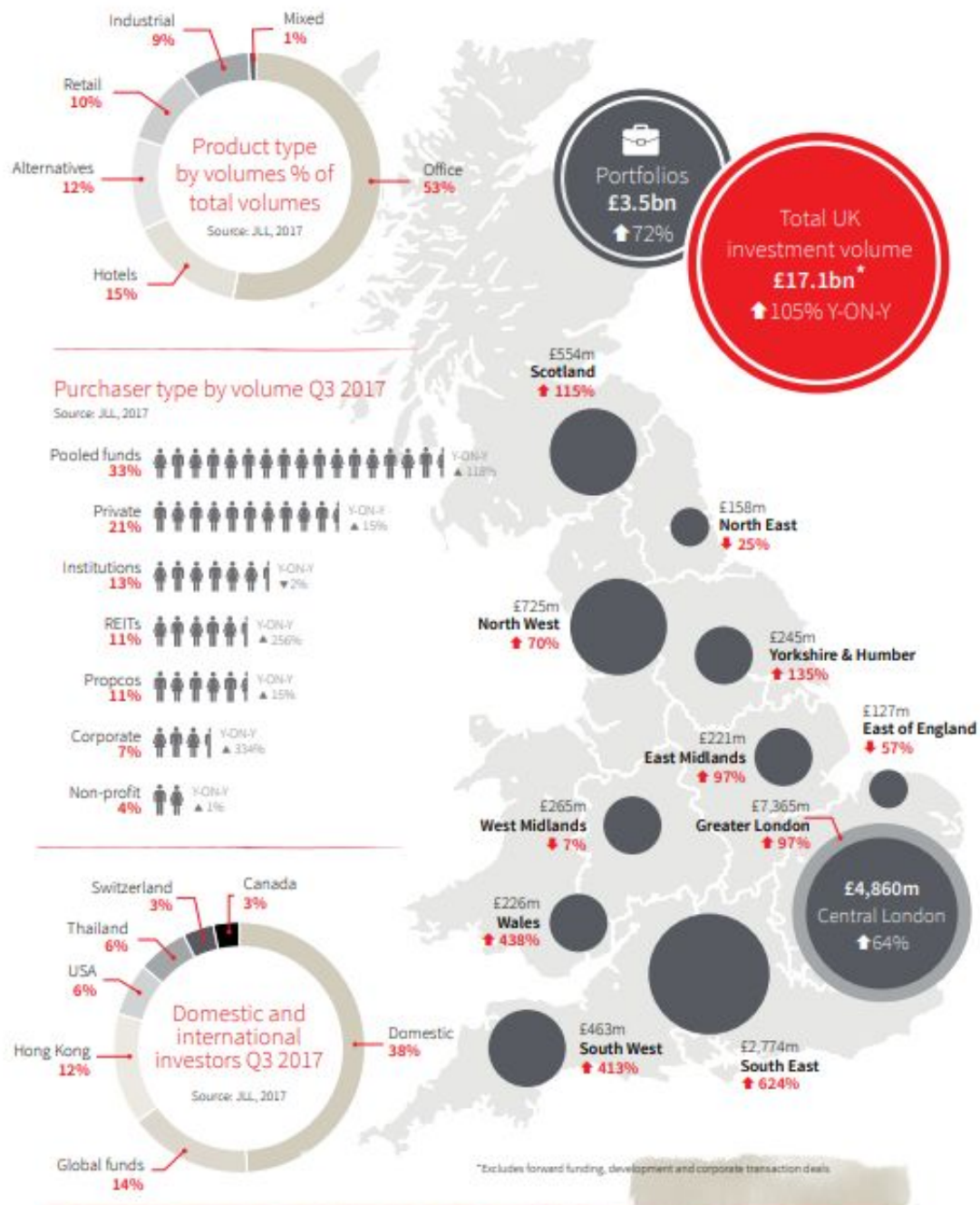ABSTRACT:

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 entities which participates in KYC procedures of real estate development projects, 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.

