URBAN REAL ESTATE
RESEARCH UNIT

Unpacking the Current & Future Impact of Technology on the South African Property Industry

Identifying Key Features of the Proptech Ecosystem

UCT-Nedbank Urban Real Estate Research Unit

Unpacking the Current & Future Impact of Technology on the South African Property Industry: Identifying Key Features of the Proptech Ecosystem

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UNPACKING THE CURRENT & FUTURE IMPACT OF TECHNOLOGY ON THE SOUTH AFRICAN PROPERTY INDUSTRY

Identifying Key Features of the Proptech Ecosystem

The linkages of technologies across disciplines has seen an exponential growth of technological advancement over the past decade which has affected most industries. While the real estate industry has generally been slower to react to this trend, globally there has been an increasing rate of adoption of technology within real estate and, as a result, the number of real estate-related technology companies are growing at a rapid rate. This has led to the emergence of a new sector within real estate, commonly known as **Proptech**. Put simply, **Proptech refers to technology that aids or improves the way we do property.**

The wave of Proptech-driven innovation is having a significant impact on the global real estate industry, and South Africa is making its own strides within the movement. In response to this, the Urban Real Estate Research Unit (URERU) at the University of Cape Town has begun mapping this emerging technology industry in order to gain a deeper understanding of this industry and how it may disrupt traditional real estate practices at home.

WHAT IS PROPTECH AND HOW IS IT CHANGING THE REAL ESTATE INDUSTRY?

In order to truly appreciate the potential impact of Proptech it is necessary to understand what it is and what it involves. This can be a challenging task as Proptech, like all tech-related innovation, is constantly evolving and advancing at a rapid pace. Furthermore, there are various disciplines involved with different ideas on how technology could or should disrupt real estate. Taking the above into account, URERU and SA Proptech currently define Proptech as follows;

> *Tech-driven innovation that is related to buildings and the real estate industry at large. This is tech that influences real estate in terms of design, management, transactions, investment or use.*

> *URERU & SA Proptech*

Proptech is redefining how the real estate industry operates and interacts, evolving traditional practices and services using key technological advancements, many of which have been successfully adopted in other industries. There are many variations of these advancements that tend to change and multiply at a rapid pace, however, we have identified three key areas of tech-driven innovation that are having a significant

impact on numerous industries, including real estate. These are the sharing economy, the internet of things (IoT) and cutting out the middle man[i]. We consider these trends in more detail later.

SNAPSHOT OF THE GLOBAL PROPTECH INDUSTRY

On a global scale, increasing levels of investment in the proptech sector indicate the increasing momentum within this dynamic area of the real estate industry. Global venture capital investment in the sector reached over US$11bn in 2018, from $12.6bn in 2017, $4.2bn in 2016, and $1.8bn in 2015, according to research from US-based real estate tech research and marketing agency Re:Tech (recently acquired by CREtech)[ii]. In line with increasing investment, the number of proptech-focussed accelerators and investment funds are also increasing. Key examples include PiLabs in London and Metaprop in New York, along with larger global funds such as JLL's Spark.

Figure1: Global Proptech VC Funding
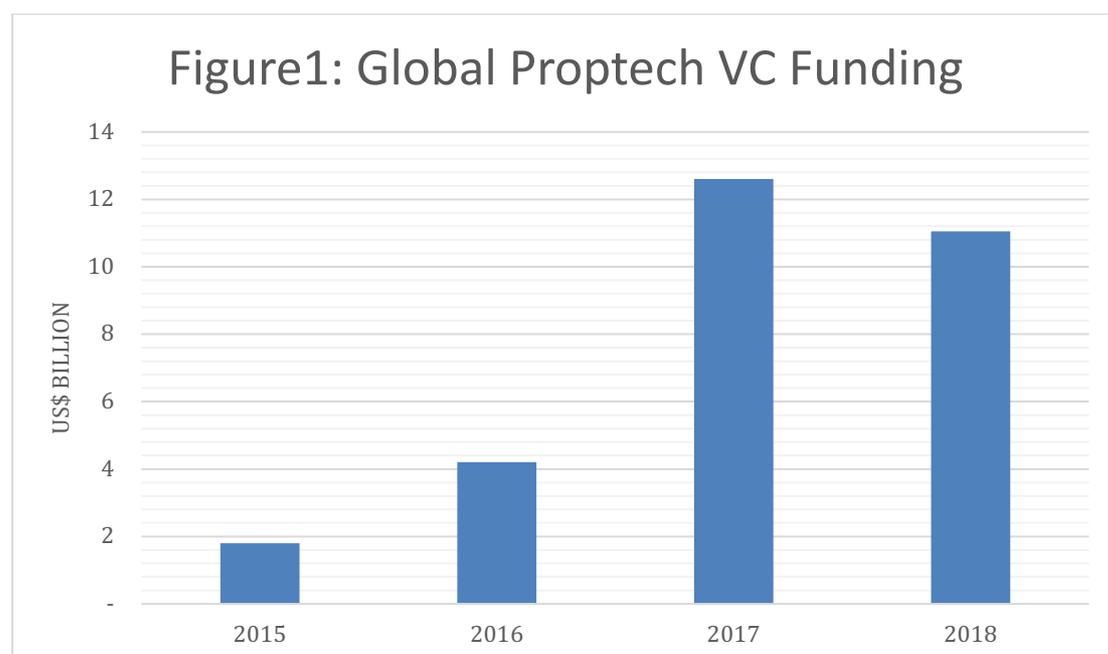
Source: Re:Tech

