BLACKCHAIN CONSULTING

2020

BLOCKCHAIN IN REAL ESTATE

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Growth Hacking | Advisory Services | Token Architecture & Development

INTRODUCTION

Real Estate is one of the sectors that see investments involving large sums of money and is regarded as the most significant investment class in the world. The money that flows in usually sits there for a more extended period. Processes and property registrations are time-consuming and generally well documented, but are still far from sufficient in some countries. Investors see this sector as a relatively non-transparent and illiquid investment as compared to equities and bonds. In this modern-day, transparency depends upon the recorded data and new forms of real estate investment such as crowdfunding and crowd-investing help in gaining liquidity. In this context, the lack of information necessary to facilitate transparency is seen as an increased risk by all investors

Real Estate has a highly fragmented data landscape as the information domains have siloed data and are not transparent - even though the real estate chain has a wide variety of information channels. An integrated approach is not (yet) in place and progress towards integration is mainly visible in property sales and the financing thereof. Professionals are considering an integrated approach to leverage the blockchain technology.

As per Prof. Andrew Baum, there are four stages of Property Technology›s development. Starting periods before 1985, between 1985-2005, between 2005-2015 and from 2015 to the present day. Prof. Baum designated these phases as 1.0, 2.0 and 3.0 periods, respectively. These phases saw relatively slow development of digitization, especially compared with the adoption of technology in the finance industry.

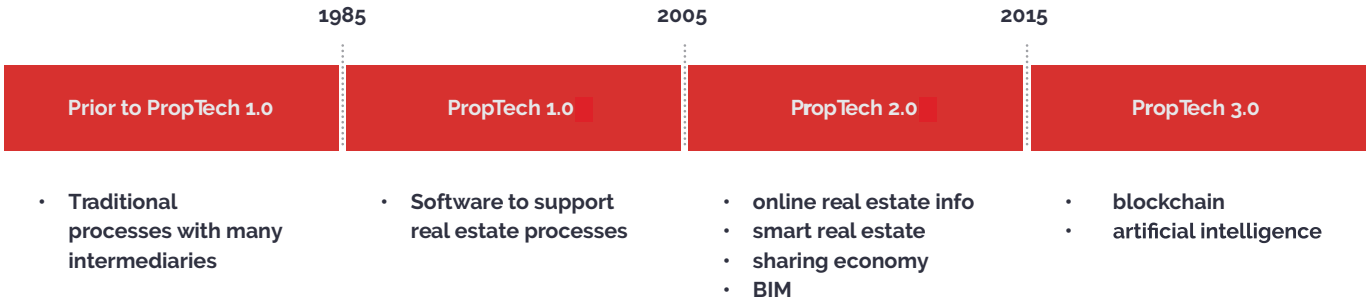
More and higher quality data and processes became available in the form of Building Information Modeling (BIM), in the PropTech 2.0 period.

And in the current PropTech 3.0 period the addition of new technologies such as Artificial Intelligence and Blockchain, increasingly enable us to perform processes remotely and autonomously. Due to this, new legislation and regulation are necessary, but it is also clearly developing as new technologies respond to the possibilities of Blockchain.

Most relevant themes in the PropTech 3.0 period has been the circular economy and real estate as a service. The future of real estate is service-oriented, short cyclical (rental) agreements and international owners are trends to note. The classic model of a property with bare space and no services on a long-term lease has low administrative complexity but requires substantial financial commitments.

Short-lived rentals such as Flex-offices, pop-up stores, co-living etc. are now in trend and interest from classic models is fading away. As a result, there are many more leasing transactions, and the financial benefit per trade is much smaller than in the conventional model. With these new trends, the administrative complexity is now sky-high. Moreover, on the ownership side, there is a trend towards multiple, short-lived and potentially international owners as a result of crowd investing. Blockchain can add a great deal of value in managing this leasing and ownership complexity.

LAND AND PROPERTY TRANSACTIONS



source: Prof. Andrew Baum, Oxford University / Said Business School

WHAT IS BLOCKCHAIN AND WHY IT FITS TO REAL ESTATE

Blockchain technology is compared to the state of the Internet, that was 30 years ago. Entry of blockchain into the market and the key benefits it brings is just as same as the Internet in the 90s.

The sole purpose of blockchain is to create and manage distributed databases for p2p transactions, shared between the nodes of a network. Blockchain is the infrastructure that has proved that it is ideal for managing data precisely, representing the will of the community in which it is adopted and in which shared rules are set and able to create liquid value. The values that can be exchanged within the infrastructure in an incensurable, immutable and recognizable way.

