



Opportunities in PropTech

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PropTech Overview



PropTech is broadly defined as the application of technology in the real estate sector in order to improve real estate transactions, property management and tenant experiences.

Real Estate has been amongst the slowest asset classes to adopt technology and is ripe for disruption

- Real estate is the largest asset class in the world (\$280T+ in global asset value, according to Savills) and it touches every aspect of the economy
 - PropTech has suffered from a “chicken and egg” problem whereby managers are hesitant to implement technology without a proven ROI
 - In a 2020 survey conducted by Deloitte, only 41% of real estate managers felt they were adequately updating business processes to incorporate technology, and 56% felt the pandemic unveiled digital deficiencies

But while adoption has been historically slow, momentum is finally building

- According to CB Insights, funding into PropTech companies increased from \$2.2B in 2015 to \$8.9B in 2019 (41.8% CAGR); while the overall pace of funding slowed in 2020 due to the pandemic, 2021 is expected to be a record year
- As the market continues to mature, we are seeing larger, later-stage rounds

And today's catalysts position PropTech for accelerated growth

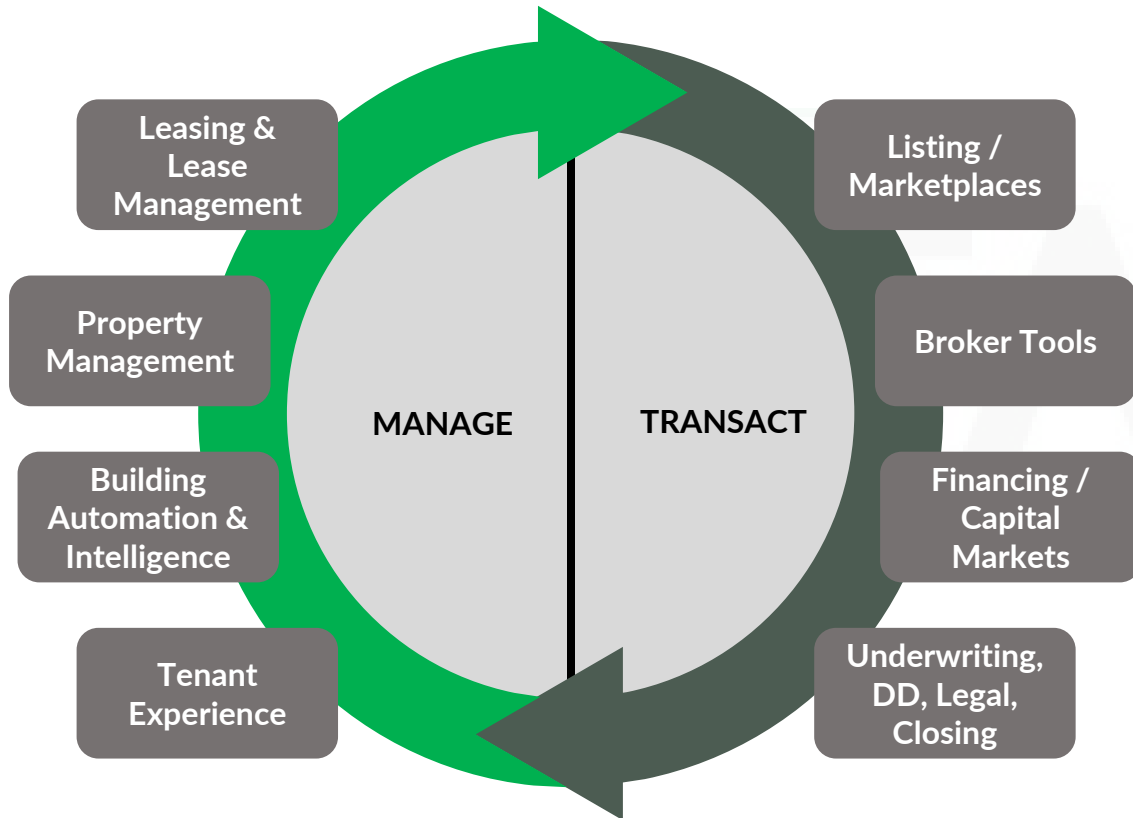
- Human stakeholders increasingly expect digital experiences in real estate as most aspects of our personal and work lives have moved to a digital format
- Property managers are making a concerted effort to engage with tenants in order to maximize their experience
- Proven ROI and an imminent large-scale rollout of 5G both fuel the implementation of portfolio automation and intelligence tools
- New government regulations and tenant demands are pressuring real estate managers to adopt sustainable solutions