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1. Real Estate Market

Market data for Hong Kong and U.K. real estate.
Q3 2017 Direct Real Estate Investment

Product type by volumes % of total volumes
Source: JLL, 2017

- Industrial 9%
- Mixed 1%
- Retail 10%
- Alternatives 12%
- Hotels 15%
- Office 53%

Purchaser type by volume Q3 2017
Source: JLL, 2017

- Pooled funds 33% — Y-ON-Y ▲ 118%
- Private 21% — Y-ON-Y ▲ 15%
- Institutions 13% — Y-ON-Y ▼ 2%
- REITs 11% — Y-ON-Y ▲ 256%
- Propcos 11% — Y-ON-Y ▲ 15%
- Corporate 7% — Y-ON-Y ▲ 334%
- Non-profit 4% — Y-ON-Y ▲ 1%

Domestic and international investors Q3 2017
Source: JLL, 2017

- Switzerland 3%
- Canada 3%
- Thailand 6%
- USA 6%
- Hong Kong 12%
- Global funds 14%
- Domestic 38%

Portfolios £3.5bn ↑72%

Total UK investment volume £17.1bn* ↑105% Y-ON-Y

- £554m Scotland ↑ 115%
- £158m North East ↓ 25%
- £725m North West ↑ 70%
- £245m Yorkshire & Humber ↑ 135%
- £127m East of England ↓ 57%
- £221m East Midlands ↑ 97%
- £265m West Midlands ↓ 7%
- £7,365m Greater London ↑ 97%
- £4,860m Central London ↑64%
- £226m Wales ↑ 438%
- £463m South West ↑ 413%
- £2,774m South East ↑ 624%

*Excludes forward funding, development and corporate transaction deals

Source: https://capitalmarkets.jll.com/

Market Size

$217 trillion

Value of all Global Property

$1.4 trillion

Volume of Global Real Estate transactions

$17 billion

Volume of Real Estate transactions between Hong Kong and U.K.

2017 Market

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 generous 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. Especially, 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 40% return of the venture arrangement of wealthy people (with a net worth of $30 millions). 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 a reliable channel to validate developers, projects, 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 in addition exchange fees, which occur on 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 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 of the problem is the lack of a comprehensively available platform for validating buyers, real estate developers and implement 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, 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 to invest in overseas real estate projects.

RESTA platform aims to enable these institutional investors to directly invest in projects with minimum transaction costs, where banks empowered with our DLT system in the global network perform these transactions.

3. DLT Tech for Real Estate

DLT 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 Distributed Ledger Technology (DLT) can disrupt and transform the existing market's structure significantly.

RESTA offers (Know Your Customer) KYC with DLT.DLT's nature is well suited to efficient KYC processes.

DLT provides transparent and immutable distributed ledgers where banks and entities involved in the real estate project development and verification process can access up to date information about real estate developers and sellers as well as institutional investors fastly and securely.

Trust between transacting and involved institutions and a reduction in processing time and costs are some advantages that distributed ledger technologies brings to RESTA's platform.

Distributed ledgers enable multiple parties to collectively view and edit a shared, consistent record of data. Distributed ledger provides 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 by the help of the consensus algorithm.

The ledger is there called distributed - as no central party is directly responsible for its administration but rather a group of stakeholders jointly govern it.

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 likewise track updates to the transactions of financial agreements between stakeholders.

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,, 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.

4.RESTA PERMISSIONED LEDGERS FOR BANKS AND REAL ESTATE PARTIES

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 and update and records the entire transaction.

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

DLT offers better, smarter regulations that can enhance efficient, safe markets with lower costs of achieving consensus and complying with regulations.

KPMG in Singapore and Bluzelle have already with 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. According to their tests, the platform could result in saving 20-50% of costs while increasing the efficiency, security, and transparency of KYC processes.

If that's the case the DLTs role in real estate overseas investments will be significant as well, where RESTA provides the best KYC service involving all real estate entities, cutting down the costs and time spent on the process. When real estate developers data are collected on the ledger it also ensures that regulatory requirements are met.
Currently, our distributed ledger technology with enabled KYC utility is tested at local where in-country organizations participate in simultaneous KYC procedure to verify the authentication information of the real estate projects and global levels when enabling real estate investors from one country to invest in projects in another.

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 and submits this information to a DLT to be used by smart contracts.

