokens Will Have To Pay Certain Trading Charges, Including Exchange Turnover Fee, Service Tax And Other Charges, Which Will Be Levied For Every Successful Trade Transaction On The Platform.

7. Two Components Of Estate Xchange

7.1. Tokenizing Real Estate

The First Step To Selling A Piece Of Real Estate On EstateX Is To Tokenize It, Which Essentially Means Converting The Ownership Rights Of A Physical Asset Into Digital Tokens On The Blockchain.

For Example, If Your Property Is 1,000 Sq. Ft., It Can Be Transformed Into 1,000 Tokens, Each With A Value Equal To 1/1000th Of The Property Value.

BLOCKCHAIN APPLICATIONS

TOKENIZATION OF REAL ASSETS

Did you know that blockchain has the potential to transform the way we invest in physical assets? Tokenization is a solution that divides an asset into digital tokens which act as ownership shares.

Here's an example of how tokenization can be used in real estate.



Looking forward, blockchain technology could democratize investment in a wide range of physical assets:



Real Estate Tokenization Is Essentially The Process Of Dividing The Ownership Of A Property Into Digital Tokens That Can Be Sold And Traded As Individual Entities, Thereby Allowing People To Invest In The Fractional Ownership Of A Property. The Tokens Act As "Shares" And Grant Certain Ownership Rights To Their Holders.

The Process Of Tokenisation Involves The Use Of Smart Contracts, Which Are Used To Write (Code) The Terms Of Tokenization. For Example, Tokenization Of A Building Worth \$100,000 Having An Area Of 1,000 Sq. Ft. Can Be Done By Dividing Its Ownership Into 1,000 Digital Tokens Worth \$100 Each. The Smart Contract Will Contain The Details Of The Agreement To Make Sure There Is Complete Transparency With Zero Probability Of Fraud. It Would Also Ensure Every Token Holder Receives Their Fair Share Of The Property's Ownership And Rental Income (If Any).

These Tokens Along With The Agreement Will Be Securely Available On The Public Blockchain Of Estate Exchange.



7.1.1. The Tokenization Process (Technical Steps)

The New Token On The Estate Exchange Will Be Created And Based On ERC-20 Standards Of Ethereum And Work Using The Smart Contract. The ERC-20 Standard Defines The Rules That A Smart Contract Should Implement And Follow.

To Start Creating A Token, It Must Be Given A Name, A Symbol, And The Total Number Of Tokens That Can Ever Exist. ERC Specifies Both Mandatory And Optional Functions, As Listed Below:

Replace The Symbol And Name With The Token Details:

```
Symbol = "REX";
```

```
Name = "Exchange Coin";
```

Set The Decimal (Value In Which Tokens Can Be Divided, 0 To 8 Decimal Units) And Mention A Total Or Max Supply Value For The Token:

```
Decimals = 8;
```

```
_totalSupply = 1000000000;
```

Please Change YOUR_METAMASK_WALLET_ADDRESS To Your Own Wallet Address (The Same Wallet You Specified To Obtain Test Currency):

```
Balances[YOUR_METAMASK_WALLET_ADDRESS] = _totalSupply;
```

```
Emit Transfer(Address(0), YOUR_METAMASK_WALLET_ADDRESS, _totalSupply);
```

7.2. Trading On The Exchange

Soon After The Release, The Tokens Will Be Listed On The Estate Exchange, Where They Can Be Purchased And Traded By People Looking To Invest In Or Buy The Underlying Physical Assets (Buildings, Apartments, Etc.).

Estate Exchange Will Essentially Work As A Regular Exchange Platform For Regulated Real Estate Tokens (Just Like MCX For Commodities). Anyone Looking To Buy, Sell And Trade Real Estate Tokens Can Join The Exchange. The Membership Is Free For Buyers, But They Might Have To Pay Other Charges Plus Tax For Every Trade Transaction.

The Settlement Timeline For All Trades Would Be T+5, I.E. Five Days From The Day The Trade Took Place. In Other Words, It May Take Up To Five Days For The Balance For A Trade To Appear In The User's Wallet Or Account.

8. Blockchain & Smart Contracts

Blockchain Refers To A Decentralised Distributed Ledger That Stores A Record Of All Transactions Made In Digital Currencies Like Bitcoin. The Blockchain Ledger Is Distributed Across A Decentralised, Peer-To-Peer Network Of Several Computers (Called Nodes) That Are Linked With Each Other. Blockchain Is A Public Network And Anyone Can See All Transactions In It.



