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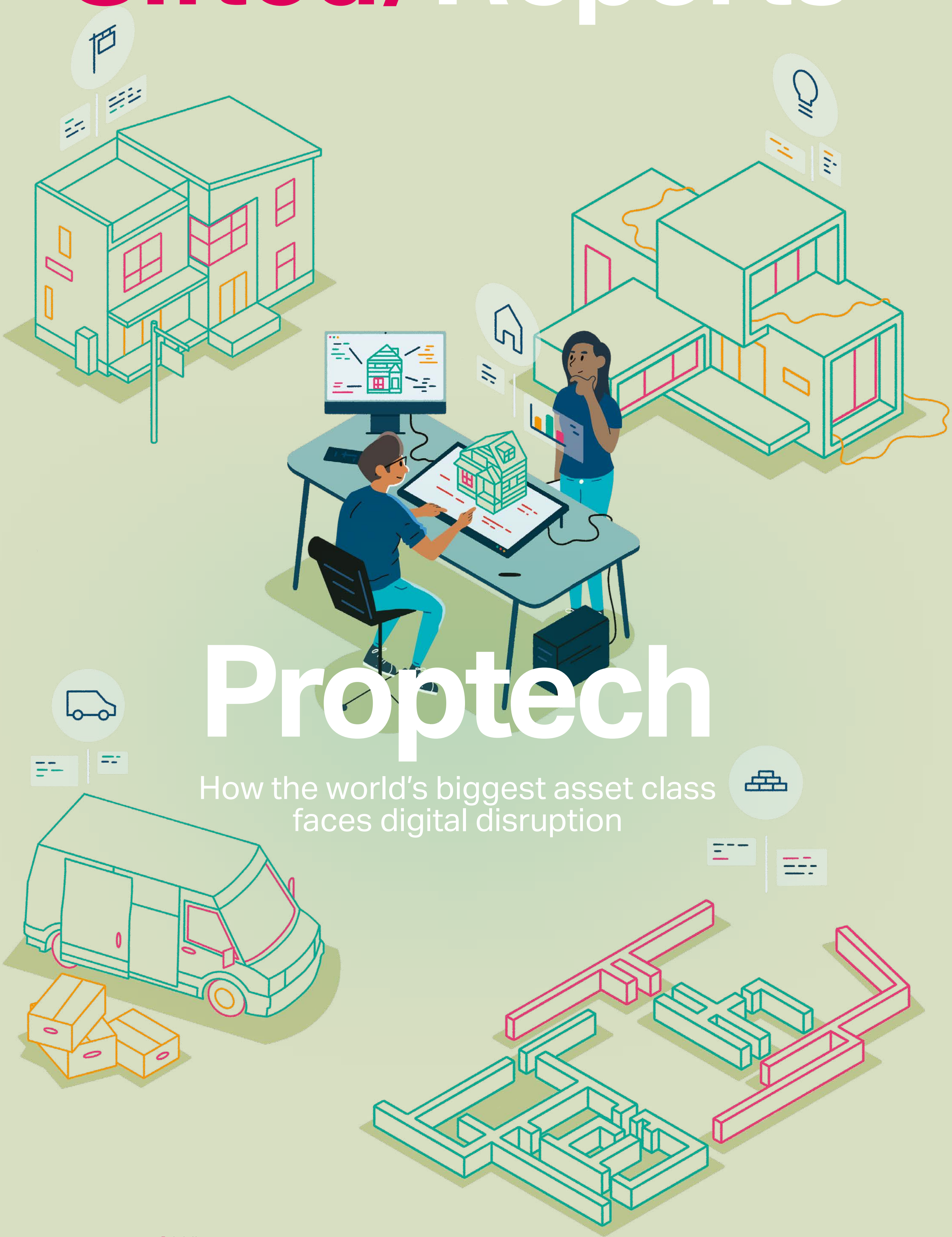

Proptech

How the world's biggest asset class faces digital disruption

\sifted/ backed by FT Financial Times

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How the world's biggest asset class faces digital disruption

Proptech: How the world's biggest asset class faces digital disruption is a Sifted Intelligence report, jointly sponsored by Pi Labs and Shoosmiths, that investigates how tech is reshaping real estate. A lack of digitisation to date — this bricks and mortar industry still stubbornly relies on Excel and emails — is both a problem and an opportunity. Many proptech founders have quit their property jobs out of frustration with cumbersome processes, relative to what has become possible with software. They decided to build something new. We talk to these founders as well as industry experts and investors about the trends supporting proptech — and the obstacles still in the way.

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Foreword

Why proptech is hot property

The financial crisis of 2008 had its roots in the property sector — but out of that catastrophe grew a new generation of companies bringing digital innovation to the troubled industry, like Airbnb and Zoopla, which have become household names today.

Recognising the potential of digital technology for real estate, Pi Labs was formed in 2015, and in the years since, has seen momentum only grow exponentially. This year, Pi Labs closed its third fund at $90m, launched its 10th global growth programme for some of the world's most promising proptech startups, and now counts 60 such companies within its global portfolio.

As a legal expert embedded within the technology sector, and with a long history in real estate, Shoosmiths has been at the forefront of advising companies and investors — including Pi Labs, Casafari, Movewise and one of the early backers of Zoopla — in the sector's shift towards digitisation. Shoosmiths' extensive VC team bridges the gap between the traditional real estate sector and the disruptors driving the proptech revolution.

Today, the real estate sector is facing significant challenges and opportunities. From the environmental impact of our physical spaces, to housing affordability, to shifting paradigms across how we work, where we live and build communities — proptech is helping this centuries-old industry evolve and respond to the changing times.

Proptechs such as QFlow and Modulize are stepping up to address the growing demands on the construction sector to improve ESG credentials and lower waste while property intelligence platforms are addressing the growing pressure on real estate owners to capture and report on sustainability impacts. Meanwhile, soaring property prices have emboldened entrepreneurs at the intersection of proptech and fintech to strive to make homeownership accessible to all. For example, Pi Labs growth programme alumni, Generation Home, raised $1.3bn in January to help more people buy their first home sooner.

> **“Proptech is helping the centuries-old real estate industry evolve and respond to the changing times.”**

The pandemic has also transformed the workplace, accelerating changes to working and living in ways that play into the hands of startups like HubbleHQ, a workspace matchmaker that was an early Pi Labs investment. Platforms that support remote worker engagement have also come into vogue as part of the shift to distributed work.