A Smart contract receive value and only unlocks that value if it satisfies pre-defined conditions.
It starts executing predefined algorithms and run the event on DLT.
To execute overseas real estate transactions, as well as conditions in the smart contracts, oracles play the huge role of signing off the real estate investment .Furthermore, before escrowed funds get released the oracle has to sign the smart contract as well.
Oracles, in this case, will be representatives of RESTA in each country who will update and record all the changes in the real estate development projects.

Draft Visual about RESTA oracles
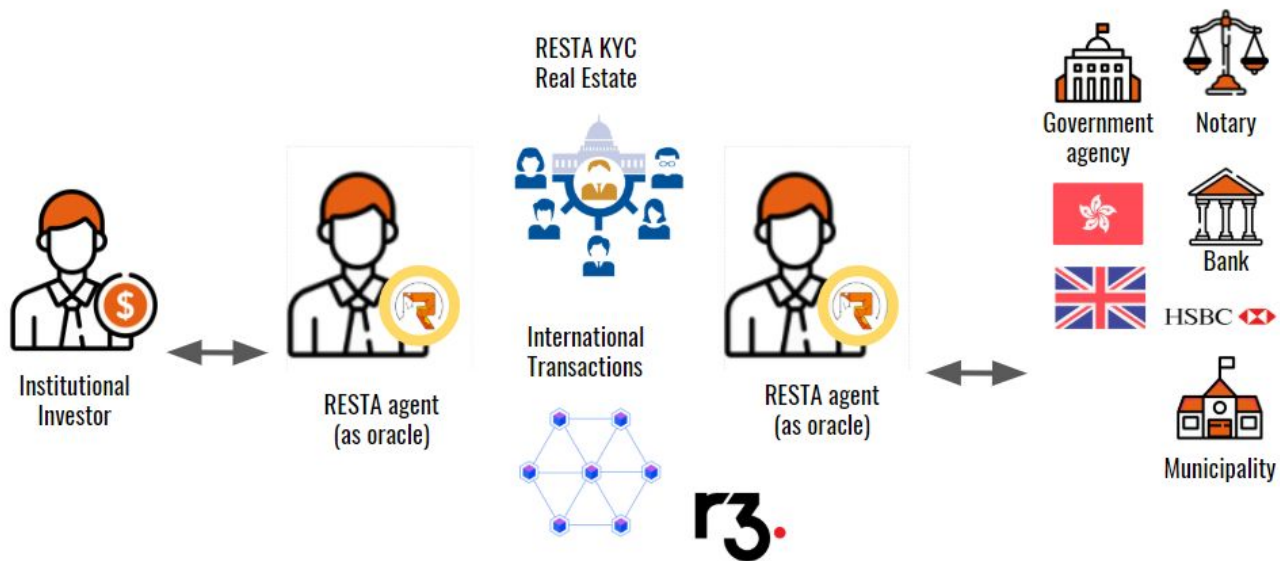
6.Regulatory Compliance

The Swiss financial market supervisory Authority FINMA has set out financial market legislation to protect investors and stipulates how FINMA deals with cryptocurrency offerings and the principles on which market participants can obtain clarity in this new field.

First legal improvements came from The Maltese government with three DLT and crypto-related bills in their second reading in Parliament with plans to provide a more comprehensive framework in the future.

RESTA provides KYC and AML in the process of checking real estate developers' backgrounds and performing overseas real estate transactions using a distributed public ledger required by existing regulations to enable appropriate Know Your Customer and Anti Money Laundering procedures.

"RegTech" is the set of rules and compliance guidelines which banks need to follow .To able to undertake it at a lower cost, banks need to use new technologies. Banks' cost of compliance regulations amounted to around 20 million euros for Dodd-Frank and EMIR regulations in 2015.
In addition to RegTech, banks need to comply with regulations such as KYC and AML which require verification of the legal identity of counterparties. To realize it banks have to build systems that keep track of all the data recording and verification processes in accordance with these regulations. Mainly all of their outdated systems create significant costs for banks to run and maintain them which are often incompatible with other banks' systems.
For instance, it can be done by capturing transaction data from some transactions, tagging it with additional metadata, and processing the dataset into some application to find out the identity of the counterparty more quickly.
Alternatively, firms and banks can manage large datasets then analyze them to obtain useful insights.

