

DIREXCT



Digital Real Estate Exchange Technology

-Whitepaper-

GET TO THE POINT

There is a more efficient, cost effective, transparent and secure way of conducting real estate transactions- Digitization.

Efficiency

A typical commercial real estate transaction can take 75- 90 days. On a digitised platform, this time frame could be cut in half. How ? Many of the logistics in a real estate transaction which typically involve the same entities (Land Titles, Lawyer, Bank, Inspectors, Accountants, Buyer, Seller), can now be executed within a consolidated environment where access, authentication, contingencies and accountabilities are all managed. Also key in streamlining the transactional process, is the elimination of certain intermediaries. This, in my mind, is dependent upon the buyer and/or seller's level of comfort and circle of influence. Nonetheless the technology is clear in terms of what and who it can replace. A digitised platform can eliminate the need for brokers, agents, banks, title insurers and lawyers. Once again this is dependent upon the parties involved and their level of comfort in this process but the technology does make allowances for such deletions.

Cost

Blockchain technology allows for more streamlined alternatives to traditional real estate transactions, thus reducing cost, as illustrated in the chart below. The fact that contractual contingencies and responsibilities can be digitised using **smart contract** technology, also reduces cost because it reduces the time typically required, if handled manually.

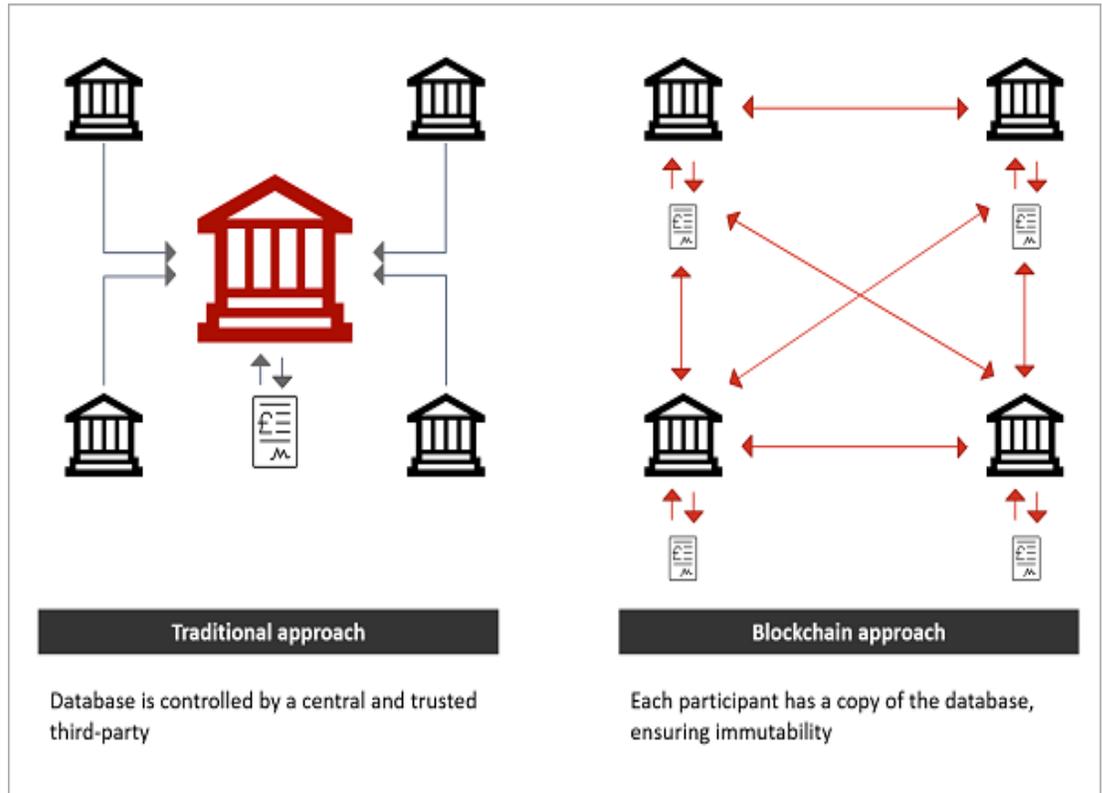
	COSTS	
EXPENSES	DIGITAL (BLOCKCHAIN)	TRADITIONAL
DUE DILIGENCE:		
LEGAL	reduced significantly	\$5-10k
FINANCIAL (ACCOUNTANT)	can be eliminated	varies
PHYSICAL:		
APPRAISAL	still required	(\$5k-10k COMM) (\$300-\$500 RES.)
INSPECTION	still required	\$.10/sq.ft
BROKER/ AGENT	can be eliminated	4-8%
ESCROW	can be eliminated	1-2%
TITLE INSURANCE	can be circumvented	.5- 1%
TITLE SEARCH	still required	\$75- \$100
LAND TRANSFER TAX	still required	varies (0-2%)
BANK FEES	can be eliminated	1%
TRAVEL	reduced significantly	