The sector itself has also witnessed significant developments in formalisation and representation, with country-specific proptech associations and conferences forming at a considerable pace. Europe, the USA, South America, the Middle East and Asia have all witnessed a flurry of proptech activity in various forms. On the global front, Unissu is an organisation that launched recently which aims to be the *'number one source for proptech data, content and research',* while Future Proptech promotes itself as the *'the world's number one proptech event'[iii].*

At home, South Africa's very own proptech association, SA Proptech[iv], launched at the end of 2018 and has partnered with URERU to help understand SA's proptech ecosystem.

The proptech solutions coming to the market are diverse but some of the key impacts we have identified centre around transaction platforms, management platforms, data-driven services and wide-ranging digital innovation (such as blockchain and virtual reality innovations). Together, these solutions are drastically changing the business of real estate in a significant way. For example, transactions are becoming more efficient and transparent, particularly in the residential sector, through online estate agents and letting services.

Additionally, property management is becoming more efficient through innovative software solutions, and new avenues for investment and financing are available through crowdfunding platforms. Data and blockchain innovations also offer a wide range of potential impacts which are continuously evolving. For example, blockchain offers the opportunity to digitise deeds registries and drastically improve transparency and efficiency of these crucial databases[v]. Blockchain as a solution to crucial land databases is already being explored by various countries in Africa[vi]

AFRICA: THE NEXT FRONTIER OF TECHNOLOGICAL INNOVATION

In the African context, the continent has produced numerous tech startups and large organisations which have driven significant technological innovation within various industries across the continent. Recent research by GSMA, a global body representing the mobile technology industry, shows that tech hubs are growing rapidly in Africa; from 314 in 2016 to 442 in early 2018[vii]. Tech hubs can include accelerators, incubators or coworking spaces which foster or promote tech startups. This indicator represents a good indication of activity in this dynamic area of an economy.

While developed economies may be better placed to develop and implement new tech services and innovations, what has become evident in the past two decades is that tech-driven solutions can be massively successful and beneficial in emerging economies. This is largely due to the ability of new technologies to provide new ways of carrying out business and everyday activities without the need for established infrastructure or systems.

In an emerging economy context, this means that adopting the latest technology can provide access to services or products on a large scale, without the need of developing expensive infrastructure or systems. To this end, new technologies can effectively allow African economies to leapfrog more industrialised countries in terms of the development of specific industries or infrastructure.

As globally-recognised thought leader Tim O'Reilly recently commented on this topic within an emerging market context by highlighting that *'the lack of existing infrastructure turned out to be an advantage in adopting a radically new model'[viii].*

An example of this is internet access. Some African countries may not possess extensive telecommunications infrastructure, but the rise of smartphones and wireless internet technology such as 3G has made it possible to increase access to internet on a massive scale, without the need for extensive and expensive infrastructure which would be traditionally needed to provide internet access via telephone cables and other hardware-reliant means.