7. KYC

With KYC and AML there will be a secure environment for banks to carry out real estate cross-border transactions in financing the real estate development projects .

Our DLT provides banks, legal entities, and all parties involved in the real estate project with more data, which lowers their costs for screening marginal entities and transaction which enhances overseas real estate transactions.

Without a direct relationship with an overseas real estate developer but having access to the developer's banks and his records of profile that includes his previous records, average currency amount and number of transactions sent and received, an overseas bank can confidently finance the project if it finds the project worth investing in with low risks.
KYC utility uses Social Security and Passport Numbers that prevent real estate developers from creating multiple fake names using the same ID number and ensures that banks and government entities record and work- with accurate data without worrying about misspelled and incorrect data.

DLT with identity verification enables the creation of a digital ID to every online transaction of any asset.

With DLT banks can access customers information or real estate entities can access overseas customers of specific organizations, which provides a clear framework for them to analyze the risk and transaction profile of all participants in a transaction – this includes institutional investors' and real estate developers' banks.

Distributed Ledger Technologies face several non-technical barriers to widespread adoption as an empowering tool for KYC procedures to standardize data models and access primary sources.

Enforced by regulations and AML regulations, Banks have made continuous mistakes when carrying out KYC checks.KYC with the distributed ledger on RESTAs platform will make possible the collaborative work of many banks, asset management companies and all parties involved in granting permits to real estate development projects.

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 cross-border transactions with smart contracts and enhance background checking of real estate development projects.

8. System Architecture

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

RESTA will start building partial parts of the whole infrastructure so that even partially completed, parts can operate fully and provide value to the society by performing some basic but necessary functionalities such as APIs for banks and parties involved in the real estate development projects.

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.

Or we may rely on banks such as HSBC to carry out cross-border transactions for RESTA while we build the KYC or smart contract parts first.

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 filed including all financial institutions and government institutions in it, we are not going to replace existing systems or tools, we are offering the 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 users digital key that can be used to apply digital signatures.

- **Screening**

Some of the screening process 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 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 building projects like residential and commercial complexes. Banks usually finance up to about only 80% of the loans for residential and commercial property development . RESTA's escrow account service helps projects to secure loans to meet banks requirements for capital funds . Once a project is able to secure investments from users from RESTA's banks they can access loans from that bank .

Payment Transactions
A network of banks will be able to transact big volumes of money cross-border using RESTAS services. Perform interbank payments to match outgoing and incoming transactions volumes between countries to reduce the actual physical money movement to minimum cost transactions.

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.

Messaging Layer

RESTA provides a messaging layer between entities involved in the KYC procedures with standardized messaging formats similar to messaging formats such as FpML and SWIFT.
RESTA makes sure that while performing cross-border transactions banks, in addition to real estate entities, can also have a messaging layer that allows communication between all these banks organizations in real-time and with guaranteed delivery so that financing, verifications, and transactions of the real estate projects can run smoothly.