Transparency

A digitised platform allows all necessary parties to have transparent access to key monetary variables like earnest money, escrow (multi-signature wallets), proof of funds (beyond just a letter) in addition to being a central point of connection to important documentation related to such things as contractual deliverables (ie. leasing contracts, rent rolls, tax forms, etc.) and contingencies (ie. Appraisals, inspections, financial, etc.).

Security

The horror stories of real estate fraud are well documented. Blockchain technology (digitization), upon which the Direxct platform will be built, is immutable. Thus eliminating the possibility of records and transactions being forged, altered or miss represented.



The distributed nature of blockchain technology makes it extremely difficult to hack into, when the information is not stored in one central point of access, but rather on computers (nodes) throughout the world.

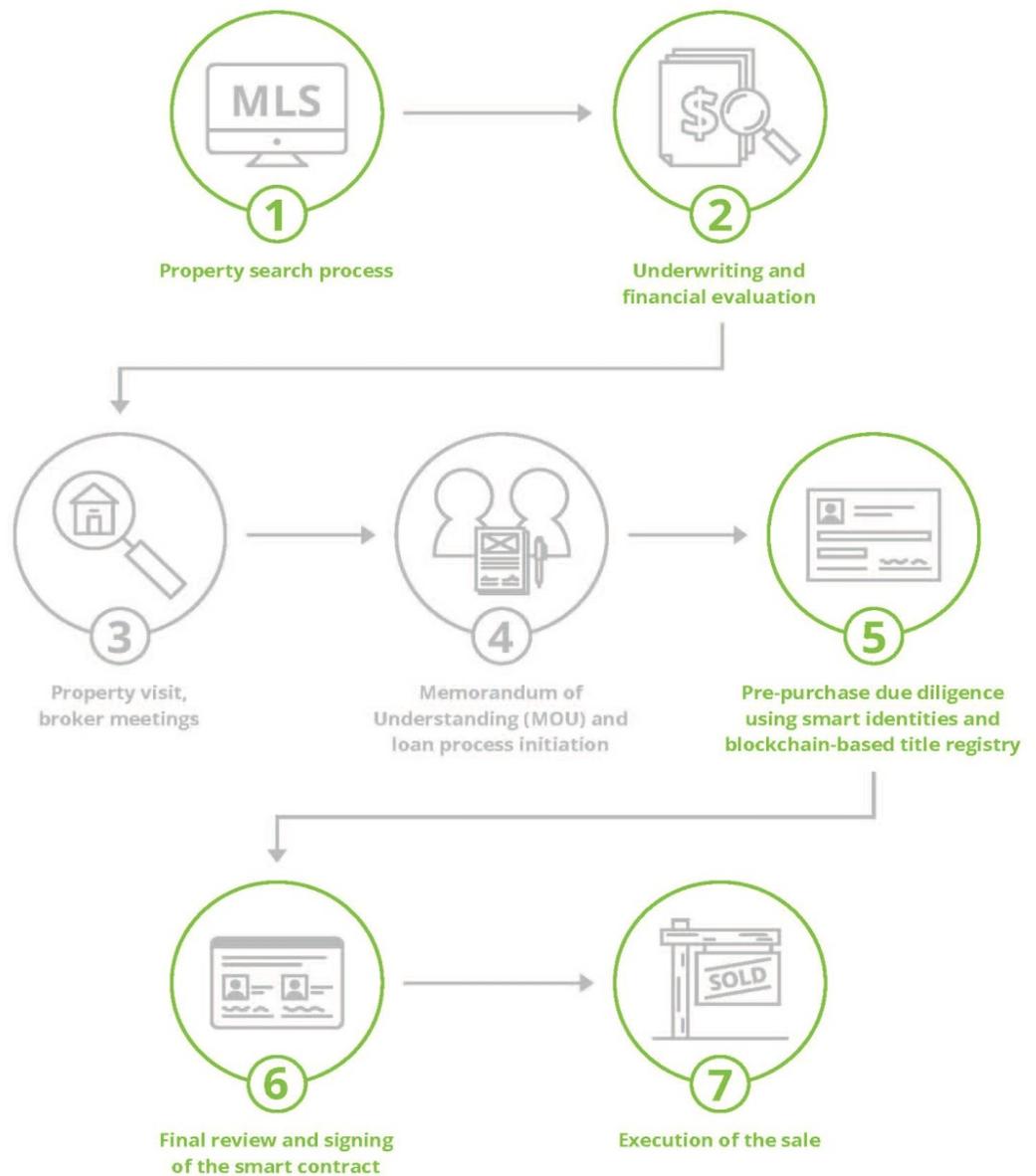
BLOCKCHAIN IN COMMERCIAL REAL ESTATE

Deloitte Touche issued the most comprehensive paper on this subject about five years ago, with ongoing updates and expansions of their original document. The following are a few key extractions from this study.

The CRE Transactional Process

Below is a flowchart of steps involved in a typical commercial real estate (not necessarily in this order. Those steps that are greyed out are processes that can be eliminated on a digitised (blockchain) platform :

Figure 4: Using blockchain technology in a CRE purchase and sale transaction



Note: The loan application and servicing steps would be applicable only if mortgage financing is used for purchasing the property.

Source: Deloitte Center for Financial Services analysis.

 —Indicates steps which could utilize blockchain technology

(Figure 4 cont'd)

1	Property search process
	Buyer shortlists properties using a blockchain-enabled multiple listing service (MLS).
2	Underwriting and financial evaluation