The metaverse could be an exciting category too. Augmented reality already helps customers to experience spaces in a more immersive way, such as “wayfinding” around stores, and we think this technology can be used in shopping centres, airports, stadiums, trade shows and more. Augmented reality is already being used in the construction sector, and Shoosmiths recently advised XYZ Reality on its £20m Series A round.

XYZ Reality


HubbleHQ


QFlow

The company's augmented reality displays, built into construction helmets, allow onsite teams to view 3D models to millimetre accuracy.

> **"Today, pockets of proptech excellence are already emerging globally across the continent and its nearby environs."**

As Europe is a mix of relatively small markets, startups here have to think globally and cross-border capital flow is increasingly enabling founders to scale their operations into multiple global markets. Today, pockets of proptech excellence are already emerging across the continent and its nearby environs, from deeptech and AI coming out of Israel to sustainability-focused startups in the Nordics and business process innovation in eastern Europe.

Just a decade ago, Europe's startup ecosystem was small, but it has grown rapidly, with big successes like Spotify, Klarna and UiPath demonstrating the potential for startups in Europe to achieve global scale. In the near-term future, more and more proptechs are expected to scale at a similar pace, and undergo later-stage funding rounds and M&A activity to join the likes of Airbnb, Zoopla, Causeway, and Purplebricks as proptech unicorns.

We hope you enjoy this Sifted special report, featuring insights from founders, investors and industry experts from across the continent. Proptech is about digitalising the world's biggest industry and European innovators are part of that story. We're just getting started.

Faisal Butt,
CEO and founder, Pi Labs

Steve Barnett,
VC partner, Shoosmiths

Introduction

The multitrillion-dollar prize

The real money is in real estate, runs the adage. That looks true of proptech too, as both global and European venture funding floods into startups helping investors and property managers make data-driven decisions and giving consumers access to digital mortgages and property investment platforms.

The appeal is clear: property is the world's biggest asset class, with the global managed real estate investment market worth a whopping $10.5tn in 2020, up from $9.6tn in 2019. Add to that a lack of digitisation to date — this bricks and mortar industry still stubbornly relies on Excel and emails — and there is both a problem and an opportunity.

Many founders have quit their property jobs out of frustration with cumbersome processes, relative to what has become possible with software. They decided to build it themselves.

Startups are now grabbing land across the value chain and focusing on ways to help the industry raise its tech game. Developers and construction companies are using augmented reality, artificial intelligence and big data to speed through planning bureaucracy and project management. Investors and property managers are stitching together data to improve their efficiency and inform smarter deals. Consumer-facing platforms are simplifying and accelerating the buying and selling of homes and helping the home-bound upgrade their living conditions.

But proptech faces challenges. In the business-to-business (B2B) space, while customer churn rates are low, winning clients can be lengthy in a conservative sector — and startups are not always building the most accessible platforms. Some highly valued proptechs have flopped or failed to realise their potential, especially in the business-to-consumer (B2C) scene.

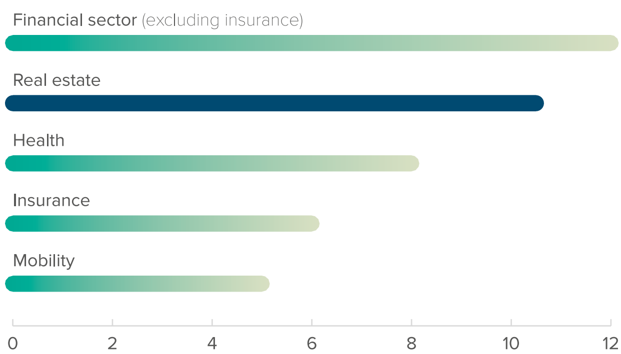
European markets are very different in terms of laws, cultures and market structures. UK and German proptechs for instance, are drawn in by the large private rental sector and the challenges facing landlords and asset managers. In southern Europe, helping homeowners has been a bigger focus. That could limit the international growth of some companies overly geared to the home market.

Proptech models can be highly specific to markets and cycles. The sector is also already crowded, with many firms doing the same thing. It will doubtless see more shakeups and consolidation as startups duke it out. But that multitrillion-dollar prize is doubtless worth the fight.

A giant among giants

Global market size ($tn)

Source: *MSCI, Dealroom*



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Proptech is a sprawling sector

An attempt to make sense of it

According to VC firm Proptech Capital, startups have been grabbing land and offering services across the categories of "search" (think brokerages services, marketplaces, data and analytics, and virtual viewing tools), "supervise" (management, operations and smart buildings) and "sell" (including trading, investing and mortgages)

Search phase

Corresponds to activities when searching for real estate (e.g. brokerage services, marketplaces matching buyers and sellers, data and analytics, virtual viewing, etc).

Brokerage services

List and search activities for sale/ purchase of property

EVERNEST

Provides marketing for real estate agents
HQ: **Hamburg**
Recent raise: **€13m (2022)**

McMakler

Online brokerage platform
HQ: **Berlin**
Recent raise: **€50m (2019)**

Lease guarantee and financing solutions

Services include securing lease guarantor or deposits

Proportunity

Provides purchase equity loans to support first-time home buyers
HQ: **London**
Recent raise: **Over £100m (equity and debt) (2021)**

GENERATION HOME

Mortgage lender for first-time buyers
HQ: **London**
Recent raise: **$30.4m (and $1.3bn in debt finance) (2021)**

Marketplaces

Platforms matching buyers and sellers

ManoMano

The ecommerce site for DIY, home and gardening products
HQ: **Paris**
Recent raise: **$355m (2021)**

Bright Spaces

Data, valuation and analytics

Services to property managers/ investors

IMMO

Runs a platform that combines sourcing, acquisition and portfolio management through to lettings and property management functions
HQ: **London**
Recent raise: **€14m (2020)**

PriceHubble

Provides AI and data analytics services (market valuations and insights) for residential real estate
HQ: **Zurich**
Recent raise: **$34m (2021)**

Virtual viewing solutions

Remote experiences

BRIGHT SPACES

Creates virtual copies of buildings for landlords, agents and tenants to browse
HQ: **Bucharest**
Recent raise: **€1.5m (2021)**

NODALVIEW

Helps estate agents create virtual tours
HQ: **Brussels**
Recent raise: **€4.1m (2020)**

Supervise phase

Corresponds to day-to-day activities of real estate professionals (e.g. space-as-a-service, smart buildings, etc).