Specific innovations that demonstrate this response include the GSM phone-based money service M-Pesa which launched over 10 years ago in Kenya[ix] and Zipline's[x] on-demand drones which are delivering 20% of all blood supplies in Rwanda, with plans to expand the service to other countries (including the US). Similar innovations are taking place in the property industry in South Africa as well, hence our aim to map the proptech industry and provide an insight into this relatively unknown area of SA tech. Our initial research has also identified exciting proptech activity is taking place in other African countries, which is on our radar for future research.

AFRICA AS A PROPTECH HUB

Proptech has gained significant momentum in other parts of the world, and we expect the potential for meaningful impact to drive the momentum of the proptech movement in Africa. Proptech principles and trends are already having exciting and meaningful impacts in numerous ways. From crowdfunding, which could bring property investment to a much wider audience; to online estate agencies; and the rise of blockchain technology with its potential application to deeds registries on the continent.

This is taking place within a thriving tech and startup ecosystem on the continent as a whole, as indicated by record levels of investment in African tech and startups in 2018. In total a record US$725.6m was raised across 458 deals last year, representing a massive 300% increase over 2017[xi]. While it is currently difficult to determine how much of this investment went into proptech, there is evidence that various proptech companies in South Africa have had successful fundraising rounds[xii]. An innovative rental platform recently raised R20m in funding from local and international sources which is a relevant and exciting example of this activity[xiii].

Figure2: Tech & Startup Investment in Africa
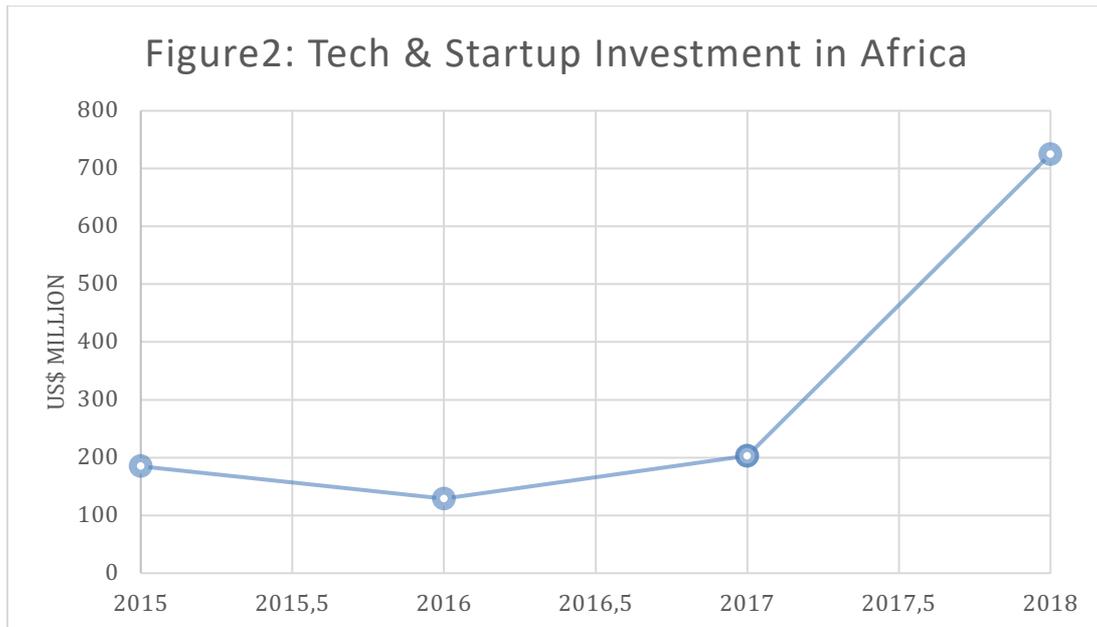
Source: WeeTracker

MAPPING THE SOUTH AFRICAN PROPTECH SECTOR

URERU has been following the development of this emergent sector for the past 18 months. During this time there has been a significant growth of excitement and investment into this space. However, there is currently a lack of knowledge or understanding of this sector and how it works, particularly in South Africa. As such, URERU set out to develop a clearer picture of this budding new area of the real estate industry. Thus, the main purpose of this research is to map the South African proptech sector in order to gain an understanding of the players and what areas they are working in. We view this as a starting point in understanding the sector as a whole and laying the foundation for future research.