In today's age, our way of conceiving data and creating value has been modified by the Internet, and the blockchain is also changing how we intend to exchange these values, bringing with it not only different visions but also the need to adapt existing models, the need for a new paradigm.

The real estate may benefit from the blockchain technology because of its inherent characteristics and it can be applied very effectively and efficiently to this sector.
With blockchain there will be transparency in the system and with the transparency of data and the possibilities of verifying it from within the infrastructure will enable the users to have confidence in the system. Blockchain also opens up the possibility of new processes,

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like introducing concepts such as 'tokenization of assets and properties' in the global real estate market. Real estate sector will evolve when it is possible to record events in a specific, immutable and verifiable way and to transfer currencies and rights in total security.

From energy management to transport or from value management to applications in cities, blockchain unlocks countless sectors potential to be better. In the real estate sector alone, the management and exchange of value of the property will be much efficient and effective. During the development of this technology, it is necessary to build a new paradigm, in which machines and humans can communicate, and above all, to carry out safe and efficient transactions.

With smart contracts and other automation processes, it is now possible to eliminate non-valuable tasks of intermediaries and high costs related to them. With automation processes, the operations are now efficient. With the possibility of auditability of the distributed registries, there is a significant reduction in the risk of fraud and scams.

In conclusion, the application of blockchain to real estate will certainly bring many benefits, but on the other hand, also challenges that will require new expertise to understand better and guide this evolution and revolution.

REAL ESTATE TRANSACTIONS

The biggest impact blockchain has on any sector is, to first remove trusted third parties from the system and costs associated with them. Intermediaries in the real estate sector have been under scrutiny for so long. These middlemen are considered slow, expensive and ineffective. In any geographical region, there may have a specific legal framework. However, in general, we observe applications that focus on banks, notaries and land registries. With these applications in place, the transactions go through a slow process and to tackle this issue, countries like Dubai, Sweden, the Netherlands, the UK, Georgia and Ghana have developed applications to facilitate the more efficient and smooth transaction process.

Let›s outline the potential impacts of blockchain in the real estate sector using the initiative that was taken by Georgia. The Georgian National Agency for Public Registry (NAPR) has built a blockchain add-on to their existing system. In doing so, they want to guarantee the authenticity of a land title. Since the introduction of this application in February 2017, the public blockchain holds 2 million 'authenticated' extracts. For every title, a unique hash code is generated. These hashes are then uploaded on the Bitcoin blockchain. The authentication of the title is done through matching the hash on both the blockchain and the NAPR website. This is proof of concept phase, and now NAPR is moving forward to implement a new service

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they dubbed "TRUSTcontracts".
With smart contracts embedded into the transaction infrastructure, Georgian government aims to provide a digitally performant system that allows citizens to receive certified documents via a platform that bundles information now still siloed within the digital government agencies. With smart contracts, it will enable two or more parties to close the agreement with the transaction being registered in the property registry and the transfer of the purchase price. Automating these steps should address financial risks or fraud associated with registration of property when selling and buying.

REAL ESTATE TOKENI-ZATION

As said earlier above, real estate is the most significant asset class in the world. However, it is still the most illiquid sector. Generally, investing in real estate is hard to access, time-consuming and capital intensive. These obstacles can be disrupted through tokenisation of real estate assets, taking us from hundreds of processes for months to transfer a property to a new reality where hundreds of transactions are processed within minutes. Tokenisation is a broad concept. It might refer to either representing shares in a real estate investment trust with tokens; using a unique non-fungible token to represent a single property, or converting a single property into, e.g. 100,000 tokens. Once the concept of digital tokens is enforced into the real estate system, the assets will be represented by digital tokens and governed by the transactional rules of a blockchain, some frictions of transacting between two or more parties could be considerably reduced.

FIBREE - a foundation for International Blockchain and Real Estate Expertise analysed co-investment solutions like REITs, syndications or crowdfunding. They noticed that certain features are important to investors: e.g. diversification, online convenience, and investor control. The problem is that these solutions have technical limitations.