Software-as-a-service

Type of service delivery whereby software is licensed, usually through subscription, for a range of services

LAVANDA

Runs a SaaS platform allowing residential property owners to access short-term rental demand
HQ: **Alicante**
Recent raise: **€4.5m (2019)**

BUILT-ID

Identifies project teams behind properties
HQ: **London**
Recent raise: **£1.1m (2021)**

Agent tools

Providing real estate agents with assistance tools

nested

Pairs local agents with tools and tech to help them better support home buyers/sellers
HQ: **London**
Recent raise: **£5m (2021)**

Space-as-a-service and smart buildings

IoT products; coworking/co-living spaces

ADVERTIMA

Helps retailers develop smart spaces
HQ: **St. Gallen, Switzerland**
Recent raise: **€15m (2020)**

lifeX

Provides a co-living service
HQ: **Copenhagen**
Recent raise: **€6m (2020)**

Project management solutions

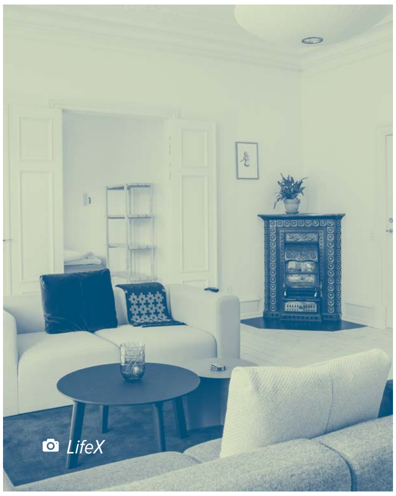
Help construction stakeholders manage property development

LandTech

Helps with off-market property dev opportunities, with data on prices, likelihood of securing planning permission and building cost estimates
HQ: **London**
Recent raise: **£42m (2021)**

habx

Allows future buyers to digitally design/model homes before construction
HQ: **Paris**
Recent raise: **€10m (2018)**



Manage and operation solutions

Services that manage properties and oversee tenant-landlord relationship

Plentific

Runs a SaaS platform for property repairs and maintenance management
HQ: **London**
Recent raise: **$100m (2021)**

iDWELL

Provides CRM software and a tenant app to automate routine processes
HQ: **Vienna**
Recent raise: **$1.2m (2021)**

zazume

Operates rental management software
HQ: **Barcelona**
Recent raise: **€2.5m (2021)**

Sell phase

Corresponds to activities when selling real estate (e.g. iBuyer model, etc).

iBuyer (“instant buyer”) solutions

Companies using tech to make imminent offers on real estate (aim is to overcome arduous, long home-selling processes)

clikalia

Guarantees sellers an offer in as fast as 24 hours
HQ: **Madrid**
Recent raise: **€460m (2021)**

kodit.io

Aims to make buying and selling homes fast, simple and safe
HQ: **Helsinki**
Recent raise: **$13m (2019)**

CASAVO

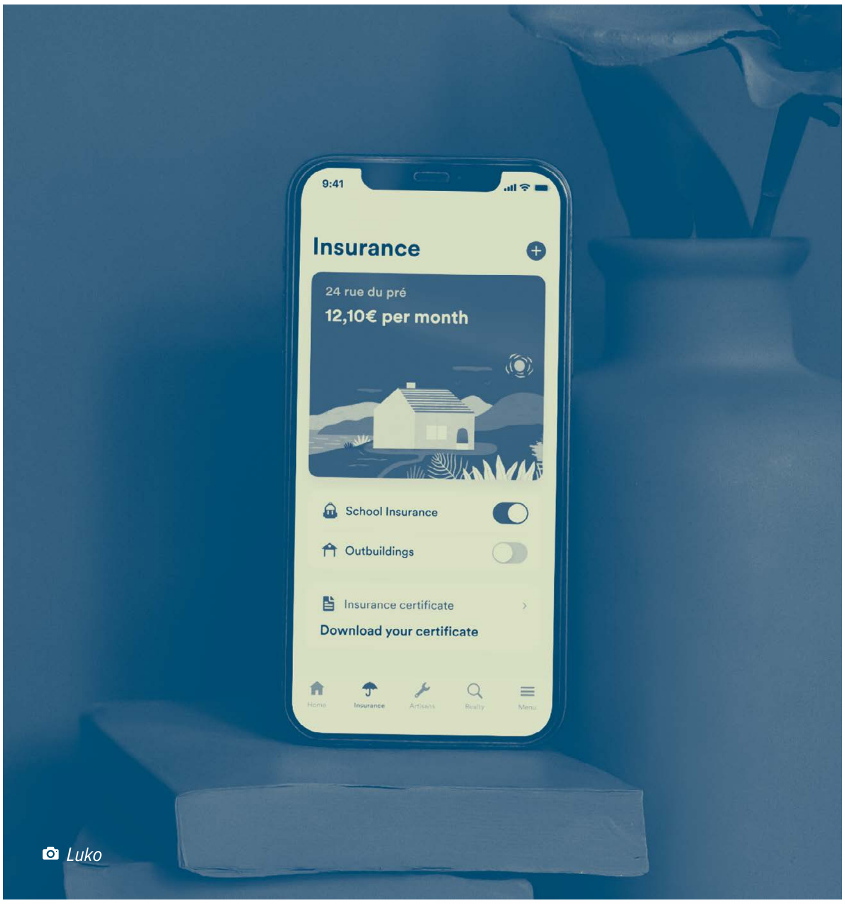
Aims to reduce the time to sell a home from six months to 30 days
HQ: **Milan**
Recent raise: **€200m (2021)**

Insurance and closing

Offering insurance and legal services to homebuyers

luko

Provides tech-tailored home insurance
HQ: **Paris**
Recent raise: **$22m (2019)**



