#### ABSTRACT:

This whitepaper provides a short description about RESTA's secure platform for overseas real estate investments, the Distributed Ledger Technology(DLT) for banks and real estate stakeholders which participate in KYC procedures of real estate development projects and properties, facilitation of banks' cross-border transactions, and provision of broad real estate investment selections for institutional investors with minimum transaction costs and ready smart contracts to proceed on the deals.

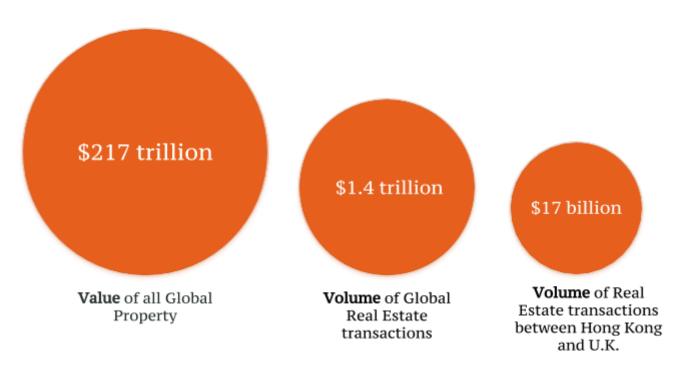
## **Table of Contents**

. Real Estate Market	1
2. Opportunity in Global Real Estate World	2
3. DLT Tech for Real Estate	2
4. RESTA Permissioned Ledgers for Banks and Real Estate Parties	4
5. RESTA Oracles in DLT	5
6. Regulatory Compliance	6
7. KYC	6
3. System Architecture	7
9. Services on RESTA's platform	8
0. RESTA Platform	9
1. Smart contracts	11
2. Investment Safety and Fund Escrow	12
3 International Real Estate Transactions with minimum costs	14



# 1. Real Estate Market

# **Market Size**



2017 Market

The global real estate market is expected to generate a revenue of USD 4,263.7 billion by 2025,according to a new report by Grand View Research, Inc. Cross-border real estate transactions are increasing every year due to the growth in Chinese and Asian economies as well as the accelerated pace of globalization. Investors around the world are searching for new sources to increase their wealth and investment in property is at an all-time high as it provides a towering yield to investors in terms of capital appreciation and income generation.

Hence, investing in real estate overseas has been a thriving trend in recent years. International real estate transactions volume increased from \$68 billion to \$360 billion over the last 7 years. More specifically,

Chinese individual investors have invested around \$150 billion due to the volatility of financial assets in China and their increased awareness of overseas assets.



The reason for the increase in transactions is that land purchase remains a productive and solid venture of cash. For example, investment in land yields a 40% return on the venture arrangement of wealthy people (with a net worth of \$30 million). During the past 6 years, normal business land developments' returns yielded around 9% annually, exceeding the yields of securities and bonds. The growing number of capital from China and Hong Kong has poured into the acquisition of real estate in the Western World. In addition to that, South Korean and Japanese investments flowed in that direction.

Key factors contributing to real estate spending:

- 1) massive urban migration
- 2) strong consumer purchasing power generated by dollar-earners (e.g overseas workers and business process outsourcing companies)
- 3) increased infrastructure spending by the current administration
- 4) resurgence in manufacturing
- 5) stronger consumer spending and the increased tourism.

Overseas real estate investment is on the rise and expected to grow at an accelerated rate.

# 2. Opportunity in Global Real Estate World

Real estate investment institutions and individual investors worldwide need better access to real estate projects in different countries, as there is no reliable channel to validate developers, projects, brokers and transactions overseas. There are also severe restrictions on investing and acquiring properties in most countries around the world. Overseas property prices are often higher for foreign investors as there are often extra fees charged for broker and sales agent commissions (up to 8%) and third-party marketing channels that can add an additional 15-20% markup and exchange fees, which occur during currency conversion.