Firstly, we gathered a list of as many active proptech companies as possible by speaking with industry experts and consulting relevant online sources. This involved starting with the proptech companies we were aware of building on them by speaking to the innovative entrepreneurs and business people behind the scenes, and searching for similar companies that may exist. Next, we divided these companies into relevant categories according to the type of service or product they offer. Finally, at a high level, we determined how these categories are operating in the property industry, and how they are impacting the business of property.

This preliminary evaluation is a key element of this research which we aim to build on in our upcoming work on the topic. We believe that it is crucial for property stakeholders to understand the types of proptech that exist in our market and what opportunities they offer, as this knowledge should be part of their own business strategies.

In terms of categorising the different areas of proptech, we started by considering the three key ways in which technology has been changing the world of real estate according to international proptech thought-leader Professor Andrew Baum of Saïd Business School, University of Oxford[xiv]. Firstly, technology in property is '***cutting out the middleman***' by way of peer to peer services or products, crowdfunding and the sharing economy. A good example is Airbnb which utilises a platform to connect landlords and renters in the short-term property rental space, negating the need for rental agents. A further example is crowdfunding where funding is raised on a peer-to-peer basis on an online platform (e.g. The House Crowd in the UK) or property investments are offered (e.g. Property Partner in the UK).

Secondly, technology is '***driving innovation in property uses***', by way of cloud working (e.g. Google Drive & Google Docs), coworking (e.g. Workshop17 and Spaces), immersive technology (e.g. VR & augmented reality) and the online retail revolution, including click & collect or delivery (e.g. Takealot in SA). These factors are having a significant impact on how we use space, from virtual meetings aiding remote working, to 'on-demand' office rental providing by coworking providers, sometimes on an hourly-basis. Global company Zipcar uses the same model for car rental in large metros where cars can be unlocked with your smartphone and rented per hour, all via an easy-to-use app.

Thirdly, '***technology is driving the efficient use of space***' by way of the internet of things (IoT) (e.g. Vula Telematix in SA), smart buildings (e.g. Lone Rooftop in the UK and Nuru in SA) and smart cities. These proptech solutions aid the efficient use of space in various ways, from providing live measurement of the usage of physical space and utilities in order to reduce wastage, to identifying space that could be temporarily leased on an 'on demand' basis. There are significant cross-overs with better buildings within this, where connected and live buildings can provide a degree of measurement and control, much of it reactive, or proactive using data from sensors, never before seen in the built environment. On the macro-level, this connectivity can be applied to a whole city which is a fundamental component of a smart city.

In summary, we considered relevant global research within our local context when determining our proptech categories. By drawing on work that has been done in more mature proptech markets we aimed to assess the level of the South African market and determine the most active areas of the sector. We consider this version 1.0 of our research into proptech in South Africa where we purposely kept the categories broader in order to 'set the scene', so to speak. This pioneering research is the first in a series where we aim to explore the proptech sector in South Africa, and future instalments will include additional, more focussed categories split between the residential and commercial sectors, for example.

What we discovered through this initial process is that it is not so much the external environment that is changing, but rather the property sector itself, specifically the way that business is being done. At its essence this is what disruption is, and we are witnessing the very beginning of a significant tech-driven wave of disruption in the global property industry as we know it.

CATEGORISING THE SA PROPTECH SECTOR

We identified 42 active players in the proptech sector in this initial research and categorised them accordingly. These categories were largely guided by the three key tech trends discussed previously and the type of activity we found in the South African proptech sector.

Figure 3: South African Proptech Map

* Recently acquired by Pam Golding   **Recently acquired by MRI Software

SERVICES & SOFTWARE - 12 players

'*driving innovation in property uses*' & '*driving the efficient use of space*'

One of the most exciting areas of proptech which produces high levels of innovation and influence is property related services. These can come in a variety of forms, and often utilise software solutions, smart building technology and data. In general, these services offer new and efficient ways of using, managing and evaluating space.

These are software companies that have developed products and services catering for the property industry, in some shape or form. It could be argued that these companies were the original proptech companies, utilising technology to improve platforms and systems within the property industry. An established example is MDA who provide property management software solutions, a significant market in South Africa and internationally. Interestingly, both MDA and Propsys were recently acquired by the international software company MRI Software.