The Use Of Blockchain, For One Thing, Would Bring Transparency To An Otherwise Bizarre Real Estate Market, Where Some Entities Have Too Much Power And They Control The Price Of Real Estate. In Addition, Blockchain Technology And Smart Contracts Will Reduce The Need For Middlemen In Various Real Estate Transactions, Thereby Reducing Costs For Developers And Buyers (In Trading Fees, Brokerage Charges, Etc.).

Estate Exchange Will Use The Most Advanced Blockchain Technology In The Market And Will Eventually Move The Entire Process Of Buying, Selling And Registering Property On The Blockchain To Streamline The Process And Increase Transparency And Security.

The Blockchain-Based Real Estate Trading Platform Will Have Several Benefits For Users. For One, It Will Enable Buyers To Track The Price And Ownership History Of A Property They Are Planning To Buy In Order To Determine Its Correct Market Price. At The Same Time, It Allows Sellers To Make The Sale Process More Transparent And Convenient For Buyers. Because All Blockchain Records Are Digitally Stored And Assets Are Digitally Transferred, The Need And Cost Of Paperwork Are Reduced And Transactions Can Be Completed Much Faster. The Decentralised Ledger Of Blockchain Provides Full Transparency And Ensures Records Cannot Be Tampered With, Which Helps Buyers And Sellers Know That Their Transaction Is Legit And Secure.

8.1. Blockchain For Tokenization Of Real Estate

Estate Exchange Will Use Blockchain Technology For The Tokenization Of Real Estate Assets, Properties, Buildings, Land, And More. The Physical Assets Once Converted Into Digital Tokens Can Be Seamlessly Traded On The Exchange, Which Would Help Increase Liquidity And Allow People To Buy Or Invest In Fractional Ownership Of Assets.

8.2. Smart Contracts

A New Smart Contract Will Be Created For Each Fresh Project And Will Be Exclusive To That Project. It Will Contain The Terms Of The Project Tokenization, Token Sale, Purchase And Uses For The Acquisition And/Or Ownership Of Physical Assets. The Scope Of A Particular Smart Contract Will Be Limited To Any And All Buildings Or Sub-Projects Under The Project For Which It Was Created. Any Fresh Project Even From The Same Developer Should Require A New, Fresh Smart Contract.

8.2.1. Blockchain Smart Contracts For The Trading Of Real Estate Tokens

Smart Contracts Are Digital Contracts Stored And Used On A Blockchain Platform. These Electronic Contracts Are Designed To Self-Execute Based On The Underlying Conditions Written In The Contract's Code.

Estate Exchange Will Use Smart Contracts To Automate Different Types Of Real Estate Transactions, Including Trading Of Tokens On The Exchange, Staking Tokens To Earn Interest, Verifying Identities & Paperwork, Etc. Smart Contracts Work Without Middlemen And Can Execute A Transaction In A Faster, More Secure, Cost-Effective And Efficient Manner. For Instance, They Can Automatically Transfer The Ownership Of A Building From The Seller To The Buyer Once The Underlying Conditions Are Met (Eg. Payment Is Received And Verified).



8.2.2. Smart Contracts For Managing Individual Flats

Smart Contracts Can Also Be Used To Manage Individual Apartments And Flats. Each Smart Contract, For Instance, Can Represent A Single Apartment And All Its Transactions, Sale, Purchase And Rent.

For Example, If A Group Of Friends Buy A Flat Together, The Smart Contract Will Divide The Ownership In Proportion To The Investment (Sharing) Of Each Participant. Then, If The Flat Is Put On Rent, The Tenant Will Pay Rent Directly To The Flat's Smart Contract Address. The Smart Contract Will Then Automatically Divide The Earnings In Proportion To The Number Of Shares And Each Participant Can Withdraw Their Share At Any Time Directly From The Contract.

For Effective Management Of Apartments And Rent Through Smart Contracts, Some Or All Of The Following Capabilities Should Be Added To The Smart Contract:

The Contract Creator Should Have Some Shares Of The Apartment.

- It Should Be Possible To Transfer Shares To Another User.
- It Should Be Possible To Pay The Rent To The Apartment Contract.
- Owner/Shareholders Should Be Able To Withdraw Rent From The Smart Contract.
- An Attempt To Withdraw Rent By A Non-Shareholder Should Be Failed
- A Shareholder Should Be Able To Withdraw Rent Proportional To His Share Only.
- It Should Not Be Possible To Withdraw More Than One's Share Of Rental Income.
- It Should Be Possible To Withdraw Multiple Times.