With the current system, an investor who wants to invest in or purchase foreign real estate often relies on his network to contact local brokers, who in turn contact international brokers to connect with brokers in the foreign country. This process is time-consuming, involves many intermediaries, and the cost incurred by to the buyer and investor could rise up to 30% more than the market price of the property or development project in that country. The core problem is the lack of a comprehensively available platform for validating buyers, real estate developers and implementing cross-border transactions that would provide a direct and frictionless bridge between investors, real estate developers, and banks. The difficulties of reaching out new projects and limitations to access the new markets are heavily felt by Asset Management Companies (AMCs), which rely on the brokers a lot. However, brokerage services work only for their own interests and it causes AMCs to incur additional costs and prolonged deals with brokers prior to investing in overseas real estate projects.

RESTA platform aims to enable these institutional investors to invest directly in projects and properties with minimum transaction costs and on the trusted environment with the broader market exposure, while empowering global banks with our DLT system to carry out cross-border transactions for these parties.



At the beginning, brokers will be working on RESTA's platform as they provide a significant role in the process of market creation and higher supply of partners to work with Asset Management Companies. Having many trustworthy brokers with proven records will, in turn, enable AMCs to select the best deal among many brokers so that they can expand their limited networks and gain access to a broader and efficient market.

RESTA's trust platform where institutional investors, developers and, brokers, having passed KYC checks, can work with each other in the credible environment.

#### 3. DLT Tech for Real Estate

DLT(the Distributed Ledger Technology) is the technology that has the potential to revolutionize the world's real estate market and can improve and guarantee an upgraded process of global real estate transactions and investments. RESTA's DLT can disrupt and transform the existing market's structure significantly.

RESTA offers the trusted platform where all entities pass the KYC(Know Your Customer) checks empowered by DLT built on Corda R3 as DLT's value propositions well suites for efficient KYC processes on our platform.

DLT provides transparent and immutable distributed ledgers where banks and entities involved in the development and verification processes of real estate projects can access real-time information about real estate developers and brokers as well as institutional investors in a fast and secure way. In addition to that, trust between all parties and a reduction of operational time and costs are some advantages that distributed ledger technologies bring to RESTA's platform.

Distributed ledgers enable multiple parties to collectively view and edit a shared, consistent record of data, one single record of the information that is jointly accessible to multiple stakeholders. They can each hold a copy, access it and even update it but all copies are kept in sync with each other with the consensus algorithm.

Typically distributed ledgers are append-only, implying that information on them cannot be edited or deleted, but only updated. In a blockchain, each "block" -constitutes all previous transactions of the ledger going back to the very beginning of the blockchain. This provides an excellent audit trail to track the history of transactions till the origin of the block. Distributed ledgers like Corda also track updates to the transactions on financial agreements between stakeholders.

# 4.RESTA PERMISSIONED LEDGERS FOR BANKS AND STAKEHOLDER IN REAL ESTATE

DLT services can either be "public" or "permissioned" and this serves as a means to differentiate between them. Public blockchains like Bitcoin or Ethereum are open to all and allow anyone to run a node and access the full history of transactions on the ledger. "Permissioned" distributed ledgers, on the other hand, restrict the ability to act as a node and only grant access to known entities. Other distributed ledgers, like Corda, deviate even further from the basics of blockchain by dictating what



specific information entities are able to access. We are of the view that in the near term, technologies like these are most likely to be used in the regulated financial markets we consider below.

A permissioned DLT offers a flexible environment to banks, government entities and all parties involved in the KYC procedure to record, fill and edit the date on the ledger simultaneously. It relies on a trusted network and any mistakes in data or transaction information can be updated if all members agree on the corrections.

Each entity accesses the ledger, one contract where all parties can work. This ledger keeps a history of every change, update and records the entire transaction.

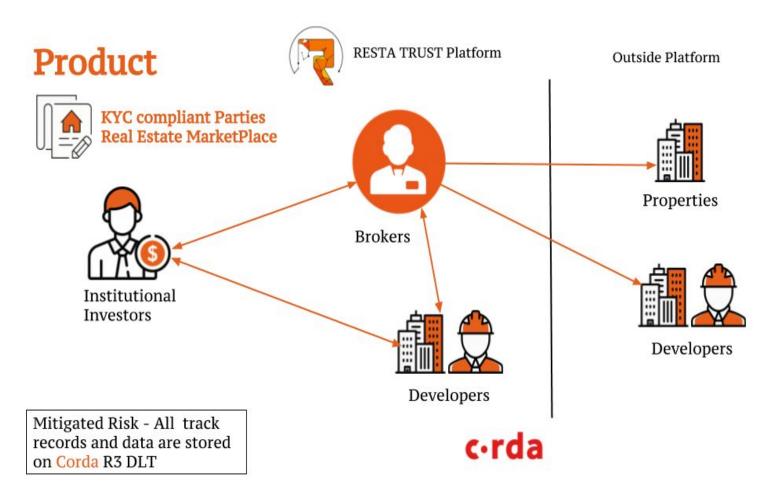
Distributed ledger technology (DLT) offers great enhancement for current financial, governmental and real estate development projects' infrastructure in the form of easing compliance burdens by simply eliminating some of the complex and expensive processes that burden financial institutions and real estate stakeholders.