With tokenisation, the investors will be able to customise their diversification, and their investments will not be locked. With tokenisation, the industry will witness transactional efficiency, low fees, online secondary market trading, fractional stakes, risk control, more transparency, portfolio automation, and last but not least higher liquidity due to the fact that tokenised assets have the potential to become exposed to a global economy. In every market, the higher liquidity doesn't makes any sense. San Francisco's, real estate market, is Prime, and these prime real estate markets have no liquidity problems, which means that any properties of any size have enough buyers any time of the day. But in hundreds of smaller markets around the world, properties of a bigger size have only a few potential buyers.

Online markets have started to witness tokenised properties of various sizes and types,

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even though the real estate tokenisation industry is still in the early stages. So how big is the potential here? If we look at commercial real estate alone, globally it is valued at 50 trillion. Out of that, 2.8 trillion is considered as professionally managed if we project that in 10 years, 1% of that value will be tokenised, that creates a market worth 28 billion.

DECENTRALIZED INFRASTRUCTURE

Building a transactional infrastructure brings the question of harmonization again to the forefront. This could be considered as one of the first lessons learned by the real estate and blockchain community. Building a new infrastructure requires common standards and definitions. Blockchain is in that regard creating new momentum for international cooperation. Increased liquidity or seamless transactions require a legal framework that is based on uniform transaction information systems (sale and purchase as well as rental) and improved transparency with digital property passports. Different blockchain related organisations, such as FIBREE, are now leading the effort to create a decentralised infrastructure based on common standards for interoperability.

STATE OF BLOCKCHAIN IN REAL ESTATE

FIBREE SURVEY BY JO BRONCKERS, 2019

There was a survey done by FIBREE in Q3 2019, to take stock worldwide of the state of blockchain in the real estate. The study revealed some challenges and best practices that we will discuss below. For this survey, a working group was formed within FIBREE, and the working group consisted of 13 FIBREE participants from 11 different countries around the world, from Australia to the West Coast of the USA.

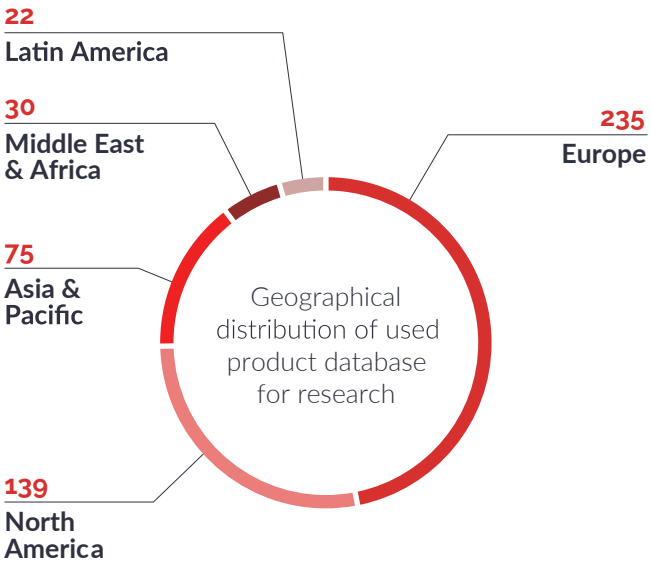
To get an overview of different blockchain and real estate start-ups, the working group started desk research at the end of 2018. The input to the study was derived from different sources; via Linkedin and various specific blockchain-related listing sites (ICO Bench, Crunchbase, etc.)

They found about 501 blockchain and real estate initiatives around the world. This study interprets the data gathered from these initiatives.

The final report was published in July 2019.

The 501 products or services found to come from 66 different countries and from all continents of the world. With a number of 235, most of the companies in the database (47%) have their headquarters in Europe. Latin America is the least represented with only 4% of all products.

Further analysis provides a top-10 of countries that are at the forefront of the development of blockchain products for real estate. UK and USA topped the list, however surprisingly small countries like UAE, SINGAPORE, the NETHERLANDS and SWITZERLAND also made it to the list despite being a small country.