9. Staking

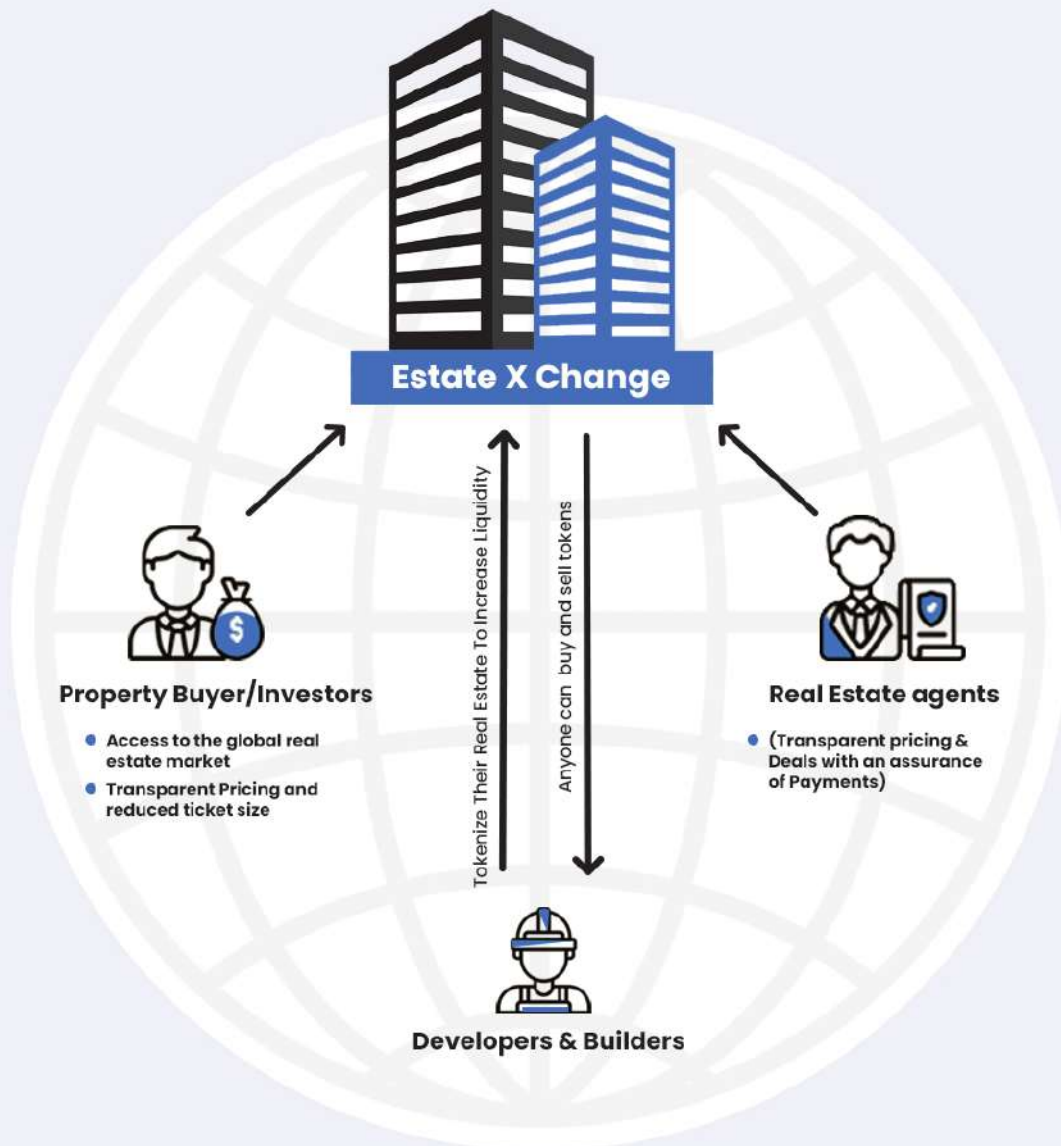
The Staking Mechanism Of Estate Exchange Will Allow Token Holders To Generate Returns On Their Investment By Lending Tokens To Earn Interest From The 1st Day Itself.