PropTech is a Massive Market Opportunity



Technology increasingly impacts every stage of the real estate asset life cycle

Software and tech-enabled services for professionally managed real estate alone is a \$26B+ opportunity



1 Total Real Estate Value

Professionally Managed RE Value	\$9.6T
Vacancy Estimate	7%
Income Generating RE Value	\$8.9T

2 Cash Available for Operating Expenses

Est. Average Cap Rate (Yield)	6%
Rental Income	\$535.7B

3 Total Spend on SaaS & Tech-enabled Services

Est. Tech Spend (% of Rental Income)	5%
Market Size	\$26.8B

An Evolving Landscape



PropTech 3.0 brings a new wave of technology that is fundamentally transforming the real estate sector

PropTech 1.0 - Digitization
Migration of existing data and processes to a digital format

PropTech 2.0 - Innovation
Reimagination of how real estate is bought & sold, managed and used

PropTech 3.0 - Disruption
Technology unlocks insights, efficiencies and experiences that were previously not possible in real estate



The Future of Real Estate is Digital



As part of a broader macro trend, stakeholders across the real estate ecosystem are embracing digital solutions

Stakeholder	Pain Point	Technology Impact
Brokers and Agents	Showing properties, screening tenants and processing paperwork is time-consuming and manual	Virtual leasing tools and SaaS products give agents the tools and time savings they need to close more deals
Lenders & Investors	Credit underwriting and investment due diligence is manual and opaque; real estate is an illiquid asset class and physical distance is a barrier to investing in certain geographies	Digital tools and data insights enable superior underwriting and break down barriers to lend to or invest into real estate assets
Property Managers	Property managers have valuable data at their fingertips, but they lack the tools to extract business insights	Smart building technology unlocks efficiency gains and fundamentally transforms the way that buildings and portfolios are managed
Tenants	Almost every aspect of our day to day lives has been enhanced by digital tools but real estate has lagged behind	Building apps allow tenants to communicate with management, pay rent, submit maintenance requests and engage with their broader building community
Third Party Diligence and Maintenance Providers	Real estate due diligence and maintenance are coordinated ad hoc via email or phone, and poor recordkeeping coupled with lack of digital tools causes processes to progress very slowly	SaaS platforms designed for specific real estate service providers enable more efficient and transparent operations

The Future of Real Estate is People-Centric



Real estate is a people business – at the end of the day a successful real estate operation comes down to optimizing the satisfaction of the people who spend time inside of its buildings

The challenges brought forth by COVID-19 have established an increased focus on landlord / tenant relationships as building managers attempt to convey the “we are here for you” message

- As people go back to offices and public spaces, tenant comfort and safety is a top priority; sensors and access control systems are being installed to monitor occupancy, traffic flow and health and safety risk
- Going forward commercial tenants will demand shorter lease terms, and permanent flexible work arrangements give an already transient population even more freedom to move around – this presents both commercial and residential building operators with the opportunity to leverage a competitive advantage via tech-enabled services, amenities and communication tools

As Gen Z enters the leasing market, property managers look to appeal to the most tech-focused generation yet

- Everything from lease signing, to rent payments, to maintenance requests, to building access will be done via mobile
- Younger renters are more comfortable committing to live in places they haven't visited in person fueling the rise of digital leasing tools

Property managers are increasingly looking to unlock additional revenue streams by selling services to tenants

- Potential supplemental revenue streams include insurance, cleaning services and special deals with retail partners
- B2B SaaS platforms and tech-enabled service companies are building Direct-to-Tenant product lines as they look to capture a portion of the economics