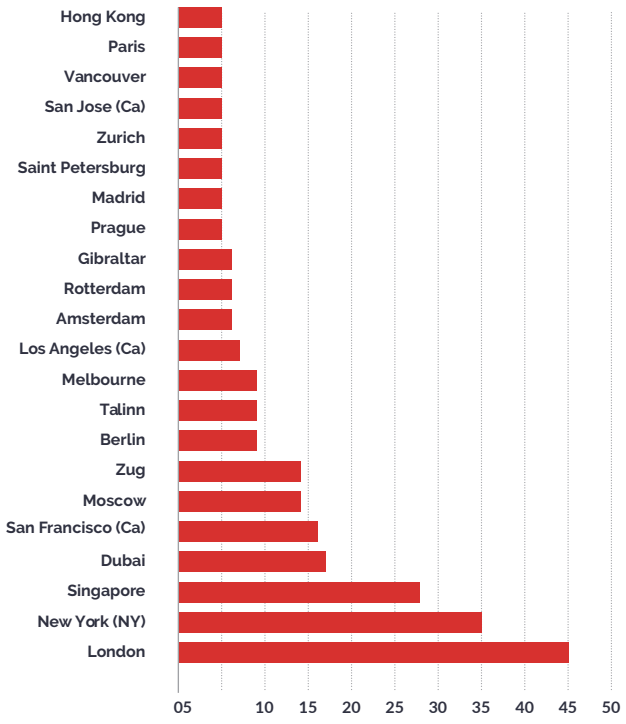
Top 10 countries in used product database

Rank 2019	Country	Number of listed BC/RE-product-supply
1	USA	124
2	UK	53
3	Singapore	28
4	Switzerland	27
5	Netherlands	26
6	Russia	23
7	Australia	19
8	UAE	17
9	Germany	17
10	Spain	15

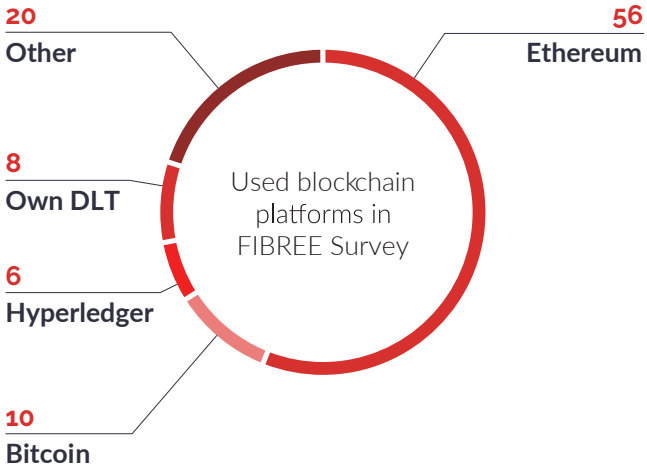
TOP CITIES AND MOST USED BLOCKCHAIN

The graph below shows the top 22 cities on the basis of the number of headquarters of blockchain and real estate companies located there. This graph shows that in addition to London, New York and Singapore, there are several urban regions that can also be qualified as, blockchain & real estate capital. Silicon Valley (the Cities of San Francisco and San Jose combined) or the aforementioned Crypto Valley in Switzerland (Zurich, Zug and Baar together) are at almost the same level as Singapore.

Top 22 blockchain & real estate capitals in the world according to the used product database



Ethereum is by far the most used blockchain platform in the real estate sector. No less than 90% of the 25 Investment solutions said they use Ethereum. Bitcoin and Hyperledger follow as the second and third most used platforms. A small percentage indicated that they use proprietary distributed ledger technology. Out of 39 products, 23% said they use multiple blockchain platforms in their solution.