	Buyer creates a financial model of rents, occupancy, and costs, based on the data available from the property's digital identity on blockchain. Buyer determines the bid price.
3	Property visit, broker meetings
	The buyer: Conducts a physical inspection of the property, and of similar properties for a relative comparison. Elicits broker's opinion on the selected property.
4	Memorandum of Understanding (MOU) and loan process initiation
	Buyer and seller sign an MOU and the buyer transfers the earnest deposit into an escrow account. Buyer also initiates the loan process with the mortgage lender.
5	Pre-purchase due diligence using smart identities and blockchain-based title registry
	Using blockchain-based digital identities and title registry, the buyer and/or the mortgage lender conduct several checks including environmental clearances, zoning permissions, tenant leases, and title clarity, among others. The mortgage lender also conducts a due diligence of the buyer (borrower) to assess the loan terms, including loan amount and loan-to-value.
6	Final review and signing of the smart contract
	On successful completion of the due diligence: A smart contract between the buyer and the seller is reviewed and executed by the deal principals and the advisors of both parties. A smart loan contract between the buyer and the mortgage lender is linked to the above contract between buyer and seller.
7	Execution of the sale
	The mortgage lender transfers the sale proceeds to the escrow account and the seller transfers the possession to the buyer. The smart contract between the buyer and the seller initiates the payment of sale proceeds from the escrow account to the seller's bank account and notifies the registrar to initiate the property title transfer to the buyer with a lien on the property in favor of the mortgage lender. The registrar validates the transfer of the property title on blockchain and a new permanent block is created, making it official and irreversible. The smart loan contract between the buyer and the mortgage lender initiates regular loan repayments to the latter.