However, with the proptech wave we have seen the available offerings increase in innovation - sometimes on the back of other technology or proptech advancements. Within the property management sphere, apps and dashboard platforms have become popular and offer a convenient platform for tenants, property managers and landlords to interact and manage properties effectively. Local examples include REDi a full-cycle residential development management solution [xv] and Estate Mate a property community ecosystem management and communication app. Our research also found that services and software naturally often work in tandem. Various proptech service offerings require a suitable platform or algorithm, such as services which use data analytics (e.g. space usage monitoring & optimization).

We consider this category as one of the broader that we have used which will be sub-divided into multiple categories in our future research.

SELLING & LETTING - 13 players

'*cutting out the middleman*'

Selling and letting platforms have been one of the most active areas of proptech internationally, particularly within the residential property sector. Our research indicates that there are currently at least seven of these platforms active in South Africa, including Property Fox and HouseMe. There are also listing and transaction platforms specialising in commercial property, such as Instant Property and Quoin Online.

These platforms effectively cut out the middleman, or digitise and incorporate their services, and offer all the traditional services of a sales or letting agent via an online platform, often without the need for physical offices.

This, amongst other factors, allows these companies to offer very competitive commission rates which are significantly less than traditional agents, as well as innovative and convenient services to customers.

This category also attracted various investment activity in the past year with letting platform HouseMe securing a 'multi-million' Rand deal (over R10m or US$700k raised to date since 2016)[xvi], commercial property platform Instant Property closing a 10% equity-stake deal[xvii] and digital estate agency Eazi.com being acquired by Pam Golding Property Group[xviii].

DATA & ANALYTICS - 5 players

'*driving innovation in property uses*' & '*driving the efficient use of space*'

This is a burgeoning category of proptech in South Africa which can offer significant value to the property industry for a number of reasons. Increased data availability and analytic capabilities within a property market often lead to greater transparency and efficiency, which can facilitate increased investment, perceived sophistication and opportunities at a macro-level, and valuable services and product for the industry at a micro-level.

For this reason, data capabilities in developed property markets across the globe are often very well established. The benefits are not only limited to the investment space, but are also very significant for landlords, occupiers, brokers, academia, research institutions and various property stakeholders who can improve decision-making processes and market-insight capabilities with efficient access to robust data and analytics. Linked to this is an increase in research opportunities which can often identify inefficiencies or barriers which present potential opportunities for the proptech industry to find solutions, as well offer a deeper insight and understanding into the workings of the property market and the property industry as a whole.

A small cohort of innovative companies in this category are carrying out excellent work in South Africa, and offer a range of data management, analytics and automation services. Examples include Lightstone, an established information, valuations and market intelligence provider[xix], and Gmaven, a data services and software provider for commercial property[xx]. Lightstone aims to be 'Africa's go-to company for property related information and decisions by 2020, while Gmaven firmly believes in
'*the power of data, and the software that manages it*'.

DIGITAL INNOVATION - 6 players

'*driving innovation in property uses*' & '*driving the efficient use of space*'

We included this category to cover a variety of exciting proptech companies that are offering a distinctly new and innovative service or product to the market.

For example, companies utilising blockchain, like SESCO Global, to significantly change the way deeds registries work and possibly the way property is transferred. Also, iShack Ventures offers proptech consultancy services and can develop bespoke proptech solutions for property stakeholders. Virtual reality also features here.

This is one of the smallest categories at the moment but it is the one with arguably the most scope for disruption in local and global property markets. Blockchain and crypto-currency technology alone are set to revolutionise various areas of the global property industry in terms of transactions, leasing, tenure and title-deeds processes across residential and commercial real estate, to name a few[xxi]. In practice, when these technologies take root in a meaningful way, it will be possible to transfer a property almost instantaneously on a peer-to-peer basis using blockchain platforms. When deeds registries are digitised using the same technology, tenure and property information will be secure, transparent and accessible; a crucial development for many property markets in developing countries.

Furthermore, leases can also take place on blockchain-driven platforms meaning leases can be agreed and signed by parties in different parts of the world. This category is attracting massive research and industry activity which is set to produce many more practical applications that will be entering global property markets sooner, rather than later[xxii].