For example, enhancement of efficient and safe markets with lower costs of achieving consensus and complying with regulations are presented below.

KPMG in Singapore and Bluzelle already have a consortium of three banks in Singapore - HSBC, OCBC, Mitsubishi UFJ Financial Group, and the Singaporean regulator Infocomm Media Development Authority which successfully passed the Monetary Authority of Singapore test with their prototype. The platform resulted in saving 20-50% of costs while increasing the efficiency, security, and transparency of KYC processes.

Meanwhile, the DLTs role in real estate overseas investments is gaining a huge significance, where RESTA provides the best KYC service all stakeholders involved in the global real estate investment, cutting down the costs of running multiple KYC over and over again when working with new parties. Instead, RESTA Trusted Platform performs KYC once for each entity and stores their data on the blockchain so that each entity on the platform can access it upon initiating a deal with some specific party and be sure about the credibility of the counterparty.





All parties on the platform passed through the comprehensive KYC check

To enter the marketplace of trusted parties and establish connections with global real estate brokers, investors, and developers, each party must:

- Pass the RESTA KYC once
- Submit certificates, records, a proof of authenticity

It will be recorded and stored on the Corda R3 DLT in the system and they can enter into the deal with interested parties without running any additional KYCs

RESTA ensures the credibility and high records of each party on the platform while each party ensures that regulatory requirements are met, as only parties well aware of their local regulations passes to the Trusted Platform.

## **5.RESTA Oracles in DLT**

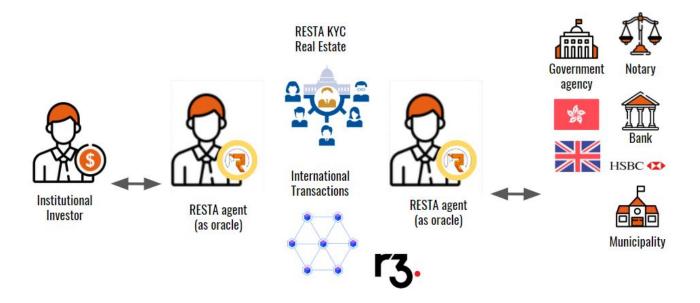
To run smart contracts or work with DLT there is a need for an oracle, an agent that searches and verifies real-world data then submits this information to a DLT. Then, the smart contract receives



value and only unlocks and start performing actions once the pre-defined conditions are satisfied. It starts executing predefined algorithms and runs the event on DLT.

To execute overseas real estate transactions, as well as conditions in the smart contracts, oracles play the huge role in the signing process of the real estate investment. Also, the oracle has to sign the smart contract before escrowed funds get released. Oracles, in this case, will be representatives of RESTA in each corresponding country who will update and record all the changes in the real estate development projects and records them on the DLT.

## **Draft Visual about RESTA oracles**



7. KYC



At RESTA, our objective is to Leverage DLTs as an enablement layer in the KYC procedures to provide the secure and trustworthy environment for real estate investment. Also, provide cross-border transactions with smart contracts and background checking of real estate development projects and properties.

KYC and AML on DLT make it possible to create a secure environment for institutional investors as RESTA performs checks on each party on the platform.

Enforced by regulations and AML regulations, banks have made continuous mistakes when carrying out KYC checks. While KYC with DLT on RESTAs platform will eliminate the possibility of making careless mistakes as it uses onboarding APIs in accordance with the revised Payment Service Directive (PSD2) in Europe to track and store the needed information. Due to that many banks, asset management companies and all stakeholders granting permits to real estate development projects can collaborate in an error-free environment.