10. RESTA Platform
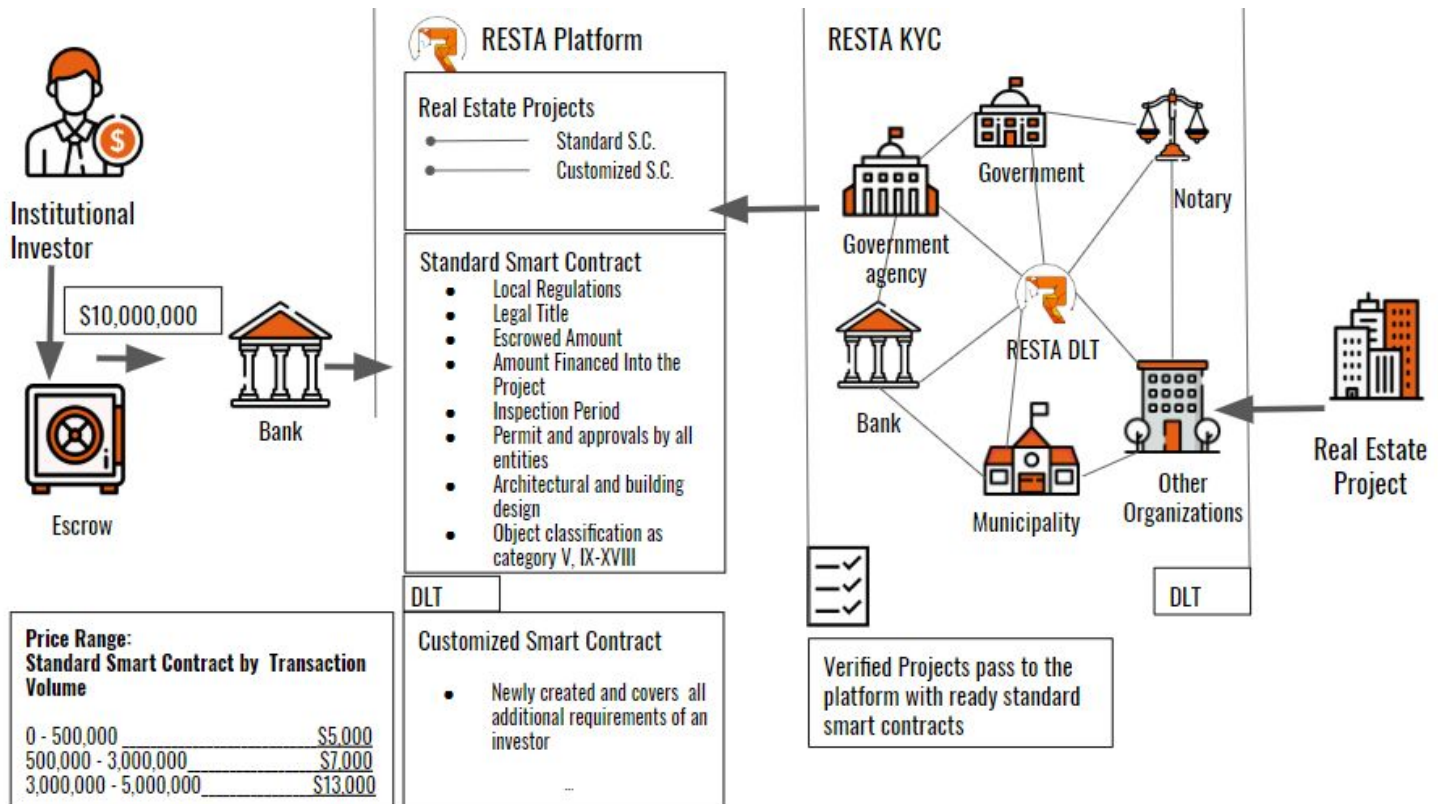
To be listed on our platform real estate development project needs to pass through stringent KYC procedures, where government agencies, notary, municipalities and many other entities certify and verify the project can be certified to receive overseas investments.

Once qualified, standard smart contracts tailored to local regulations, escrowed amount and other requirements by the institutional investors are created so that when investors enter the platform they will get have half completed contracts to speed up finalization of the deal.

In advance, created contracts are possible because we also check the backgrounds of investors so that for the specific type of investors we have already made contracts.

For some extra conditions and requirements for investors, we create customized smart contracts. These contracts also take into account transaction volumes.

```
Price Range:
Standard Smart Contract by  Transaction Volume

0 - 500,000 _____ $5,000
500,000 - 3,000,000_____ $7,000
3,000,000 - 5,000,000_____ $13,000
                        ...
                        ...
```

There were 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.

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.