For The Uninitiated, Crypto Staking Is A Process That Involves Validating Proof-Of-Stake (PoS) Blockchain Transactions. This Is Different From Proof-Of-Work (PoW), Where The Transactions Are Validated And Processed Through A Different Process Called Mining. Staking Crypto Can Be Extremely Profitable For Investors As Well As Beneficial For The Environment. It Is A Wonderful Way To Earn Passive Income For Those Who Have Invested In Crypto With A Long-Term Horizon. They Can Stake Their Crypto To Earn Interest On It.

10. Target Users Of Estate Exchange (Who Is It For?)

System Participants, Users & Beneficiaries Will Include Real Estate Developers, Builders, Brokers, Agents, Property Buyers, And Investors.

THERE ARE THREE PRIMARY USERS OF ESTATE X CHANGE



*** Investors can seamlessly trade real estate tokens to earn profits as well as can stake (lend) their tokens to earn handsome returns on their investment.*



The Estate Exchange Will Be First Launched In UAE/Dubai, Which Is A Favoured Jurisdiction For Crypto Exchanges And Blockchain Technology. The UAE Government Allows Its Citizens To Own And Trade Cryptocurrencies On Crypto Exchange Platforms As Well As Supports Blockchain Projects And Startups. Also, It's One Of The Fastest-Growing Real Estate Markets In The World. All This Makes UAE The Perfect Country For The Launch Of Our Innovative Exchange Platform.

Developers & Builders Will Benefit Through Increased Liquidity Of Their Real Estate And Can Get Easy Funding At A Very Early Stage In The Development To Build Their Dream Projects.

Real Estate Agents Can Register As Brokers/Sub-Brokers In The System To Enjoy The Benefit Of Increased Transparency In Real Estate Deals And Get The Assurance Of Guaranteed Payment Of Agent Fees, Brokerage, Etc. For Completed Transactions.

Lastly, Property Buyers And Investors Can Benefit In Numerous Ways From The Tokenization Of Real Estate. For One, This Will Make It Easy To Find And Buy Genuine Properties From Credible Developers. It Will Help Increase Transparency In Prices, Thereby Allowing Buyers To Get A Property At The Right Price. In Addition, The Inclusion Of Blockchain-Backed Smart Contracts Will Improve Security And Reduce The Time And Cost Of Real Estate Buying, Selling & Registration Processes. Tokenization Will Allow Buyers To Purchase Small Fractions Of A Property And Pay Digitally, Thereby Reducing The Need To Arrange A Lot Of Cash At A Moment's Notice.

Investors Can Seamlessly Trade Real Estate Tokens To Earn Profits As Well As Can Stake (Lend) Their Tokens To Earn Handsome Returns On Their Investment. The Project Will Make It Easier And Affordable For People To Invest In Real Estate (Can Invest Small Amounts Through Tokens).

11. Roadmap

Market Research & Planning

A deep study of the real estate market, including consulting top industry leaders and experts about the feasibility of our idea and looking for the best way to plan and execute it for maximum effect. A plan with a detailed roadmap was prepared.

Whitepaper Version 1 Launch

The development of the Estate Exchange project whitepaper is in process and the first version is expected to be launched in September. Based on the response received from our valuable users and to meet the changing industry demands, we will routinely update the whitepaper and launch new versions.

Formation of a legal entity

We are in the process of registering the firm as a legal business entity authorised to provide services in the blockchain and crypto space. The firm will be legally established and registered in the Singapore jurisdiction, and the process is expected to be concluded by the end of 2022

Regulatory Approvals

The project/firm is expected to receive all regulatory approvals and permissions by June 2023 under the Singapore jurisdiction, post which it will be legally authorised to provide real estate tokenization and exchange services to users.

Commencing Exchange Development

The development of the Estate Exchange will officially start in March 2023 (after the start of the funding round), though we already have a complete roadmap of the project, including the exchange development plan and layout ready with us.

Estate Exchange Mobile App

The team will also create a dedicated mobile app for the Estate Exchange to provide the convenience to trade, buy & sell real estate on the go. It will be launched around the same time as the exchange (web platform) - September 2023

Ideation

The idea to build the world's largest Exchange for Real Estate Tokenization & Trading was formed in late april 2022. We endeavour to constantly refine and update our ideas to build an awesome product for our customers.

Team Building

The management is composed of 3 people, who started the project (see, Team Details). The process to hire the core team is ongoing. It will include four departments: Tech, Compliance, Marketing, and Risk Management.

