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Blockchain in Real Estate

Blockchain technology is being adopted across many industries and has wide-ranging implications for almost every area of the law. Despite the real estate industry's traditional hesitancy to embrace new technology, there are compelling reasons to use blockchain in real estate transactions and property management. Practical Law asked *Kris Ferranti* of *Shearman & Sterling LLP* to discuss the potential applications of blockchain in real estate, as well as the hurdles that must be overcome before the real estate industry widely adopts blockchain and related technology.



KRIS FERRANTI

PARTNER
SHEARMAN & STERLING LLP

Kris is a partner in the firm's Real Estate practice. He has extensive experience representing clients in complex commercial real estate transactions, including acquisitions, dispositions, joint ventures, development projects, foreign investment, financings, and ground and space leasing.

What are some of the use cases for blockchain in real estate?

Blockchain is expected to have a long-lasting and wide-ranging impact on real estate and the real estate industry. By gaining an understanding of blockchain, it is possible to comprehend the endless potential use cases.

Blockchain is a digital distributed ledger, which is a form of database. Its chief characteristic is that it is immutable and, therefore, information entered on the ledger cannot be deleted, modified, or altered. Blockchain technology has the potential to replace any third-party intermediary that serves the real estate industry.

An early application has been the use of blockchain to tokenize equity interests in real estate. Digital tokens that evidence an investor's ownership in an entity have been

offered to real estate fund and joint venture investors as a method of funding commercial real estate projects (tokenization). With tokenization of equity, ownership interest registries of any entity up and down the capital stack of any real estate project may be replaced with a blockchain-based ledger system.

 Search [Real Estate Investment Vehicles: Overview](#) for more on investing equity in commercial real estate transactions.

A blockchain-based ledger system could also potentially be used to register land records, such as:

- Deeds.
- Mortgages.
- Mechanics liens.
- Other recordable instruments.

Currently, there is no universal system for government certification of title, and each county and town has its own title recording system and local recording offices. These systems rely on parties manually and accurately recording every property transfer, mortgage, and encumbrance. Paper registries are also susceptible to fraud and mismanagement. However, by instead using an immutable blockchain ledger, once accurate transaction data enters the blockchain, it could be updated in real time and be continuously protected. Any change to property ownership in a blockchain land registry would be recorded in a block with a timestamp.

Blockchain technology has other practical applications, including those related to:

- Due diligence.
- Property management.
- Leasing.
- Corporate governance.
- Data analytics.
- Marketing.

Through secure data sharing and smart contracts, blockchain can facilitate broad oversight of property management, for example, by streamlining rental collections and payments. Blockchain technology used in combination with smart contracts may also increase transaction efficiency by allowing certain actions to occur automatically, such as the release of funds when certain contractual obligations are satisfied. Parties can also sign leases and pay rent through smart contract technology, automating payments and renewals.

 Search [Blockchain and Distributed Ledger Technology \(DLT\): Overview](#) for more on blockchain technology, including blockchain mechanics and types of blockchains, as well as cryptocurrency and smart contracts.

Search [Understanding Smart Contract Mechanics](#) and [Smart Contracts: Best Practices](#) for more on using smart contracts on blockchains.

What are the primary benefits of using blockchain in real estate?

One of the greatest benefits of blockchain technology in real estate transactions is that it allows for a more secure ledger system for positions throughout the capital stack. Tokenization is a much more efficient system to trade and track interests. This is likely to result in enhanced connectivity, single-platform integration, and faster transaction timelines. Blockchain can also combat fraud and almost completely eliminates its likelihood because hackers would have to expend significant time and resources to successfully tamper with the data on a blockchain.

One of the greatest benefits of blockchain technology in real estate transactions is that it allows for a more secure ledger system for positions throughout the capital stack.

Additionally, blockchain is likely to unlock liquidity in real estate, which is historically a relatively illiquid asset. Real estate investors would be able to quickly and easily sell their commercial real estate positions in the open market. Values would likely increase due to the elimination of the illiquidity discount, which is estimated to be as high as 30%. Barriers to entry are also likely to be reduced for investors seeking to invest directly in real estate. For example, investors could invest on a smaller scale due to increased fractionalization and in a much more efficient and cost-effective way.

Regarding land registration and conveyances, blockchain would nearly eliminate fraud in the title recording system. Because blockchain ledgers are immutable and updated in real time, it is much harder for bad information to interrupt the chain, and any tampering with recorded data is easily detectable.

A secondary market on a blockchain platform would create a much more efficient market for real estate because real estate assets could be freely and transparently traded. Currently, real property value is determined in numerous ways, including through:

- The sales comparison approach.
- The capitalization rate model.
- The income approach.
- The cost approach.

In any case, the valuation process occurs months before closing and requires hiring professionals to perform a valuation analysis and conduct inspections. The entire process is inefficient. With a blockchain-based secondary market, real estate assets could be priced in real time based on the most current trading information available to investors.

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What are the drawbacks of blockchain?

The real estate market arguably benefits in some ways from valuation inefficiencies. When property ownership is tokenized, the market may reveal greater volatility in values because pricing could be determined in real time. It could be argued that the valuation

process and illiquid nature of real estate assets has kept real estate values more stable compared to other asset types.