For example, using the Nordic API gateway as an onboarding tool and KYC process for our targeted clients in Europe, KYC/AML checks can be simplified. Owing to the fact that we deal with high net-worth individuals, checking of a source of funds, UBO's, PEPs and providing AML tools for sanction list checks and transaction monitoring by leveraging PSD2 is possible.

Earlier this year the United Kingdom Competition and Markets Authority supported a progressive approach to Open Banking necessitating the need for a single API for seamless integration and interoperation of payments and access to information. Australia, South Korea and a host of other countries have all instituted open banking initiatives.

#### 8. System Architecture

RESTA's full real estate investment Infrastructure may take up to 3-4 years to be realized due to regulatory constraints.

We are therefore providing a trusted platform where asset management firms APIs for banks (PSD2) and parties involved in the real estate development projects. By implementing API third party KYC service providers can also be used to access data and onboard customers. With the imminent implementation of the EU'S revised Payment Services Directive (PSD2), EU KYC procedures will be particularly simplified.

Instead of implementing the whole Infrastructure we can start with listing some real estate development projects in London and only handle real estate cross-border transactions part of the platform while relying on KYC companies to carry on the background checks, and later on, we can replace them with our own DLT KYC procedure.

DLT in the whole RESTA's platform will play the hybrid role with some mixture of centralized and distributed systems in order to increase efficiency and achieve the faster realization of the project, as fully distributed may not be optimal for RESTA's platform.



One important distinguishment of RESTA's platform and infrastructure we are offering to the real estate market including all financial institutions and government institutions in it is that we are not going to replace existing systems or tools but we are offering a system which is compatible with their existing systems and can run in the background of their existing software operational systems.

For many institutions, it will function as an add-on feature.

# 9. Services on RESTA's platform

#### **Broadened Overseas Investment Selection and Market Creation**

Detailed KYC procedure with thorough background checking of real estate projects to guarantee secure and profitable investment selections to investors.

RESTA's solution for streamlining the KYC system comprises:

# • Aggregation of entity data

By getting government agencies to create a node to provide a single supervisory and authoritative information on clients the responsibility for clients to provide information to multiple stakeholders is removed. With the Hong Kong Monetary Authority (HKMA) already signed up to use Corda, it is evident that barriers to adoption will eventually decline.

## Authentication of entity data

By applying cryptocurrency and access to primary sources, identity information can be automated using self-authentication. This implies that forensic validation will become redundant and financial institutions can authenticate data without the need for external institutions. Institutions and individuals will also have a user's digital key that can be used to apply digital signatures.

## Screening

Some of the screening processes might have to be carried out off chain, by creating a unique ID for clients as part of the authentication and identification process or by integrating them with existing ID's that seamlessly work with RESTAs platform, we can accurately identify stakeholders.

# Auditing

By utilizing our DLT, user information can be updated continuously with other ledgers on the chain. Users can also dictate which information they want to keep stored on the ledgers of certain entities. This would enable a trail of all transactions concerning a particular KYC profile including access, edits, and even permissions.

# **Financing**

Banks can finance real estate projects to start the construction. Banks usually finance up to 80% of the loans for residential and commercial property development and RESTA's escrow account service helps projects to secure loans while meeting bank requirements for capital funds. Once a project developer is able to secure investments on RESTA's platform they can access to the loans from the banks.

## Payment Transactions



A network of banks will be able to transact big volumes of cross-border transactions using RESTA platform using PSD2 and other directory compliant APIs.

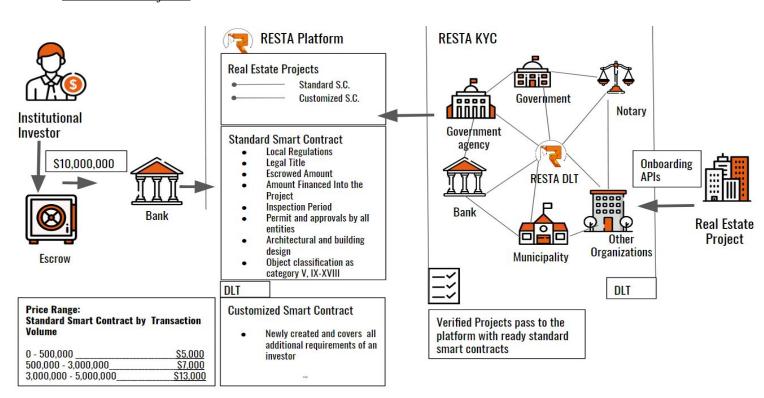
Perform interbank payments to settle outgoing and incoming transactions volumes between countries to reduce the actual physical money movement to minimum costs.