The Valuation Report

or the Estate Exchange platform and company is being prepared by an industry leader appointed by us. The same will be based on the market trends, demand and competition, and the first draft will be ready and launched by the end of September 2022.

First Round of Funding

The Estate Exchange team will be organising an exclusive funding round (first phase) for our institutional and private investors, starting in February 2023 in Singapore.

Website Launch

The marketing website of Estate Exchange is under development and is expected to be ready for launch by March 2023. We are currently inviting suggestions from potential customers and brainstorming ideas.

Estate Exchange (Beta) Launch

If everything goes as planned, you can see the first (beta) version of the Estate Exchange as soon as September 2023. The product will be first launched in the Singapore market and will from there expand to other markets.



12. Team



Rikin Parekh

Founder And CEO Of Estate X Change, Rikin Has Co-Founded 2 Ventures I.E. Maverick Equities And EPuja Websolutions Pvt Ltd And Made A Successful Exit From One And The Other Start Up Is On Its Way To Get Listed On The Stock Exchange.

Rikin Brings 16 Years Of Experience Of Financial Markets, Retail And D2C. At Estate X Change He Aims To Transform The Real Estate Industry Not Only In India But Globally.

Rikin Has Done His MBA From K.J.Somaiya Institute Management Studies And Research

[in LinkedIn](#)



Avni Parekh

Advisor To Estate X Change And Avni Is A VP In The Digital Practice At O3 Capital

She Was A Part Of The Core Team To Set Up The India NBFC And Handled The Entire Debt Disbursal Process From Sourcing To Post Closure Monitoring At Hypo International London.

Successfully Closed PE And M&A Deals Across Industries Like Lifesciences, Technology, Travel And Financial Services At Aventus.

Avni Has Done Her MBA And CFA From ICFAI

[in LinkedIn](#)



Kunal Vora

Advisor And Investor

[in LinkedIn](#)

13. Legal Disclaimer

Estate Exchange, In This White Paper Or On Any Of Our Platforms, Does Not Make Any Representation Or Claim With Respect To Services Offered (Such As A Guarantee Of Profits), Except Those Clearly Specified In The Document. A Participant's Decision To Join The Platform And Buy And Sell Any Tokens On The Exchange Shall Be Based On Their Personal Knowledge And Understanding Of Estate Exchange And How Real Estate Tokenization Works.

Estate Exchange Hereby Explicitly Disclaims Any Liability And Cannot Be Held Responsible In The Following Cases:

1. A Person Using The Exchange To Purchase Tokens For The Purpose Of Money Laundering, To Finance Terrorism Or For Any Other Illegal Purpose As Specified In Their Respective Jurisdiction;
2. A Person Using The Exchange In Violation Of Its Terms Or Any Representation, Obligation Or Provision As Mentioned In This White Paper, Which Leads To The Cancellation Of Their Account Or Failure To Use Or Withdraw Funds From Estate Exchange;
3. Failure Or Termination Of The Exchange Development Process,
4. Delay In The Development Of The Exchange Platform, Failing To Meet The Roadmap Schedules;
5. Any Errors, Bugs Or Issues In The Source Code Of Smart Contracts Or The Estate Exchange Platform;
6. Failure Of The Original Blockchain That Estate Exchange Is Built On;
7. Failure Of The Platform To Be Fit For Any Specific Use Or Purpose;
8. Failure To Provide Full Disclosure Concerning The Status Of The Development Of Estate Exchange;
9. A User's Loss Of The Private Key To Their Token Wallet, Resulting In The Loss Of Stored Tokens;
10. Any Default, Failure, Closure, Termination, Service Suspension, Misconduct, Bankruptcy, Fraud, Dissolution Of Or On Any Third-Party Platform Associated With Estate Exchange;
11. Any Difference Or Contradiction Between Information In This White Paper And That On Any Other Platform/Website Of Estate Exchange;
12. Trading Of Estate Exchange Tokens By Any Third-Party Platform Or Person;
13. Listing Or Estate Exchange Tokens By Any Other Exchange;
14. Estate Exchange Being Classified As A Type Of Currency, Investment Or Trading Instrument Or Security That Leads To It Being Banned In Specific Regions;
15. Any Monetary Loss Or Personal Damage, Penalty Or Other Impact Caused Due To Trading Of Tokens On The Estate Exchange.

14. Citations And References

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