COWORKING - 4 national players

'driving innovation in property uses'

Coworking is a global trend which has gained significant market share within the traditional office market. For example, The We Company (previously WeWork) is the world's largest coworking provider and recently became the largest office occupier in London. As the gig economy and the prevalence of freelance, contract and remote (permanently employed) workers grow, along with entrepreneurs and startups, so does the demand for flexible, shared office space solutions. This all forms part of the larger megatrend gaining momentum within the global property industry, space as a service. Anthony Slumbers, a global proptech thought-leader, recently produced a comprehensive report on the subject[xxiii] and defines the movement as follows;

"Space as a service has two meanings. First, it refers to space that is procured on-demand, whether by the hour, day, week, month or year. But secondly, it refers to a workplace (however procured) that provides the spaces and services appropriate for the "job to be done" of every individual, as and when they need it. The caveat is that this does not apply to the entire office market, but it does apply to the better end of it. Any company dependant on attracting, retaining and making productive high skilled employees WILL become Space as a service minded."

During our research we identified more than 15 independent coworking spaces offering innovative and appealing spaces, however, due to the numbers involved we decided to only include coworking providers who are operating on a national level in this version of our research. These four companies operate approximately 32 coworking spaces across the country between themselves. Examples include Workshop17 (previously Open) which is a joint venture between Refuel Properties[xxiv] and SA's largest REIT Growthpoint Properties and Spaces which operates 12 locations across the country.

CROWDFUNDING & FINANCE - 2 players

This is where proptech and fintech intersect, which is only just starting to gain momentum in South Africa in a meaningful way. There are a couple of companies doing good work in this category and it is likely we will see more emerge in the future as regulatory hurdles are overcome. However, in various overseas markets there has been significant activity in this area of proptech, made up of well-developed crowdfunding platforms for both investors and borrowers, and a variety of innovative fintech solutions for the property industry.

Our view is that one of the main reasons crowdfunding platforms have been slow to take root in the property industry, and indeed the whole economy, is that important financial regulations that will provide the framework for this innovative approach to finance and investment to flourish are yet to be formed. South Africa has a world-class financial system governed by strict and effective regulations and legislature that is crucial in maintaining integrity and transparency of the stock market and financial institutions. It is important that new platforms like crowdfunding are similarly regulated to ensure quality and security for the end-user and the industry as a whole.

Property Mogul is an interesting local example which has been making meaningful progress. The company promotes itself as a real estate and alternative investment marketplace, which aims to disrupt traditional real estate and capital markets[xxv].

CONCLUSION

South Africa's proptech industry has shown a strong level of activity in the form of companies changing the business of property. Our findings indicate a burgeoning sector that is witnessing a growing level of activity, with a significant number of companies demonstrating domestic and international innovation. The most active category is *Services and Software* which indicates a high level of innovation in the sector that is creating new ways to conduct real estate business. Property management software stands out in particular. Second is *Sales and Letting* which contains some of the newer entrants into the sector who are achieving significant success.

Data and Analytics and *Digital Innovation* are tied as the third most active sectors. However, they represent some of the highest levels of innovation and we expect these categories to grow and continue to have a meaningful impact on the industry. Next is *Coworking* where we only considered national players. The significant numbers of independent players leads us to believe this category will grow strongly in the future. The least active category is *Crowd-funding & Finance* which we believe is limited due to the current regulatory environment. However, it is one to watch as the financial sector in general begins to embrace technology and regulations develop.

While we have taken efforts to produce a map that is as complete as possible, the rate of growth in this sector means it can be challenging to capture all relevant companies in South Africa, which we believe a promising sign in itself. We therefore invite you to contact us if you have any suggestions for further additions to the map. As it stands, the South African property industry has demonstrated a world class level of sophistication and success that has a global reach. While new technology and methods can take time to be adopted in any industry, we firmly believe that proptech in South Africa has made a strong start and will go from strength to strength.

As we highlighted earlier, the key observation we have made during this research is that it is not so much the external environment of the property industry that is changing, but rather the property sector itself, specifically the way that business is being done. We look forward to following this trend, specifically growth and innovation, both at home and across the continent.

GLOSSARY
Examples of International Proptech Organisations & Events

https://pilabs.co.uk/
https://www.metaprop.org/
https://www.us.jll.com/en/jll-spark
https://ukproptech.com/; http://proptech.es/;https://www.contechproptech.nl/
https://www.rebny.com/content/rebny/en/about/committees/committee.html/130.html
http://proptechlatam.com/
https://www.proptechdubai.com/
https://www.ibc-asia.com/event/proptech-asia/
https://www.unissu.com/about-us
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