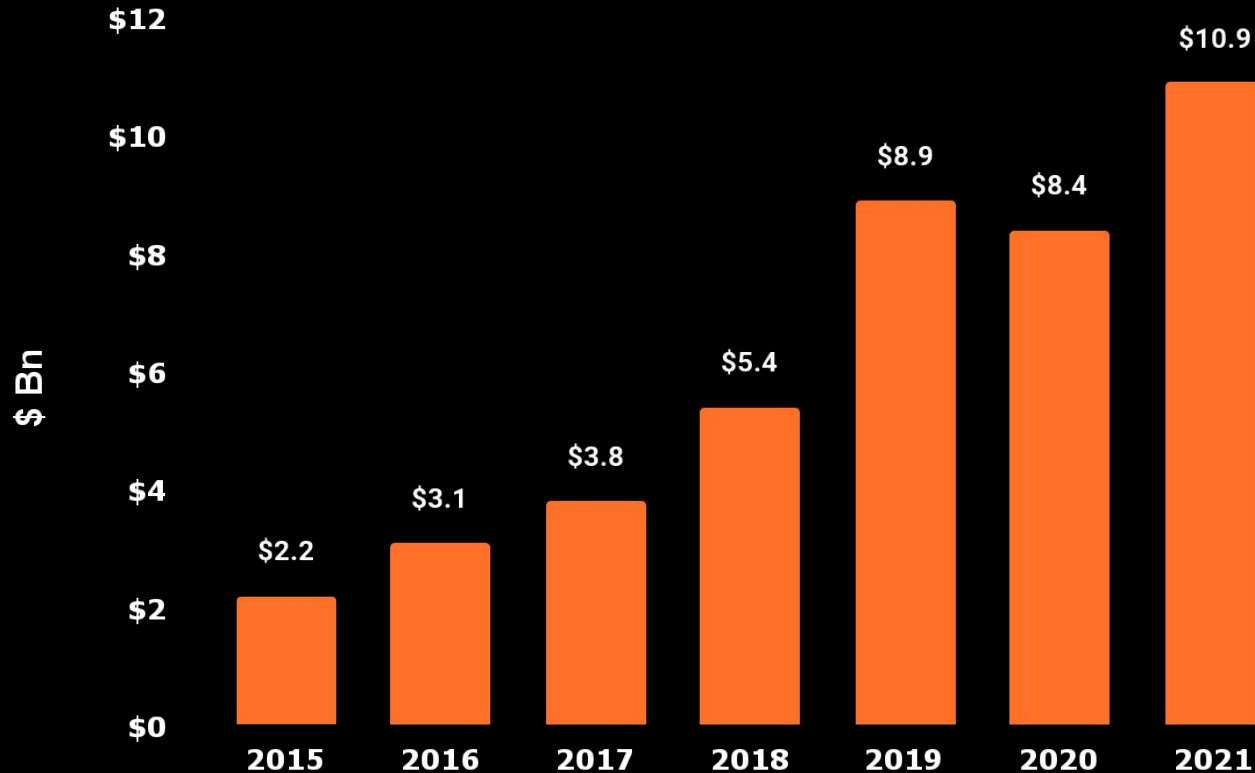

2022: Looking Ahead in PropTech

Lang Center | Columbia University

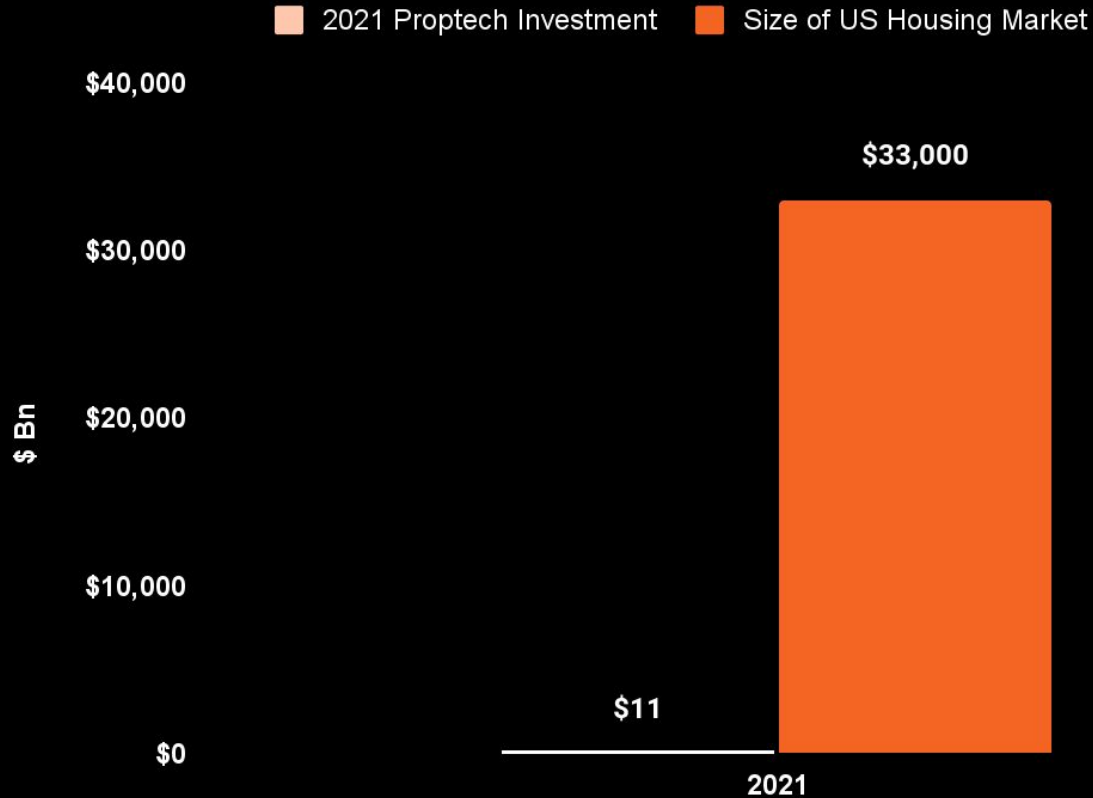
Kunal Lunawat | December 2021

Record Year for PropTech...



Source: CB Insights. Investment amount for 2021 annualized.

...But we are only getting started



**For the next 30 minutes:
Select Themes For 2022**

Theme 1: Metaverse

Metaverse

“Today, the way we primarily experience the internet is that we look at it. In the future, we will be in it.”

- Vishal Shah, VP of Metaverse at Meta

Metaverse

“Not a new internet, not a new set of protocols, not an entirely new foundation, but a new way to experience the Internet.”

Metaverse

Co-presence,
Continuity, and
Conversational

Metaverse

“I fundamentally don’t believe any of the things that we are building are replacements of the physical experiences that we have today.”

Metaverse

“If I could be in a room with you today, I would much **prefer** that than just being able to see you digitally. But the reality is, we can't necessarily be with each other all the time physically. And this is a way to take the digital experiences that we have and to make them better.”

Metaverse

Physical Experiences: Quality

Digital Experiences: Access

Metaverse: Bridge

Metaverse: Bringing It Together

Conversational bridge between the digital and physical worlds, defined by co-presence and continuity

Metaverse: We are just getting started