KEY TAKEAWAYS

The Definitions

Blockchain is a distributed ledger that records digital transactions in a secure, transparent, immutable, and auditable way, without the necessity of an intermediary to conduct these actions.

Smart Contract is a computer protocol intended to digitally facilitate, verify, and/or enforce the negotiation and performance of a binding agreement.

The Property Search

Today, CRE owners, buyers and sellers often use multiple listing services or MLS to access property-level data such as location, rental rates, capital values, and property features. These platforms are typically subscription-based, commanding high access fees from users. The accuracy and detail of property-level data is completely dependent on the preferences of a broker, due to a lack of standardised processes and substantive human intervention. This may result in the information being inaccurate, dated, or incomplete. Further, the search process itself tends to be inefficient, as the data, in general, is fragmented across multiple platforms. As a result, there are delays in decision-making for landlords and tenants, and low levels of trust on the quality of information available on MLS. A blockchain-based MLS would enable data to be distributed across a peer-to-peer network in a manner that allows stakeholders to have more control over their data, along with increased trust, as listings would be more freely accessible. This enhanced, blockchain-enabled MLS would also provide clear details on property location and address, comparable rental rates, capital values, ownership history, tenant details, age of the property, and title clarity. As a result, market participants could have access to more reliable data at a lower cost. In fact, per a recent Deloitte survey of 308 executives, 36 percent of respondents perceive efficiencies (lower costs/greater speed) as one of the key benefits of using blockchain technology.

Tokenization

It is a digital identifier that consolidates information such as vacancy, tenant profile, financial and legal status, and performance metrics in digital form. This would expedite a few of the pre-transaction activities such as underwriting, financial evaluation, obtaining a mortgage commitment, etc. Data integrity is critical for accurate digital identities and blockchain transactions. The data is as good as the users' entries. To ensure accuracy, reputable participants could validate the data. Digital identities of properties linked to the digital identities of transacting parties can create valuable and secure online records for a property, improve lease information management, and greatly ease the due diligence process.

Due Diligence

Significant time is spent on due diligence activities related to financial, environmental, and legal review to assess rental rates/bid price. This is predominantly due to the use of physical documents for proof of identity, documents that are often stored in siloed places and have limited flexibility to be customized to suit various needs. For a property, these could include documents supporting the history of ownership income and expenditure, occupancy, tenants, and repairs and maintenance activities. This manual

verification process increases administrative tasks and is prone to loss of information and errors. Further, involvement of numerous third-party service providers tends to elongate the due diligence process, and increase transaction related cost. Finally, if the buyer is financing the acquisition of the property with a mortgage or other third party financing, many due diligence steps and documentation are duplicated by both the buyer and the lender. Blockchain-enabled digital identities and smart contracts can reduce inefficiencies and increase transparency in the financing and payments processes. To begin, blockchain can simplify the financing process during the loan application, documentation, due diligence, and servicing stages. The digital identity of a property would reduce both due diligence and loan documentation time, data integrity concerns. Then, the borrower and lender can execute a smart contract-based loan document. The smart loan contract would be accessible to all involved legal parties. Moreover, execution of smart contracts on blockchain platforms would inherit all benefits of blockchain, including a series of complete, immutable, and traceable records, offering audit trails of transactions such as ownership history, property cash flows, and mortgage payments. The buyer could also track the mortgage in real time. In cross-border real estate transactions, blockchain can provide a common network for the transacting parties to interact and share information without intermediaries. The information shared on the common network can include details of sender and receiver, transaction fees, foreign exchange rates, delivery time, and many others. Moreover, the settlement process could be more seamless as the ledgers of the parties on either side of the transaction would be connected through an open network. The robustness of the process would be improved through software that cryptographically verifies the funds availability and facilitates simultaneous transfer of funds. In this way, the technology can help in real-time settlement across all ledgers, while minimizing settlement risk and payment delays.