Luko

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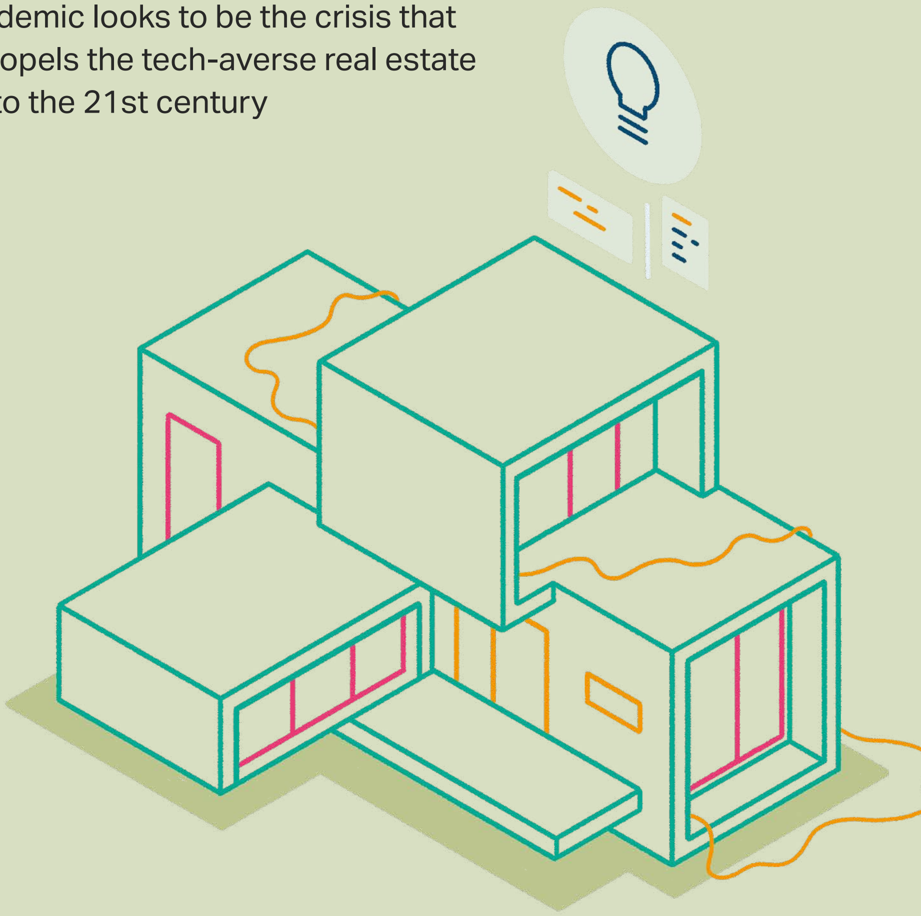
Chapter I

Europe’s proptechs turn the keys on growth

The pandemic looks to be the crisis that finally propels the tech-averse real estate world into the 21st century



Proptech has not only withstood the pandemic but been invigorated by it. Virtual viewing of properties, a shift in travel norms from hotels to more insular Airbnb-type properties and the normalisation of remote and distributed work are all boons to proptechs.

European proptechs are enjoying life, notching 45% average annual growth in investment on average from 2014-2019, according to PriceHubble, a Swiss proptech data company, with the UK and Germany the most active. European startups raised €625m in the third quarter of 2021, up from €200m in the first and €435m in the second quarter.

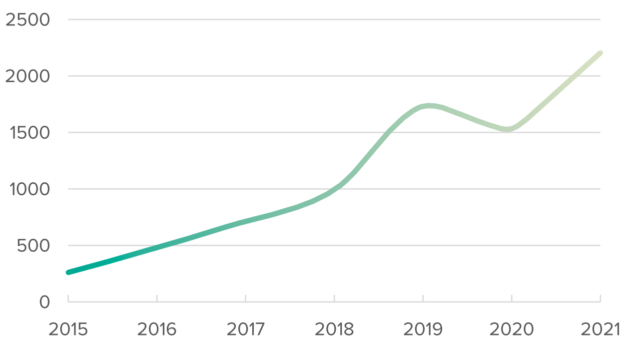
The UK, where proptech investment hit a record £1.6bn in 2021, is one of Europe's lead markets. A large private rental market relative to the continent means lots of property managers and investors needing help managing their portfolio, and the country's excellence in adjacent sectors like finance and insurtech is a help too (more on this in chapter II).

Germany, the world's fourth largest real estate market in 2020, is another hotspot. "Germany was a clear candidate for us in terms of the size and structure of the market," says Sebastian Donnelly, chief of staff at Plentific, a software-as-a-service (SaaS) property management startup. "There is a very big private rental sector, even bigger than the UK on a per capita basis."

During the past five years, proptech funding increased almost 5x

Funding for European real estate startups (€m)

Source: *Dealroom*



In southern Europe, where home ownership rates are higher, breakout success stories are more consumer-focused. Italy-based Casavo, active in cities across Italy, Spain and Portugal, offers real-time valuations and purchases and re-sells properties. The company, which raised €200m in 2021, aims to reduce the time to sell a home from an average of six months to a few days.

"Southern Europe was the perfect place to start," says Giorgio Tinacci, Casavo CEO and founder, because of high rates of ownership, high costs and poor customer experience. Italy and Spain have more than 1m housing transactions per year, with the average taking over 180 days and brokerage fees in the order of 5-6%, according to Tinacci. Other European startups in the so-called iBuyer model — short for instant buyer, and referring to companies that use technology to make almost immediate cash offers for homes — include Spain's Clikalia, which guarantees sellers an offer in as fast as 24 hours, and Finland's Kodit.io, which provides homeowners with cash offers within 24 hours based on market assessments powered by machine learning.

PREMIUM PROPTECH: BIG MONEY RAISES

- **Clikalia** (Spain): €460m to develop an iBuyer model
- **ManoMano** (France): $355m for home DIY platform
- **Plentific** (UK): $100m for property management SaaS platform
- **Proportunity** (UK): over £100m to help people on to the property ladder

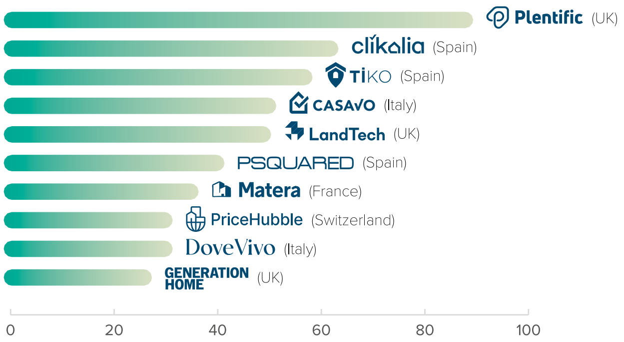
Startups are finding use cases for the whole tech stack, from application programming interfaces (APIs) and automation for clerical work and documentation to artificial intelligence-powered valuations and portfolio management. You can now even own some land on the blockchain, the tech that's helping Exporo, a German property-focused retail investor platform, to tokenise "fractional ownership", letting retail investors in on the property sector through a swift and secure architecture (more on this in chapter II). Augmented and virtual reality helps agents offer buyers and renters an immersive viewing experience. High-tech startups are even harnessing satellite and geospatial data. The European Space Agency runs a proptech kickstarter to support companies exploiting satellite data for uses like project site selection, insurance and urban planning.