Business Model

Average price of Smart Contract is $13,100

$250 mln
Our
transaction
volume

$8,280,000

REVENUE
2019

Share of Real Estate Market
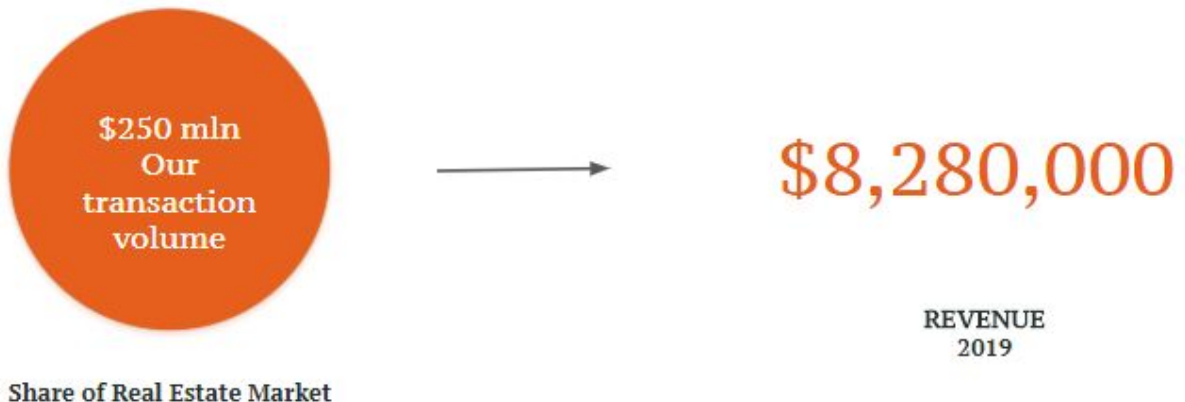
11. Smart contracts

Smart contracts are self-executing electronic contracts with all terms of the agreement between an institutional investor and real estate developer being 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 and controlled and tracked by the network of banks, organizations and institutional investors on RESTA's platform that participates in the creation of conditions for these smart contracts.

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.

Smart Contracts are the main revenue source for RESTA .

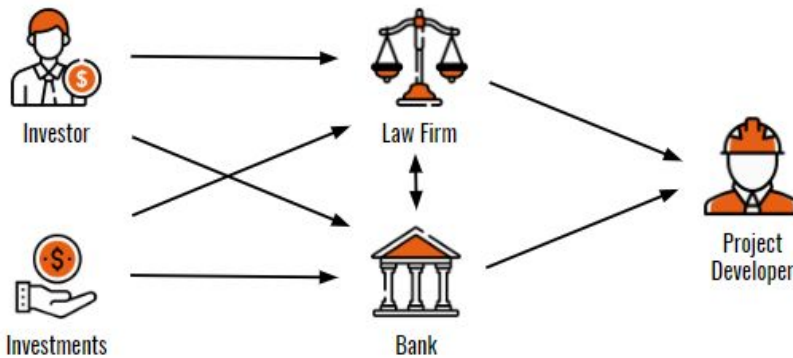Each Smart contract covers up to the certain volume of the transactions.

(Standard Smart Contracts cover standard legal terms required for each country - pre-defined 40% ready contracts are created so that when an investor invests in a specific project in a different country he or she gets already 40% or more completed contracts to finalize the deal.)

Defined by an investor and newly created, Customized Smart Contracts adds extra conditions and requirements depending on the investment peculiarities.
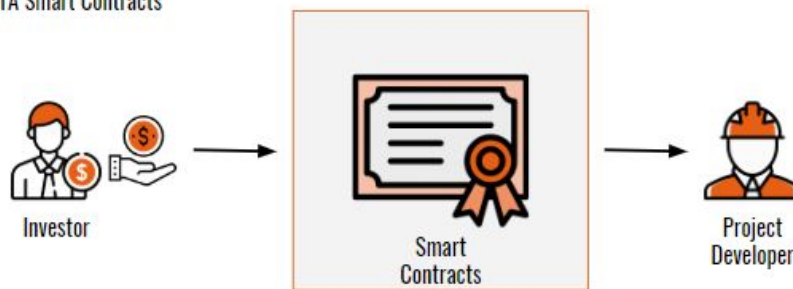
Smart Contracts for Transactions		
Standard	Prices	Covers volume up to transactions
Purchase Agreement	$7,800	
State/Association Purchase Agreement	$10,000	
General Purchase Agreement	$9,000	1,500,000
Total		
Customized		
Property-Specific Purchase Agreement	$40,000	1,000,000
Real Estate Assignment Contract	$21,000	700,000
Lease Agreements	$30,000	850,000
Total		