Someone Spent \$450,000 for 'Land' Next to Snoop Dogg's NFT House

\$106M worth of metaverse land sold last week (Dec 2, 2021): DappRadar

Almost 25% of NFT Purchases in Early December Were for Digital Land

But The Bigger Use Cases = Building the Bridge

Retail: Revolutionary sales
platform and immersive +
consultative brand discovery

But The Bigger Use Cases = Building the Bridge

Travel & Hospitality: Come for
the digital experience and book
for the physical experience

But The Bigger Use Cases = Building the Bridge

Housing Rentals & Sales:
Apartment tours as a starting
point

But The Bigger Use Cases = Building the Bridge

Future of Work: WFH 2.0 +
Ramifications for HQ

But The Bigger Use Cases = Building the Bridge

Retail: Revolutionary sales platform and immersive + consultative brand discovery

Travel & Hospitality: Come for the digital experience and book for the physical experience

Housing Rentals & Sales: Apartment tours as a starting point

Future of Work: WFH 2.0 + Ramifications for HQ

**Bridging the gap between the
built world and the digital world,
represents a transformative
opportunity**

Theme 2: Sustainability

Sustainability & Real Estate

Real estate accounts for **50%** of the world's energy consumption, **40%** of the world's raw materials and emits **40%** of global greenhouse gas emissions

Sustainability: What Changed

2008: Right Thing To Do

2012: Lower Operating Costs, Branding

2021: What's Changed?

