

## **Blockchain and PropTech opportunities and challenges for land registration and land uses**

Blockchain has potential beyond that raised in the famous 2008 white paper by Satoshi Nakamoto that introduced bitcoin as a peer-to-peer version of electronic cash that allows users to send online payments from one party to another without going through a financial institution [1]. The Foundation for International Blockchain and Real Estate Expertise (“FIBREE” [2]) was established as a Dutch Foundation in 2018. The objective is to bring together real estate professionals and blockchain specialists from all over the world to exchange expertise (Veuger, 2020), setting the context for real estate and blockchain, situated in a growing PropTech environment. For over a decade, numerous use cases for blockchain, beyond cryptocurrency, including for land registration, emerged, resulting in much hype and many blockchain pilots which, by the end of 2019, had not yet amounted to much in practice (Konashevych, 2020).

This special issue flows on from a conference held at Royal Melbourne Institute of Technology (RMIT) Europe Barcelona in January 2019. This followed with a meeting in October 2019, at Arkin University of Creative Arts and Design, North Cyprus, organised by the Dean of the Design Faculty, Associate Professor, Dr Balkiz Yapicioglu. The meetings attracted industry professionals and academics from Europe, India, Israel, the USA and Australia, forming a collegiate global working group whose interest is piqued by all things property, technology, law and blockchain. Since then, the group have continued to chat and collaborate, with the culmination of this special issue. While blockchain experimental pilots continue, COVID-19 has slowed down funds for research and investment. This is certainly not the end of blockchain in the real estate and PropTech sectors, nor has the enthusiasm for emerging technologies, including blockchain, in real estate ceased from the minds of industry and academics. It is still early days for blockchain and property. Notwithstanding the many pilots in The Netherlands, Sweden, GA, Ghana and elsewhere, there are fresh opportunities for new processes, and services making use of this novel technology, both on earth and in the context of the next stages for outer space travel, in the quest for better earth data collection processes and mining of novel resources, etc. (watch this space for further research undertaken by our industry and academic group).

In the immediate future, we will hear more about blockchain in the supply chain for the provenance of building materials, and in the ongoing maintenance, and asset management of buildings. Blockchain technologies are capable of being a most valuable city development tool. Data can be stored securely in a decentralized and transparent method, allowing users to view changes to the database. Within this type of system, users have copies of the data and, because data in a blockchain is stored with cryptographic algorithms, blockchain technologies provide for a safer environment for protecting sensitive data.

The present pause in the real estate market allows for more time to consider other real estate uses for blockchain and PropTech with artificial intelligence and augmented reality capabilities. These will also be specifically tailored to the COVID-19 built environment context, facilitating return to work, universities, schools, with a need for more contactless transacting, and social distancing in buildings. Such uses will involve space planning and occupancy solutions, touchless access and asset control, operations-oriented technologies and tools that enable real estate professionals to work remotely, and data and business intelligence solutions to help real estate players in a more resilient post-pandemic world.



This will include solutions that address occupier safety concerns such as thermal scanning and workplace-specific contact tracing, and automated operations solutions, such as robotic cleaning and facilities management and virtual property tours. Additionally, the industry has witnessed blockchain technology used as a novel method to crowdfund for the acquisition, development and fractionalization of real estate, which attempts to make an inherently illiquid asset class more liquid by tokenizing interests in real estate. This is particularly beneficial during a period of economic downturn as it “democratizes” capital markets by appealing to a much wider investor audience but requires a deep understanding of the relevant securities laws in the jurisdictions where such tokens are sold. The place for the future blockchain and PropTech real estate environment has already commenced.

This special issue opens up the discussion for blockchain for land registration and more broadly for real estate and asset registration, and transactions. Veuger (2020) in his article, Dutch Blockchain, Real Estate and Land Registration, sets out a thorough literature review of how the real estate sector has accepted blockchain as a useful industry tool in The Netherlands, highly applicable to many other jurisdictions. He queries whether blockchain is only a technological disruption or a real game changer and whether the entire value chain of the market is going to embrace this tool. The seriousness of the endeavour is reflected by the creation of FIBREE, which brings together real estate professionals and blockchain experts sharing knowledge and insights already gained, to make significant contributions to the adoption and implementation of this technology in the real estate. Konashevych (2020) in his comprehensive article, Constraints and Benefits of the Blockchain Use for Real Estate and Property Rights, keeps us on our toes reminding us that whilst there is potential for blockchain in the real estate sector, much to date has been experimental and pilots. This can be contrasted with the well-thought-out criteria put forward by Garcia-Teruel (2020) in her article, Legal challenges and opportunities of blockchain technology in the real estate sector, which explores transacting in a blockchain environment, set in the European Union process of real estate conveyance. She identifies benefits and hurdles in the transaction process, and how blockchain technologies might enhance speed and the facilitation of transactional real estate operations. The two remaining articles in the special issue examine proposed use of blockchain technologies in the case study jurisdictions: Ghana (Mintah *et al.*, 2020; Skin Lands in Ghana and Application of Blockchain Technology for Acquisition and Title Registration) and North Cyprus (Yapicioglu and Leshinsky, 2020; Blockchain as a tool for land rights: ownership of land in Cyprus), where the authors set out novel thinking for land registration, particularly for traditional lands, and how contested parcels can be contemplated in new framework, making use of blockchain technologies.

The pandemic has shut down the physical spaces for global in-person discussions on real estate and blockchain research and development, but this is a mere hiatus. Blockchain and PropTech continue to be relevant for the post COVID-19 world where real estate and buildings have a real place for humans to interact and transact. We will soon see more discussion about the tokenization, and crowd funding of real estate, offering greater opportunity for affordable fractionalized home ownership.

Time may have stood still for many months, as we wisely and compassionately battled the pandemic, but there is returning hope for a better future for our built environment, incorporating blockchain and PropTech, as valuable tools, working collaboratively with connected human input from across the globe.

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25 May 2020

Guest editorial

Special thanks to Associate Professor Dr Balkiz Yapicioglu, Dean of the Design Faculty, Arkin University of Creative Arts and Design, North Cyprus and Professor and Professor Kostas Lalenis, Department of Planning and Regional Development, Faculty of Engineering (University of Thessaly) who both offered great support for our blockchain and PropTech industry and academic group, as well as for this special journal issue.

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#### Notes

1. Satoshi Nakamoto, "Bitcoin: A Peer-to-Peer Electronic Cash System," October 31, 2008. Available at: <https://bitcoin.org/bitcoin.pdf>
2. <https://fibree.org/>