No megarounds (yet)

Top 10 proptech fundraises* by round size in 2021 (€m)

Source: Dealroom

**excluding debt and lending capital*



BUILDING FOR SUCCESS

Some continent-wide trends have put a rocket under European proptech. First and foremost is the industry's lack of investment in data, software and digital technology, with a heavy reliance on basic office software. "We are talking about hundreds of millions of euros [being exchanged] but the main tools they use are Excel spreadsheets," says Anja Rath, managing partner at Proptech1 Ventures.

Indeed, many founders started their companies out of frustration with the status quo. "In real estate there is no data standard, which basically means we spend a lot of time translating data into a format we can process and analyse," says Peter Bredthauer, CEO of PRODA, a London-based SaaS company that makes software for handling rent. "95% of the industry is still using Excel".

Knowing the problem is both an incentive to find a better way and a technical grounding in the industry's needs and norms, which is vital to selling software to clients. "You need to have lived the pain to come up with the solution," says Bredthauer. "I spent those nights crunching through data and writing investor committee reports." Rath concurs: "You need to understand the language of the customer more than any other industry. The most successful products are where the founders have a background in this industry."

A second trend is growing investor pressure. To date, the property sector has not faced existential threats from startups and tech. As WeWork discovered, it is hard to disrupt bricks and mortar. But the industry is now under pressure from investors moving more capital into real estate, to the tune of €359bn in Europe last year. Rising interest rates to combat inflation are expected to push stock markets down in the coming years, or at least moderate their astronomic returns, making property a more appealing asset. "Real estate stocks are paying sensible cash-on-cash yields," says Oli Farago, CEO at Coyote Software, a data platform for property acquisitions.

Investors want the same level of digital sophistication to make and appraise deals and monitor portfolios. "A wave of institutional capital has moved into commercial real estate and there is an increasing expectation for real estate to report and have as much data intelligence as you have in equity markets, and a lot of people were caught unawares and need to play catch-up," says Farago. Other European startups targeting the investor community include Immo Capital, an end-to-end platform giving institutional investors sourcing, acquisition and portfolio management, and Swiss startup PriceHubble which offers AI-powered tools for valuation analysis and forecasting.

> **"We are talking about hundreds of millions of euros [being exchanged] but the main tools they use are Excel spreadsheets."**
>
> ***Anja Rath**, managing partner at Proptech1 Ventures*

NEW MODES OF LIVING AND WORKING

Social, cultural and behavioural shifts are also shaping the proptech opportunity. The pandemic's turbocharging of remote and hybrid work has played into the hands of workspace "matchmaker" platforms like HubbleHQ, an online marketplace for renting flexible office space.

Employers are also realising that offices are not just the ground they're built on, and talent is looking for more than a desk or a cubicle. "Commercial real estate is moving from physical asset managers to the user's experience of being in places and spaces," says Samuel Warren, regional vice president for Europe at HqO, a US-headquartered company which recently acquired Netherlands-based tenant experience platform Office App. HqO has a presence in the UK, Ireland and France and, through Office App's footprint, now in the Netherlands, Norway, Germany, Austria and Switzerland. "The pandemic has accelerated that [trend] and the adoption of technology." The company uses tech to support conveniences like booking space, accessing amenities and sharing facilities.

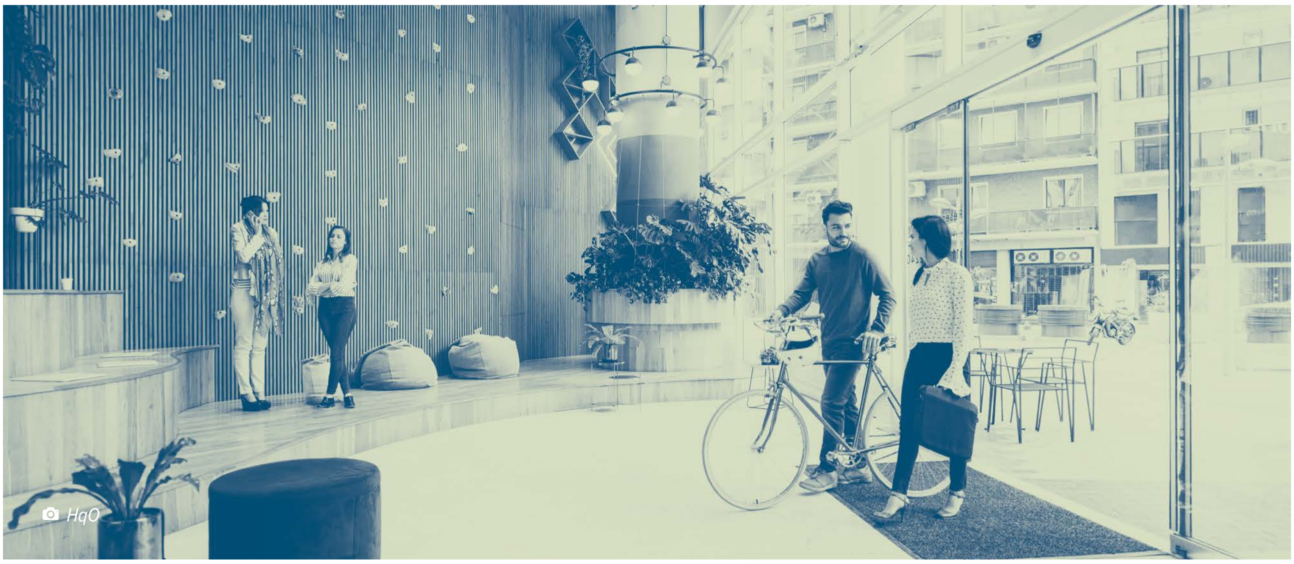
Another broader shift is the housing affordability crisis in many European countries, where prices are rising faster than wage growth. The pandemic has worsened the problem, partly due to the asset-inflating effects of very low interest rates, and partly due to fiscal interventions, like the UK's suspension of stamp duty taxes, which led to a surge in transactions. Lower income and younger dwellers are looking to new living arrangements like "co-living" and "shared living". Developers, focused on this younger demographic, recognise the need for a tech sheen, like apps for logging maintenance issues and communal activities.