Several DLTs enable us to sustain large amounts of transactions between banks, up to 250,000 transactions per second, at high speed and 100% security in a permissioned network. Currently RESTA is building on and testing out some of the best technologies available in the market.

#### **Smart Contracts**

Smart Contracts handle transaction volumes, and contractual obligations tailored to local regulations, escrow amount as well including KYC compliance by involved parties.

## 10. RESTA Platform



To be listed on our platform real estate development project needs to pass through stringent KYC procedures, where government agencies, notary, municipalities and many other entities certify and verify the project with the help of onboarding APIs.

Once qualified, standard smart contracts created taking into account local regulations, escrowed amount and other requirements. When investors select the property and projects they get already half completed contracts. These contacts save time and cost to finalize the deal.



The creation of contracts in advance is possible because the backgrounds of investors are checked before onboarding on the platform. If investors have extra conditions and requirements, customized smart contracts are made.

#### 11. Smart contracts

Smart contracts are self-executing electronic contracts with all terms of an agreement between stakeholders directly translated into lines of code. The code and the agreements contained therein exist across a distributed network of entities on RESTA's platform. In other words, contracts could be converted to computer code, stored and replicated on the system. Financial Institutions, organizations and institutional investors on RESTA's platform create conditions for these smart contracts and monitor them.

These contracts function as "multi-signature" accounts, so funds are transferred and received only when predefined conditions are reached. This may include the transfer of money, financing of projects by agreement and so on.

Smart Contracts are one of the revenue sources of RESTA. Each Smart contract covers up to the certain volume of the transactions.

Price Range: Standard Smart Contract by	Transaction Volume
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0 - 500,000	\$5,000
500,000 - 3,000,000	\$7,000
3,000,000 - 5,000,000	\$13,000

Customized Smart Contracts adds extra conditions and requirements depending

Smart Contracts for Transactions		
Standard	Prices	Covers volume up to transactions
Purchase Agreement	\$7,800	
State/Association Purchase Agreement	\$10,000	
General Purchase Agreement	\$9,000	1,500,000
Total		



Customized		
Property-Specific Purchase Agreement		1,000,000
Real Estate Assignment Contract	\$21,000	700,000
Lease Agreements	\$30,000	850,000
Total		

We have several types of smart contracts and charging \$13,100 per a contract on average we expect \$8,280,000 revenue by the end of 2019.

There was 17 billion dollars worth of real estate transactions between U.K. and Hong Kong in a quarter. By the end of 2019, we expect \$250 million to pass through our platform.

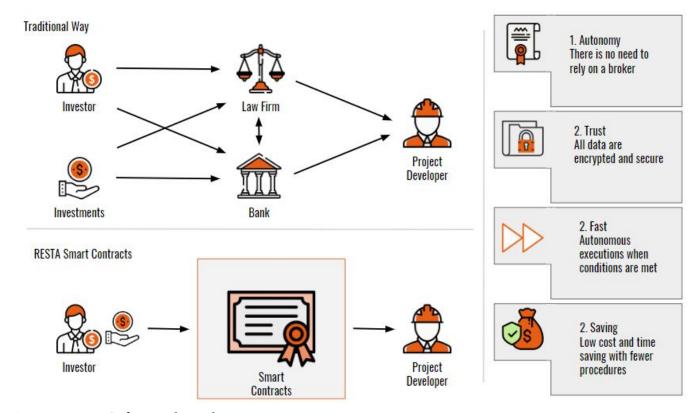
# **Business Model**



Share of Real Estate Market

**Smart Contracts** 





#### 12. Investment Safety and Fund Escrow

There is a lack of trust when cross-border transactions involving big sums occur between unknown parties. A considerable amount of time and money is required to resolve this problem until parties fully know each other and all the agreements are fulfilled. For instance, real estate investors run the risk of losing their investment amount, while the developer may not receive the agreed amount of funding.