Additionally, certain covenants and obligations typically found in governing documents cannot be encoded on a blockchain. Smart contract technology is not yet capable of the advanced compliance mechanisms that are required to enforce special covenants and rights. Therefore, provisions in contracts that can be objectively determined to have been breached are the only provisions that could be enforced through the use of blockchain technology. The regulatory framework surrounding blockchain is also still evolving.



Search [Blockchain Toolkit and Update Tracker](#) for resources to assist counsel in understanding blockchain-related topics, including recent developments in state law, litigation, and regulation.

Tokenization is viewed as a prime early application of blockchain for real estate, and a few real estate transactions have successfully used tokenization. What are the benefits and drawbacks of tokenization?

Benefits of tokenization include enhanced efficiency and transparency of trading and fractionalization of digital tokens. Fractionalization of digital tokens allows investors to invest on a smaller scale, significantly reducing barriers to entry. Investors would also be able to view real-time data on the pricing of previous trades. Each token would get an individual code and time stamp, and once it is shared on the blockchain network, it is visible to all parties involved in a transaction. There would be virtually no opportunity for fraudulent transfers or hacking, making third-party intermediaries unnecessary. Without third-party intermediaries, transaction processes can be streamlined or even automated.

Drawbacks of tokenization include the problems discussed above related to enforcing covenants and rights with the sponsor that cannot be objectively determined to have been breached. Certain investment terms can be complicated and subjective in nature. It is impossible to enforce these terms through smart contract technology. Similarly, digitizing a controlling interest would be difficult because of the subjective nature of requirements and covenants regarding transfer. Although token investors are predominately passive minority stakeholders with limited governance rights, tokenization creates unique problems for large institutions with significant governance protections or a controlling interest.

What legal or other roadblocks currently exist for the widespread adoption of blockchain in real estate? How far is the real estate industry from participating in blockchain in a meaningful way?

The limitations of smart contract technology create a roadblock regarding the extent to which blockchain can be used. Additionally, there are uncertainties regarding the rules and regulations affecting digital transactions. Regulators in developed markets have been slow to lay the foundation for the creation and exchange of digital asset tokens. The real-time data and immutability of data held in a blockchain ledger would enhance the role that regulators aim to provide, which is clarity and protection for investors. As a result, blockchain could integrate a regulatory body's internal and external compliance operations onto a singular platform. Many regulators have started to contemplate legislation, but not all have developed a system to accommodate the technology.

Additionally, if a digitized ownership interest constitutes a security and is being offered for public sale, the issuer must register the interest with the Securities and Exchange Commission (SEC). In 2018, the SEC issued a public statement warning that it is closely monitoring blockchain and that existing federal securities laws apply to tokenized securities (see SEC, Statement on Digital Asset Securities Issuance and Trading (Nov. 16, 2018), available at [sec.gov](https://www.sec.gov)). The offering may qualify for an exemption under Regulation D or Regulation S, but it will still be subject to various restrictions (for more information, search [Regulation D Toolkit](#) and [Regulation S Transactions on Practical Law](#)).

Creating and implementing a blockchain registering land ownership would require a complete overhaul of a local government's land registration system. Before a blockchain system can be implemented, the state or county legislature must learn how blockchain technology works and understand how to use it most effectively, as well as assess the risks involved. Additionally, state and county legislatures would have to update local laws to enable and regulate a blockchain land recording system. Finally, land records currently in physical document form would need to be digitized. For many jurisdictions, the digitization process will take considerable time.



Search [Recordable Real Estate Documents: Overview](#) for more on the types of real estate transaction documents that are typically recorded.

Are stakeholders in the real estate industry ready to adapt to blockchain once the technology and legal framework are ready? Are certain types of companies more likely to adapt to blockchain than others?

Several stakeholders are beginning to adapt to blockchain, although some groups of investors are unlikely to benefit from the use of blockchain.

For example, large institutions that invest directly in real estate may not benefit much from the tokenization of interests. When large institutions invest directly in real estate, they typically comprise a significant percentage of the debt or equity in the project. These investors negotiate and demand unique covenants and rights, and it is impossible to enforce these terms through smart contract technology, which is limited to simple if/then coding. The only way to enforce these unique provisions is through the use of oracles, which act as a referee when a covenant is breached. Because a primary benefit of using blockchain technology is to eliminate these types of third-party intermediaries, token investors are typically minority stakeholders with passive, non-controlling interests.

Title companies are also not likely to reap significant benefits from the adoption of blockchain. Blockchain would significantly reduce the possibility of fraud in land registration and conveyances. Because blockchain works like a record book, safely storing information in the blockchain database, any change would be recorded with a public timestamp. Recording bad information or tampering with records would be difficult, as well as easily detectable, reducing the need for title insurance. However, because blockchain would not completely prevent every potential title defect, purchasers of real property would still likely obtain title insurance (although streamlined title searching and reduced risk would probably lower title insurance premiums).

Despite the potential disadvantages, title insurance companies are beginning to adapt to blockchain. In late 2018, First American Financial Corporation announced it was launching a shared blockchain system to be used in the title insurance process. The first company to sign on to First American's blockchain system was Old Republic Title Insurance Group, the third largest title insurance underwriter in the US. The blockchain system, which First American designed, is intended to facilitate the exchange of prior title insurance policies between underwriters that contribute to the system.



Search [Title Insurance Policies and Surveys: Overview](#) for more on title insurance policies and surveys in commercial real estate transactions.