The Future of Real Estate is Intelligent



Smart building technology initially struggled to gain traction, but the pandemic is increasing adoption; the underlying 5G connectivity necessary for smart buildings to achieve their full potential has finally arrived

Real estate operators are finally taking the plunge and in doing so are learning that smart building technology has a positive ROI

- COVID is a catalyst for sensor technology since operators need to monitor health risks upon reopening
- Beyond health and safety, sensors will deliver long-term value in reducing energy expenditure, prioritizing maintenance, informing space optimization and managing access permissions for building guests and hybrid workforces (including everything from front door access to shared desk access)
- Data is analyzed to screen tenants, predict lease renewals and inform strategies for tenant retention in order to boost topline
- Digital twins (digital copies of physical buildings) simulate building scenarios and develop predictive analytics

Building intelligence is a benefit to tenants

- Commercial tenants are making more data-backed decisions in order to engage with end customers and inform strategy; as a result, real estate managers can share relevant data with their tenants which could manifest in higher justified rental rates and / or improved tenant retention
- Access control used to be a security mechanism but now it is an amenity – these systems allow tenants to provide temporary digital keys to guests and control access for hybrid workforces

Building Intelligence Today

- Independent sensors and IoT devices collect data and route it to a centralized building management software system where it is analyzed in order to inform management's strategy
- Example: Sensors collect data on building temperature and space usage and send it to a central system; the system runs statistical models to put forth a plan for optimizing energy expenditure without compromising on tenant comfort



Building Intelligence Powered by Ubiquitous 5G Connectivity

- Individual devices within an interconnected network collect granular building data; the devices talk to one another and make autonomous building management decisions
- Example: Independent sensors monitor traffic flow and space usage throughout a large building and communicate with one another in order to autonomously optimize temperature controls in real-time

The Future of Real Estate is Sustainable



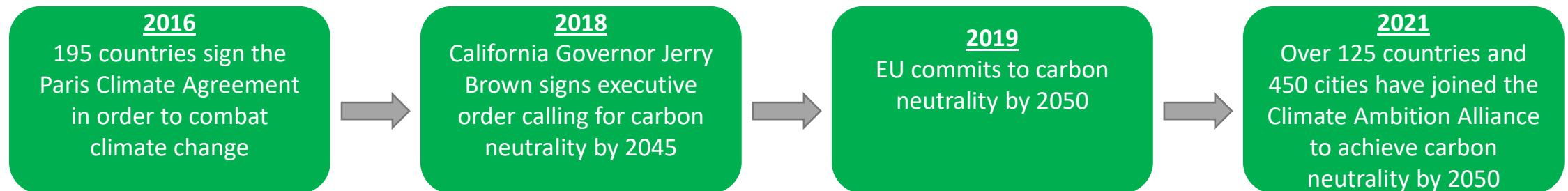
The real estate industry is responsible for 30% of all greenhouse gas emissions; tenant demands coupled with new government regulations are fueling adoption of climate technology in real estate

Residential and commercial tenants alike are pushing for sustainable solutions that align with their personal and brand values

- Individuals increasingly view climate change as a major crisis and younger generations are adamant about minimizing their personal carbon footprint
- Companies including Amazon, Microsoft, Starbucks, Unilever and JetBlue have committed to plans to work toward carbon neutrality

The ethical argument for sustainable solutions in real estate is finally making economic sense

- More owners are charging energy-inclusive rent which incentivizes them to implement efficient lighting and HVAC systems, as well as systems that monitor and control their tenants' energy consumption
- Real estate operators became cash constrained during the pandemic due to vacancies, depressed market rent and building reopening costs; many are therefore looking to reduce energy and maintenance costs via technology going forward



PropTech Market Map



Transactions

Listing / Marketplaces

Broker Tools

Financing / Capital Markets

Underwriting, DD, Legal & Closing

Management

Leasing & Lease Management

Property Management

Building Automation & Intelligence

Tenant Experience



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