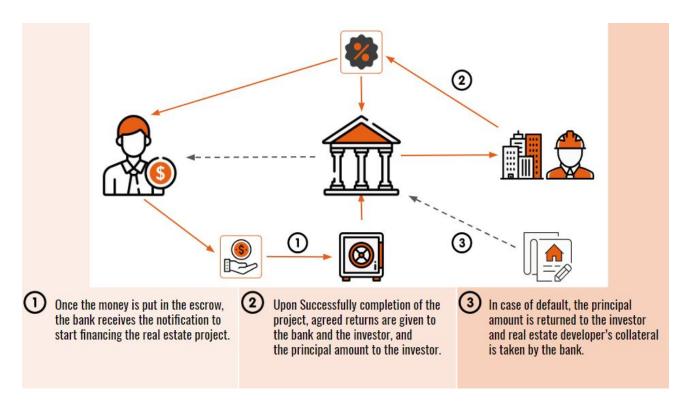
RESTA' platform offers an escrow system to eliminate this problem.

When an institutional investor puts money into a bank account through RESTA platform, in this case, HSBC, money is escrowed in RESTA's HSBC bank account. A counterparty of HSBC in a different country receives notifications about the escrowed amount and the counterparty may proceed with financing the project.

The investor selects a special type of smart contract with all the defined rules and conditions of the agreement. From that time, the smart contract is activated and works as a store of the deposited money until all the requirements set by the investor are fulfilled by the developer of a project. This resolves the problem of trust between unknown parties, saving the time of the investor and developer before the project goes to completion.

#### <u>Security of investments</u>

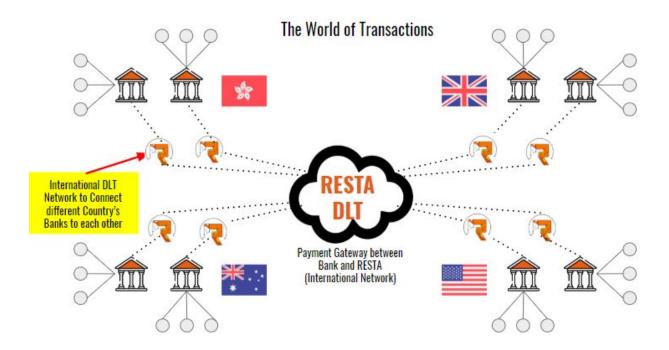




To access the escrowed fund, the developer puts up a collateral equal to the escrowed amount. So that in case of a project default, the bank can pay back the investor the principal amount. In case of the successful completion of the project, the bank and the investor receive returns from the project.

## 13. International Real Estate Transactions with minimum costs





## <u>International clearing and Gross Settlements</u>

RESTA provides cross-border real estate investments with minimum transaction costs and a wide range of smart contracts for investors to facilitate their overseas investments. By connecting banks within a distributed immutable ledger, they can carry out transactions within and between countries.

RESTA's platform provides DLT in order to keep the record of cross-border transactions on the immutable distributed ledger, and all fiat money deposited to bank accounts through RESTA's platform will be recorded on the ledgers and all banks in RESTA's network with permission can get access to those records when needed.

RESTA's main objective is to minimize actual money movements from one country to another. The RESTA ledger system only records and stores the numbers (equal to the deposited amount of money) and updates them according to the transaction operations.

Money transfer from one country to another is performed with the help of the established network of banks.

For example, to invest \$100M in a U.K. real estate development project, a Hong Kong investor puts his money into a local bank account through RESTA's platform. His account is credited \$100M on the ledger. The branch of that bank or other connected banks within the DLT network can proceed with the financing of the investor's project with their local capital. The investors account is then debited \$100M on the ledger.



In return, when the Bank in U.K. gets an investment from a local investor to invest in a Hong Kong real estate development project they can gross settle their previous transactions from the Hong Kong banks in a way that in the end banks will achieve zero balance clearing. In addition, RESTA will be instituting a pooling system to achieve the zero balance clearing.

DLT makes sure that all records are transparent and on immutable ledger so that any bank can easily track their previous operations and can easily gross settle their incoming and outcoming transactions.

As a result, banks do not need to transfer real money from one country to another.