Sustainability: What Changed

2021: Linkages to cost of capital

The cost of debt and equity goes up, if the building does not meet certain emission / green standards

Sustainability: The Opportunity Set

Operating Emissions: energy consumed / emissions for operating the asset on a daily basis. Ex: heating, lighting. How do we rationalize this? The answer may lie in history books

Sustainability: The Opportunity Set

Embedded Emissions: energy consumed / emissions for building a new asset. Ex: raw materials, energy used for construction, shipment etc. How do we introduce a step change in how we build assets?

Even before that, the building blocks

Sustainability: The Opportunity Set

Measure: How do we measure energy consumption and emissions in the first place? Think: FICO score

Sustainability: The Opportunity Set

Report: How do we create a standardized set of disclosures to enable capital providers to underwrite the appropriate cost of capital?
Think: GAAP

**There's a moral imperative to build
and invest in sustainable tech for
the built world**

Theme 3: Gen Z

**Gen Z is going to comprise
30% of the workforce by
2023**

**And a majority of them
will be renting through
2030**

Building Product for Gen Z

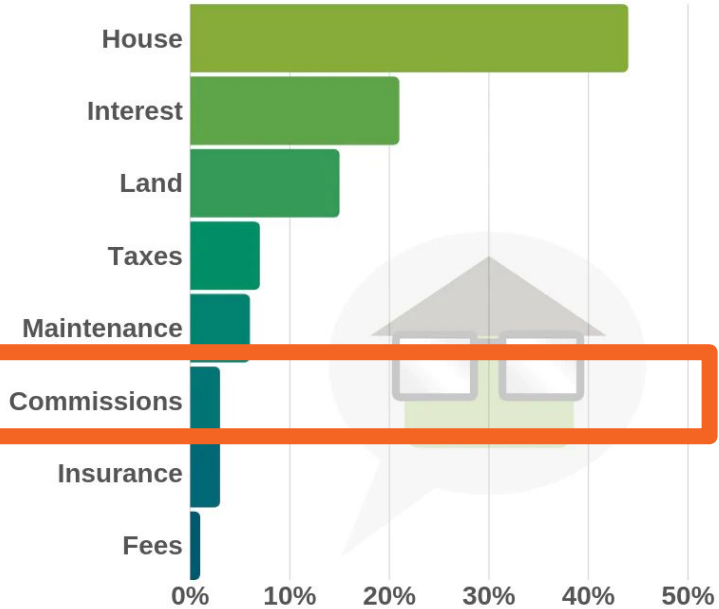
Building Product for Gen Z

Apartment Search & Discovery
Building Sense of Community
Levering the Creator Economy
Enhanced Brand Consciousness

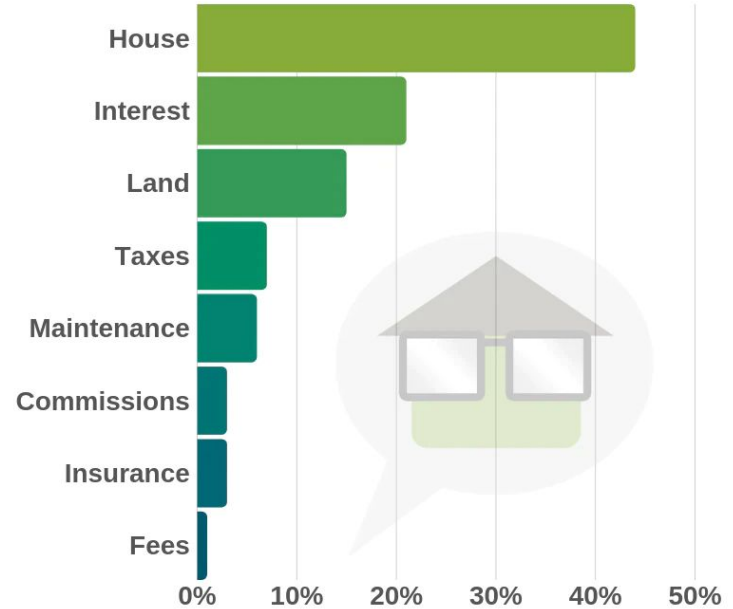
Thinking about renter demographics offers a useful lens for customer preferences at large over a 5-7 year timeframe