Government investment to support infrastructure and home-building could also increase proptech opportunities. The UK Department for Levelling Up, Housing and Communities — an attempt to spread wealth in the country's poorer regions — has invested over £1m in funding to improve local planning authorities' practices via technology and digitalisation.

"Another broader shift is the housing affordability crisis in many European countries, where prices are rising faster than wage growth."

Some European governments are pushing more home-building to ease pressure on the housing stock. Germany, for instance, has passed a regulation to build 400,000 flats a year, a quarter more than the previous level. "You are going to need new technologies and solutions to manage to build on time and on budget, which are big problems in the construction industry," says Rath.

Casavo's Tinacci says Italy and Spain are also stepping up their support for ownership affordability, such as offering guarantees for initial down payments, which ought to bring more customers into the market.
Tech won't solve the housing crisis but, if it can help developers deliver new projects on time and at budget, it could help tackle one of the continent's biggest generational challenges.


HqO

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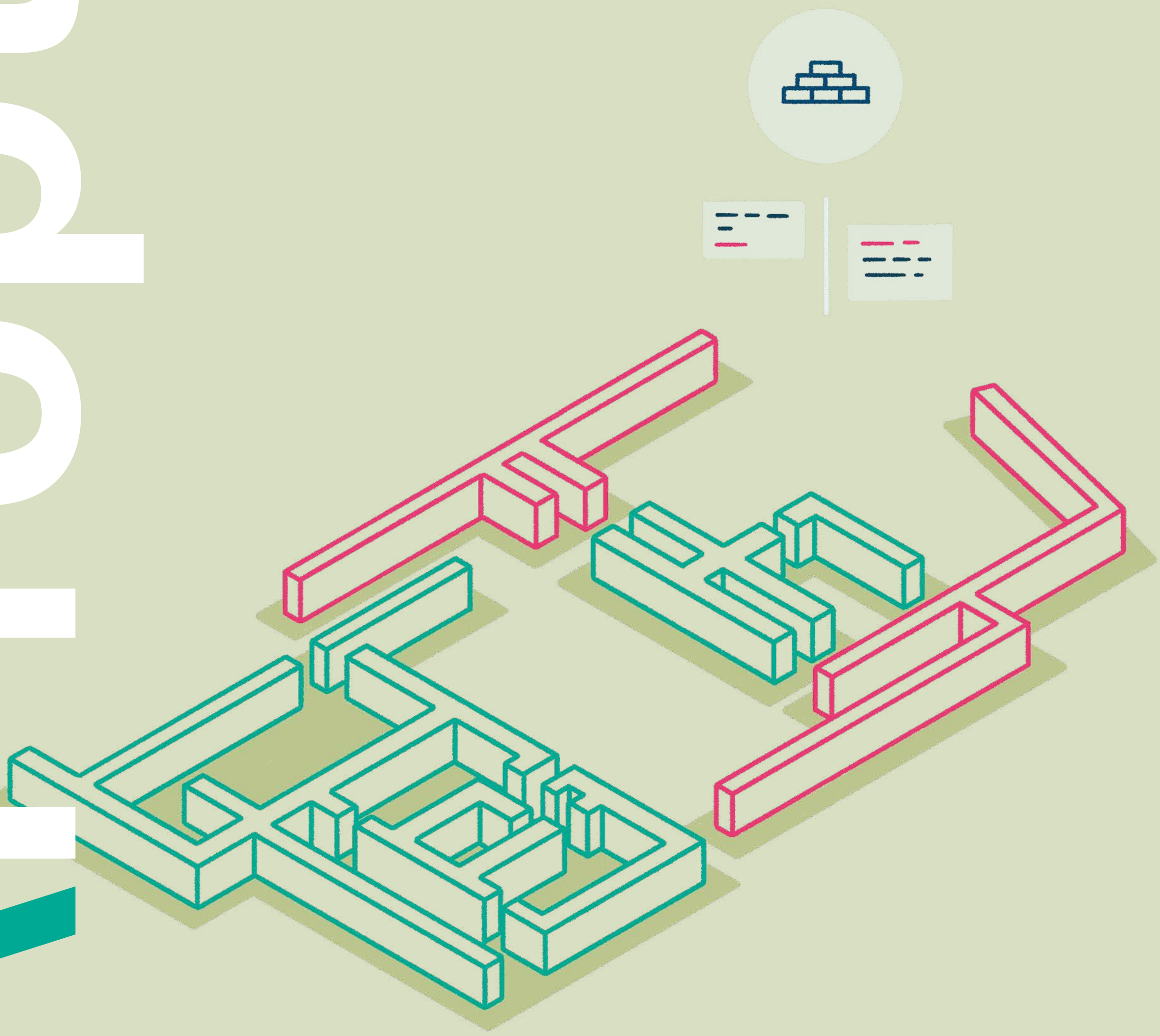
Chapter II

Friction fighters

European proptechs are mostly focusing on B2B — but the B2C scene is also hotting up, from digital mortgages to crowd-funding property investment

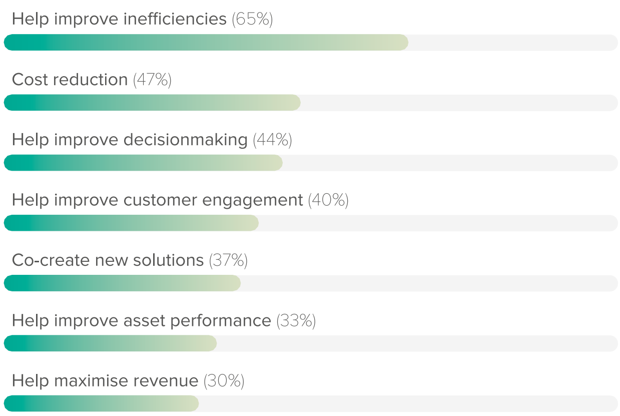


So who are all these proptech pacesetters building their products for? A big cross-section of proptechs help developers, investors and managers gather, share and analyse data to improve their bottom lines and deliver projects smoothly. Property industry players, from construction companies and investors to asset managers and agents, are a significant customer base for Europe's top startups, many of which are funded by property professionals.