Smart Contracts

Traditional Way: Investor, Investments → Law Firm, Bank → Project Developer

RESTA Smart Contracts: Investor → Smart Contracts → Project Developer

1. Autonomy
There is no need to rely on a broker

2. Trust
All data are encrypted and secure

2. Fast
Autonomous executions when conditions are met

2. Saving
Low cost and time saving with fewer procedures

12. Investment Safety and Fund Escrow

There is always a problem of a lack of trust when big sum cross-border transactions 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. Real Estate investors always run the risk of losing investment amount, while the developer may face the problems of not receiving the full sum of payment for the development project.
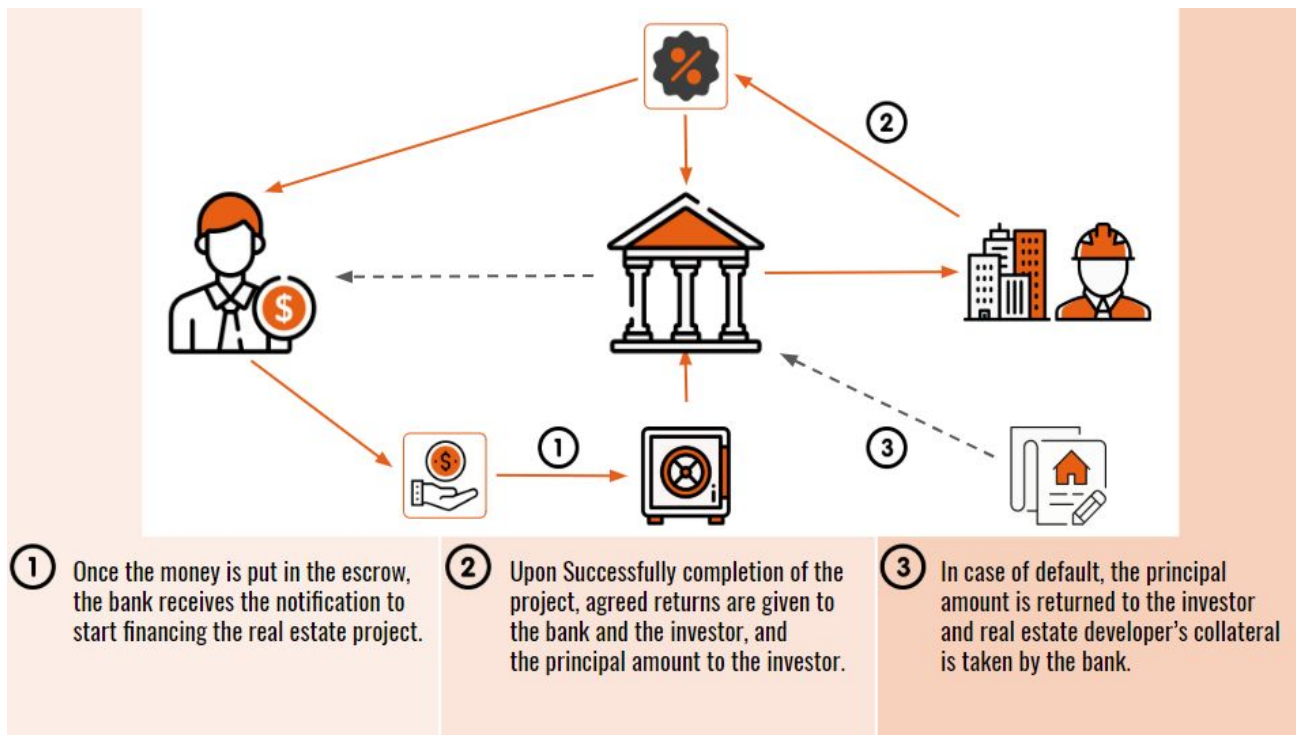
RESTA' platform offers an escrow system to eliminate this problem.

An institutional investor puts money into a bank account through RESTA platform, in this case, money is escrowed in HSBC's bank account and another 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 the special type of smart contract with all the defined rules, conditions of the agreement. From that time, the smart contract is activated and works as a storage 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 the trust between unknown parties, saving the time of the investor and developer before the investment happens and ensuring the safety of the invested money.

In addition to Escrow, RESTA ensures the security of the invested amount.

Security of investments

① Once the money is put in the escrow, the bank receives the notification to start financing the real estate project.