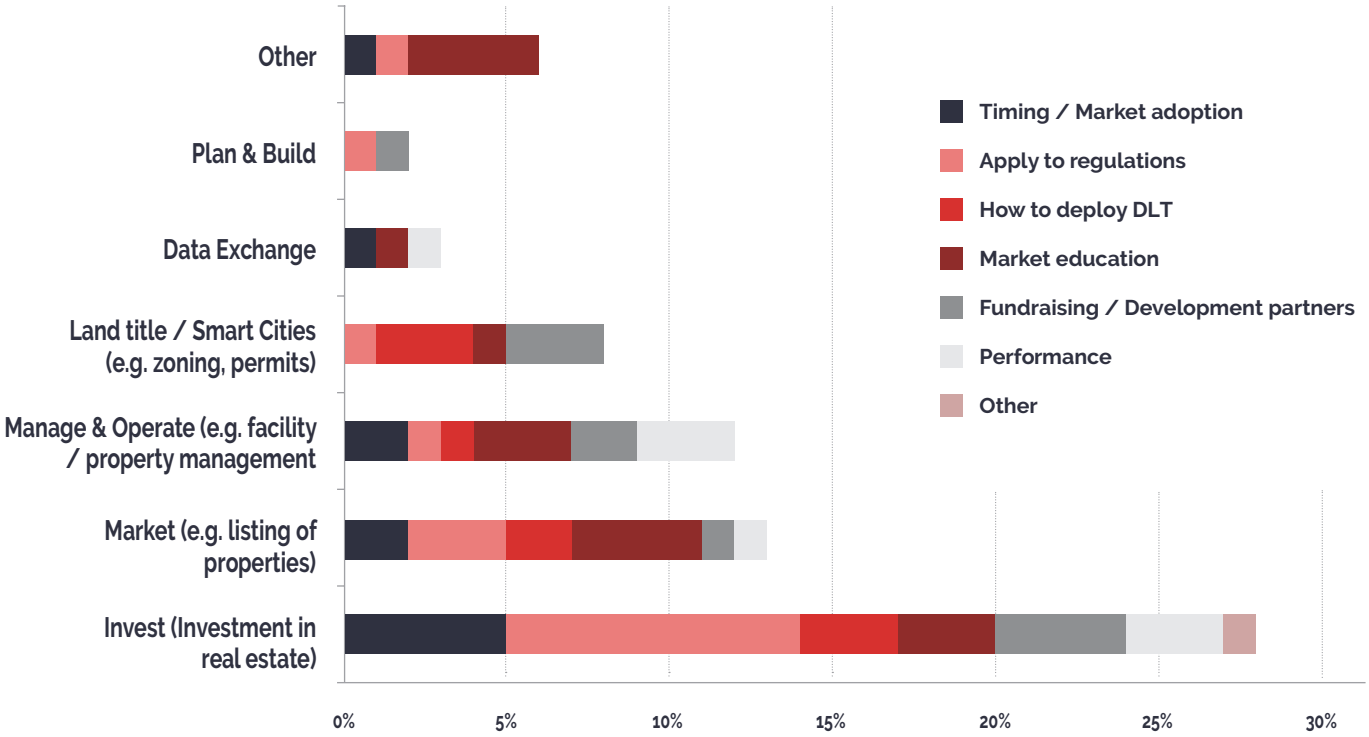
The ERC-20 standard provided by Ethereum is the most widely used tokenization standard. The combination of Solidity programming language and ERC20 tokens is appreciated for its easy applicability to smart contracts.

Also, one of the major reasons for choosing Ethereum is because of the potential risks that may come with newly introduced and immature blockchain platforms. Ethereum has proven its grounds for years.

CHALLENGES FOR BLOCKCHAIN START-UPS

The survey data revealed that almost every initiative faced several problems in the development of blockchain products. In the FIBREE survey, participants were asked about the challenges they face. The 39 participants indicate a total of 46 challenges. Compliance with regulations, the timing for adoption in the market, finding funding or development partners, and knowledge development in the market are the most frequently mentioned challenges and are all mentioned approximately as often (all between 21% and 25%).

Overview of experienced challenges in the different blockchain solutions for real estate



TEAM AT BLACKCHAIN

Giacomo Arcaro
Co-Founder & Growth Hacker

He has 15 years' experience in growth hacking, digital strategy, startup and business development. He has advised over 150 startups and has 50 managed employees into an XII Century Church in Italy for the European biggest growth hacking company. He holds the title of 'Amazon Best Seller Author' and is known to be one of the 'Most Influential Blockchain Evangelist' with +200 conferences all over the world.

Giovanni Casagrande
Co-Founder & ICO/IEO/STO Advisor

A known name in the world of cryptocurrency. He has been in the marketing industry for well over 20 years and has switched to the cryptocurrency industry in 2014. He's a writer, public speaker, investor and Marketing / Growth Hacking advisor in more than 100 successful projects. His speciality was Economics at the University of Bologna and the knowledge, the experience gathered from there has helped him to manage/ help many businesses in the industry. Four years ago, he founded Black Marketing Guru, a successfully Growth Hacking startup in Italy.

Eloisa Marchesoni
Token Architect

She is known as the youngest and most influential Blockchain expert in the field. She is an Italian-American who first started as a startupper in the AI and IT business, while still finishing her Economics and Management studies in Bocconi. Eloisa is a renowned author, public speaker, and biz-dev, catering startups and companies wanting to innovate. Currently being the Chapter Director of Bocconi University Startup Grind Chapter, she made valuable connections and became a part of some of the leading blockchain associations around the world, namely The Blockchain Council and The NYC Women in Blockchain. She will be featured in the Forbes Italy 30 Under 30 most influential entrepreneurs in 2020.