Title

The current title recording systems and paper-based property titles have several disadvantages. To begin with, there may be concerns about the authenticity of the mortgage and title documents, as well as accuracy of recorded liens and other information attached to the title. Certain estimates suggest that nearly \$1 billion is spent annually on title fraud resolutions. To meet the above challenge, buyers often take out title insurance for purchase and sale transactions, which adds to the property purchase cost. Additionally, some insurers raise premiums on a regular basis, and are not transparent about the changes. Further, in the event of mortgage finance for a property purchase, banks usually end up duplicating the title check effort to complete their own due diligence for loan clearance and disbursement. As a result, there can be an increase in buyers' financing costs. A blockchain-based digital identity of a property may include its history, location, and title details. Usually, buyers and banks can potentially rely on this digital identity of the property for title assessment, as any change to existing data would have to be made through a consensus across several blockchain nodes. Also, the distributed, tamper-proof, and encrypted nature of blockchain is likely to make it difficult for perpetrators to commit fraud related to liens, easements, air and subsurface rights, titles, or transfers. This increase in security and transparency may reduce both title-fraud risk and costs by simplifying the title check process. A more digitized and transparent process would speed up title transfer execution, use of title as a collateral, and reduce overall transaction time. In fact, a few governments across the world are planning to use

the blockchain platform for broader social impact as land title registries have the potential to reduce corruption and improve transparency about land ownership.

THE PLATFORM

Research was conducted to determine what technology could facilitate the needs and opportunities addressed previously. We concluded that the Ethereum Network offered the scalability, security, infrastructure, sustainability and cost efficiency required. Ethereum currently has the 2nd largest market cap. in the cryptocurrency sector valued at over \$500 billion and its smart contracting capability is second to none in the blockchain space.