Real estate companies primarily collaborate with proptechs to cut inefficiencies and costs

Goals that real estate companies hire proptechs for

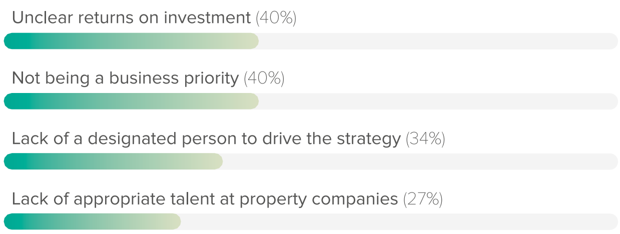
Source: *KPMG*



Proptechs see unclear returns on investment as the biggest barrier to collaboration

Perceived barriers to collaboration with real estate companies identified by proptechs

Source: *KPMG*



Coyote Software, a platform that helps investors track investment performance and evaluate deals, started as an in-house project at M7, a European real estate company that found itself stranded shortly after launching in the the throes of the 2008 financial crisis.

"We found ourselves in a situation where 10 of us had a blank sheet of paper and six months where we couldn't do much business, so the obvious way to fill time was to make sure that this new business we were setting up could be efficient from day one," says Oli Farago, Coyote's chief executive, and previously chief technology officer at M7. Farago struggled to find good software on the market. "There was nothing to buy, so we had no choice but to build it."

The team brainstormed, sharing notes on all the pain points property investors face, and Farago built a platform that could be a central repository for all data relevant to the economics of a property, from details about its construction and materials to leasing schedules.

All of this information existed, recalls Farago, but was buried in people's heads — or desktops — which was a particular challenge for cross-border companies. "They would have to ask their managers in the UK, Germany or France to send them a tenancy schedule that could already be a month old by the time it arrived," he says. "Every other industry had customer relationship management (CRM) platforms at this time, but in real estate we had nothing".

The problem was not a lack of data. "Clients have a lot of knowledge, but there is no way of structuring and storing it," says Farago. "They've got so much data that the whole industry hasn't got a clue how to use it. That has been the biggest challenge the commercial real estate has faced and why it's lagged." In 2017, Coyote spun out of M7 and bought the intellectual property of the platform to make it commercially available to the wider market.

London-based PRODA, a B2B platform that uses machine learning to solve data processing hassles in real estate, had a similar origin story: frustration begetting invention. "We asked, how do we exchange data today? To be honest it was mostly in Excel," recalls Peter Bredthauer, the CEO. "We focused on [building software] that could extract Excel data and exchange it, so the property manager can upload their rental data and you don't need to send emails around anymore." The platform then uses APIs to move data from PRODA into other proptech platforms. Interoperability will be increasingly important in the years ahead, as more SaaS products come to the market.

Other business pain points targeted by proptechs include the complications involved in land-buying and new developments. London-based LandTech helps with off-market property development opportunities by providing data on prices, the likelihood of securing planning permission and estimates on building costs.

B2B software is not just good for owners — it can help residents by ensuring quick and efficient resolution of maintenance issues. The guiding mantra at London-based Plentific, according to chief of staff Sebastian Donnelly, is "how can we give residents an Amazon-like experience in their homes — where something that is broken today gets fixed tomorrow?" Austria-based iDWELL is another startup offering CRM software and a tenant app to automate routine processes.

Nodalview

Similarly, improving the experience of buying, selling and renting can benefit all parties. Virtual and augmented reality viewings, for instance, can save huge amounts of time for both agents and prospective renters and buyers by giving a richer picture of the property than is possible through standard websites. By enabling properties to be initially reviewed remotely, the business has been another beneficiary of the disruptions of the pandemic.

Belgium-based Nodalview is among the European players helping agents produce high-quality pictures and videos of properties and creating 360-degree virtual tours. The company recently signed a partnership with California-based digital twin company Matterport to improve its immersive content.

> **"How can we give residents an Amazon-like experience in their homes — where something that is broken today gets fixed tomorrow?"**
>
> ***Sebastian Donnelly**, chief of staff of Plentific*

ACCESS ALL AREAS

Consumers are also a market for startups in and of themselves. Digital mortgage brokering is a prominent niche, producing household proptech names like the UK's Purplebricks, an online estate agent that uses technology to improve the buying and selling experience. The company floated on the London AIM exchange in 2015. It enjoys an impressive TrustPilot rating, no small feat given the pain faced by consumers dealing with some conventional estate agents, although a recent profit warning indicates some analogue realities hitting the company. It has been forced to shift its network of agents to be full-time employees rather than self-employed contractors.