② Upon Successfully completion of the project, agreed returns are given to the bank and the investor, and the principal amount to the investor.

③ In case of default, the principal amount is returned to the investor and real estate developer's collateral is taken by the bank.

Once investor puts his money into an escrow account, for instance , the HSBC bank account, the bank (HSBC) gets a notification about the escrowed amount and can then proceed to start financing a real estate development project up to 50% of the required amount for the development. In return, the developer puts a collateral equal to the escrowed amount to the bank. So that in case project defaults bank can pay back to the investor the principal amount of investment.

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
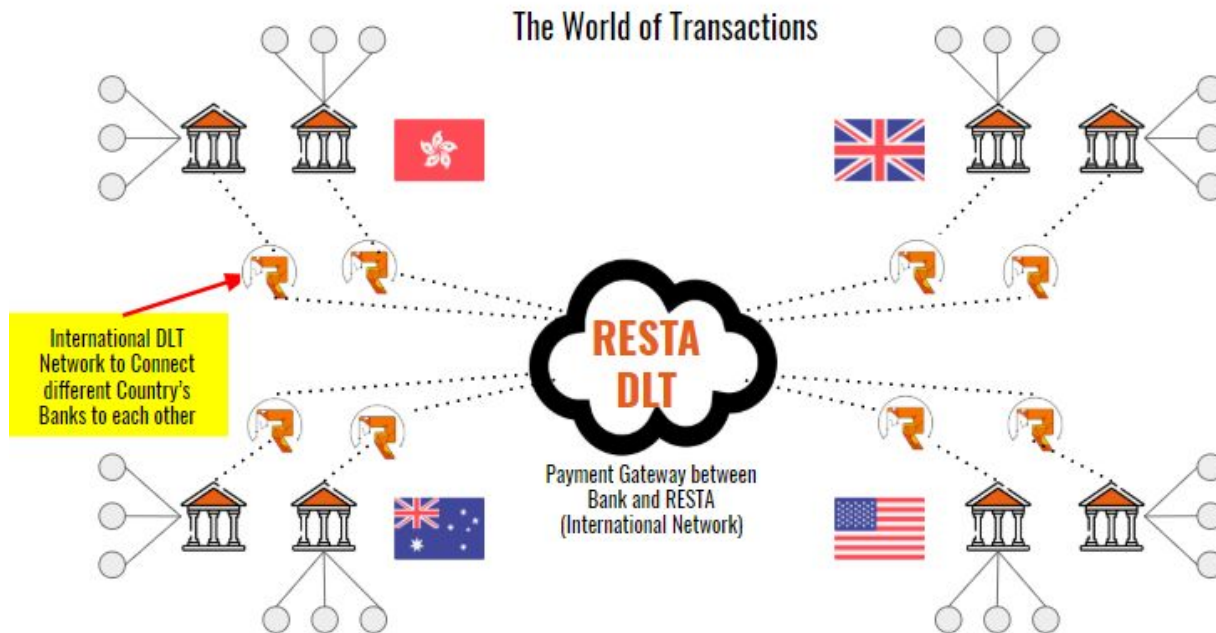
International clearing and Gross Settlements

RESTA provides cross-border real estate investments with minimum transaction costs and the wide range of smart contracts for investors to facilitate their overseas investments, by connecting banks within a distributed immutable ledger whey banks can carry out transactions within a country 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 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. Only the RESTA's ledger system records and stores the numbers(which is equal to the deposited amount of money from one country to another) and updates them according to the transaction operations. Instead of transferring money from one country to another, RESTA, with the help of the established network of banks from both countries where the transaction takes place (money sender and receiver countries), updates balances in respective banks. For example, when investor from Hong Kong invests $100M in U.K. real estate development project he puts his money into local

bank account through RESTA's platform and his balance increases by $100M,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. In return, when the Bank in U.K. get money from a local investor to invest in Hong Kong's real estate development project they can leverage their previous transactions from the Hong Kong banks in a way that in the end banks will achieve zero balance gross clearing in both directions and do not need to transfer real money from one country to another.

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 match their incoming and outcoming transactions and be confident that ledger data are not modified or changed.