Theme 4: Future of Neighborhoods

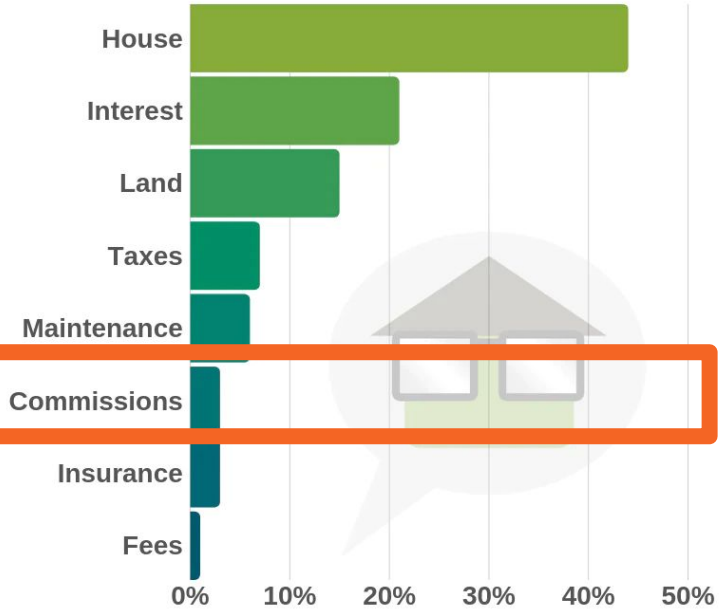
Total Cost of Transaction Over 10 Years



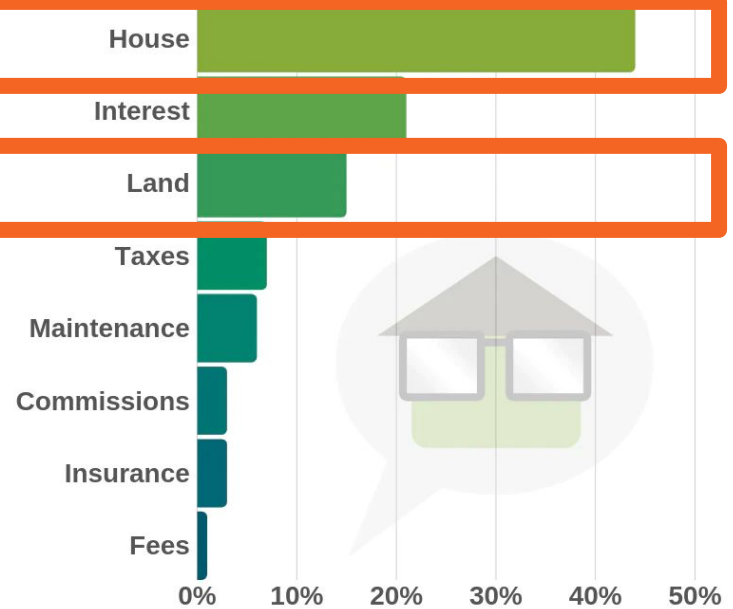
Total Cost of Transaction Over 10 Years



Total Cost of Transaction Over 10 Years



Total Cost of Transaction Over 10 Years



Future of Neighborhoods

Rethinking Land Use

Do More with Parking Lots

Do Away with Parking Lots

Future of Neighborhoods

Mixed Use Communities 2.0

Make Space for Dark Stores
Self Storage in Your Hood
The Third Place: WFH + HQ

Future of Neighborhoods

A New City



A city in the desert: Marc Lore



A city at the base of Mt. Fuji: Toyota

**Productizing cities and
neighborhoods through empathy
is a powerful construct**

Recap

Recap

2021: Record Year

Recap

2021: Record Year

4 Themes for 2022

Metaverse

Sustainability

Gen Z

Future of Neighborhoods

Thank You