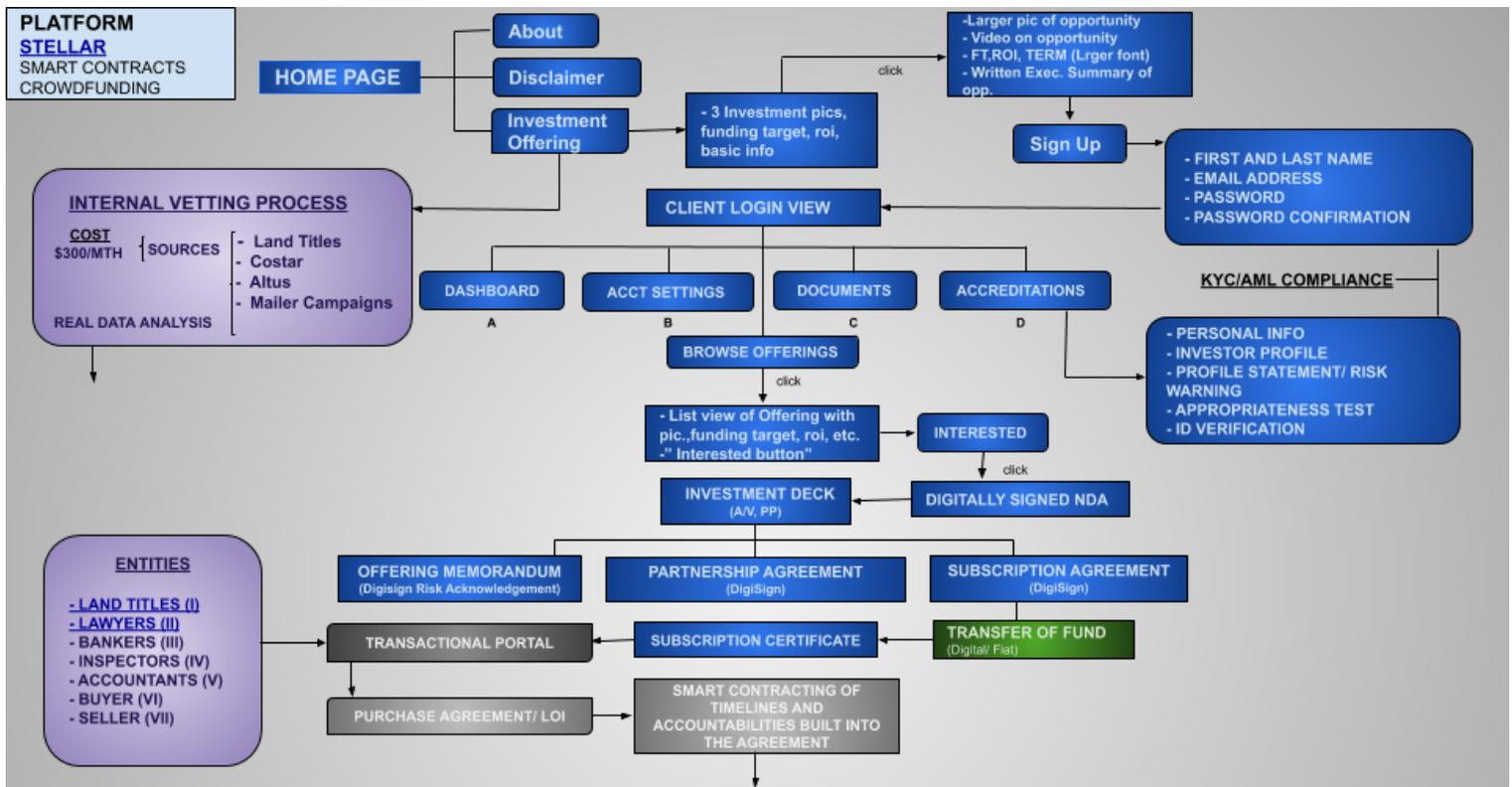
Raising capital

Another exciting aspect of this digitized process, is the ability to raise money and establish a capital reserve within the same environment that can expedite a real estate transaction. Ethereum establishes this ability through its Joint-Entity Crowdfunding portal. Without getting into too much “geek-speak”, just know that raising money- whether it be with accredited investors and/or someone willing to contribute five dollars, the platform allows for a transparent, legally binding and secure mechanism to accomplish these tasks.

The Prototype

This platform will be built with buyers, sellers and the investors of real estate being the primary focus. DIREXCT will encompass the ability to both raise money under an investment subscription while at the same time tracking the ongoing progress of a property’s sale and purchase.

Here is a diagram of how the software will be structured:



SWOT ANALYSIS

Strengths

The founder of the International Blockchain Real Estate Association (2013), Ragnar Lifthrasir, provocateur and thought leader in this space was recently asked who he thought was leading the way in this advanced technological space and he answered “Nobody, and anyone who is saying they are, is lying”. Quite an honest answer from someone, who himself, was one of the first to conduct a test pilot of this nature. And therein lies the strength of this initiative. The newness of this technology allows for unbound potential in market share, especially in Canada. There is no front leading platform in Canada that has captured the trust and cohesion of the real estate investment community, that such an undertaking would require. The foundation of this platform provides the strength upon which such a consensus could be built, locally, nationally and beyond.

Weaknesses

In a word, Adoption. As an industry, real estate is one of the more legacy based and conservative sectors in our economic market and is extremely slow moving in its aptitude for change. Amy Erixson, Head of Global Investments Management at Avison Young wrote one, if not, the most comprehensive papers on the effect of technology on the real estate industry, and beyond, and directly addressed adoption. She says “Ultimately adoption depends on a number of factors, including user experience and ease of use, and can be substantially delayed by potential resistance on any number of grounds, including lack of familiarity and transparency, opposition by legacy companies or regulatory entities.

Opportunities

With the right team this platform becomes a roadshow for partnerships not disruptions. As was stated prior in this document, the data is as reliable as those providing its input. The support and cooperation of provincial land registries, securities commissions, legal professionals, appraisers, bankers and other key partners will separate this effort from more rogue initiatives which would bully these entities into compromise rather than consensus. This will ultimately give the broader investment community the confidence and belief in a platform that has garnered the support of reputable institutions and people.

Threats

There are a vast and powerful amount of stakeholders in the real estate investment realm that benefit from the status-quo who, understandably, view these technological advances as a disruption or more accurately, a threat. There undoubtedly will be, and are, push back solutions that will and do benefit intermediaries. I chose not to view this as a threat, but rather, an alternative.