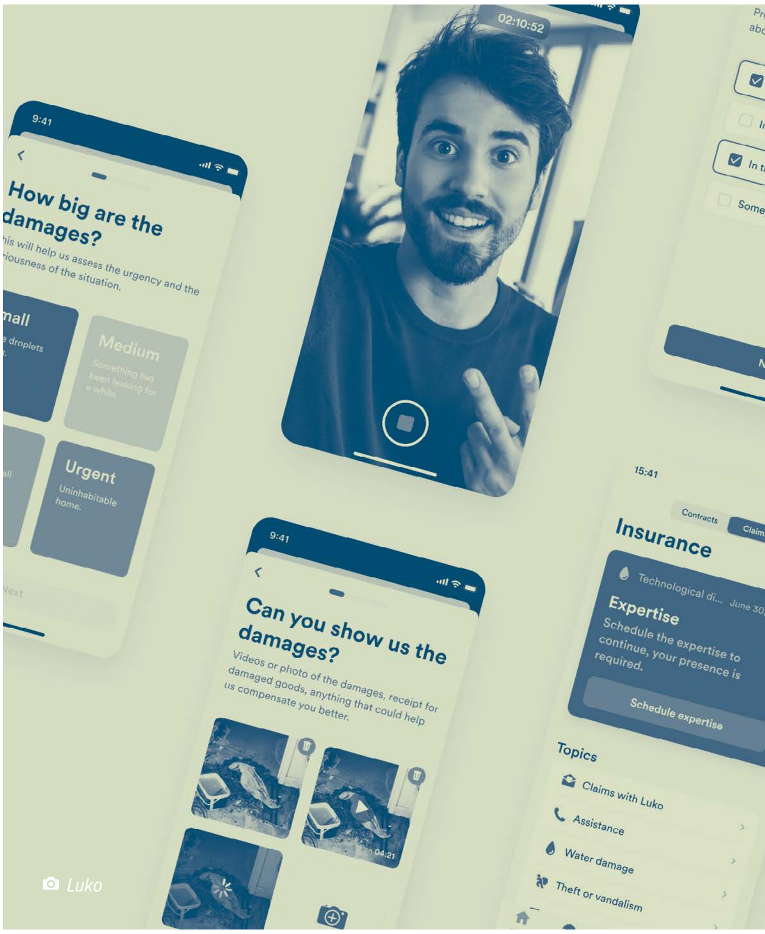
Others are targeting specific under-served consumers. Generation Home, a mortgage lender, focuses on first-time buyers, such as giving them options to team up with family and friends to boost their borrowing and allowing top-ups of monthly payments — conventional lenders do not factor in such ad-hoc contributions from non-applicants. The company reportedly received hundreds of millions of pounds in applications within two weeks of advertising itself on Instagram.

Paris-based insurtech Luko is another tech-powered platform helping address underserved users. Renting a property in France is heavily bureaucratic, including requiring guarantors in the country, which is difficult for students or foreign nationals. The company uses AI and data to underwrite insurance. Its venture backers include heavyweights like EQT, Founders Fund and Accel.

Proptech is also democratising real estate by allowing retail investors to benefit from an appealing asset class, through crowd-funding and digital investment. “Real estate is such a huge market. It is less volatile than many other asset classes and private investor demand is very high, especially in Germany,” says Nadja Hofmann, chief investment officer at Exporo, a Hamburg-based digital investment platform that uses blockchain to create token-based bonds enabling customers to invest in real estate for small sums.

> **“For those already on the ladder or in their property, there are B2C opportunities aplenty, such as marketplaces for home improvement, another trend shaped by the pandemic.”**

“People would like to buy, but investing in real estate brings a lot of obstacles for private investors, including high minimum investment amounts and large transaction costs,” says Hofmann. Exporo channels funds into mezzanine capital for real estate investments and allows its investors to spread their bets across projects, in effect giving them a diversified property portfolio. It now has €280m as assets under management in the Propvest brand, says Hofmann, and has intermediated €900m in transactions since 2014.



Luko

For those already on the ladder or in their property, there are B2C opportunities aplenty, such as marketplaces for home improvement, another trend shaped by the pandemic. ManoMano, a platform for DIY, renovation and gardening products, witnessed a huge surge in demand over the last two years.

“Home improvement has always been an important part of many people’s lives, but Covid-19 accelerated the trend further as we looked to upgrade the functionality and comfort of our homes,” says Christian Raisson, the company’s cofounder. “Covid has changed our indoor habits and the way we think about our homes, which shows no sign of slowing down. We are now a lot more focused on and willing to invest in our homes and gardens so that they are exactly the way we want them to be.” The company tells Sifted its marketplace saw 50m monthly users in 2021 and 7m active customers. The company hit a $2.6bn valuation following a $355m Series F round in July.

THE AIRBNB ECONOMY

There's also a growing trend of startups helping consumers who turned into landlords thanks to platforms like Airbnb. France-based HostnFly allows for short-term rentals for owners via Airbnb, managing the entire process and using its algorithms to evaluate rent prices effectively — the company raised $10m in 2019.

Tel Aviv-based Guesty formed in 2013 as a tech-enabled property management company responding to the rise of Airbnb and short-term rentals and the cumbersome nature of managing without technology. The platform manages booking, calendar syncing and day-to-day management — a kind of Salesforce for property managers — and a marketplace of third-party tools like smart locks and security tools. The company has raised $110m to date and in 2021 acquired fellow property management software platforms US-based MyVR and Netherlands-based Your Porter.

Covid-19 has been a further boon for the company, pushing many consumers who had previously been wedded to hotels to finally use platforms like Airbnb, where they could better control hygiene and reduce exposure to others, says Vered Raviv Schwarz, president and chief operating officer of Guestly, which created a rise in short-term rentals. "A lot of people have taken their entire family and work for a month to another location; they try out new cities and locations or go to rural locations," she says. "The majority of business travellers try to combine it with leisure today".

GEARED FOR GROWTH

The fundamentals mostly look good for European proptechs. Buildings need maintenance everywhere. Buying and selling houses is full of frictions. For business-focused companies, the revenue stream is also a resilient one, unlike consumer-focused tech where marketing costs and churn rates can be a serious growing pain.

"If suitable technology-driven projects get signed by large construction enterprises, they usually do not face high churn rates," says Proptech1 Ventures' Anja Rath. "Approaching the customers and making them aware of the efficiency gains is rather the challenge, as well as getting users on board in their day-to-day operations. A high level of usability is often key to the success."

B2B startups are collaborative, building software to help incumbents rather than trying to disrupt them. Eight out of 10 European proptech startups have a relationship with a larger company, with 77% working with real estate companies directly, according to research from real estate consultancy CBRE.

> **"Regulatory trends also bode well for proptechs. Environmental regulations, both at the EU and national levels, require a revamp of the continent's ageing building stock to be more energy efficient"**

Echoing a common trend in fintech, some startups impress their clients so much that they become investors. PRODA signed a sales deal with ING, and the Dutch bank, seeing the benefits the proptech's software could bring to its clients, eventually invested a seed round in the company in late 2021.

Regulatory trends also bode well for proptechs. Environmental regulations, both at the EU and national levels, require a revamp of the continent's ageing building stock to be more energy efficient. "To be carbon neutral in the next 30 years, all European countries are facing the same challenge," says Rath. "The pressure is high and this is the first time there is this kind of pressure on the industry. It is driving so many business models and investors".

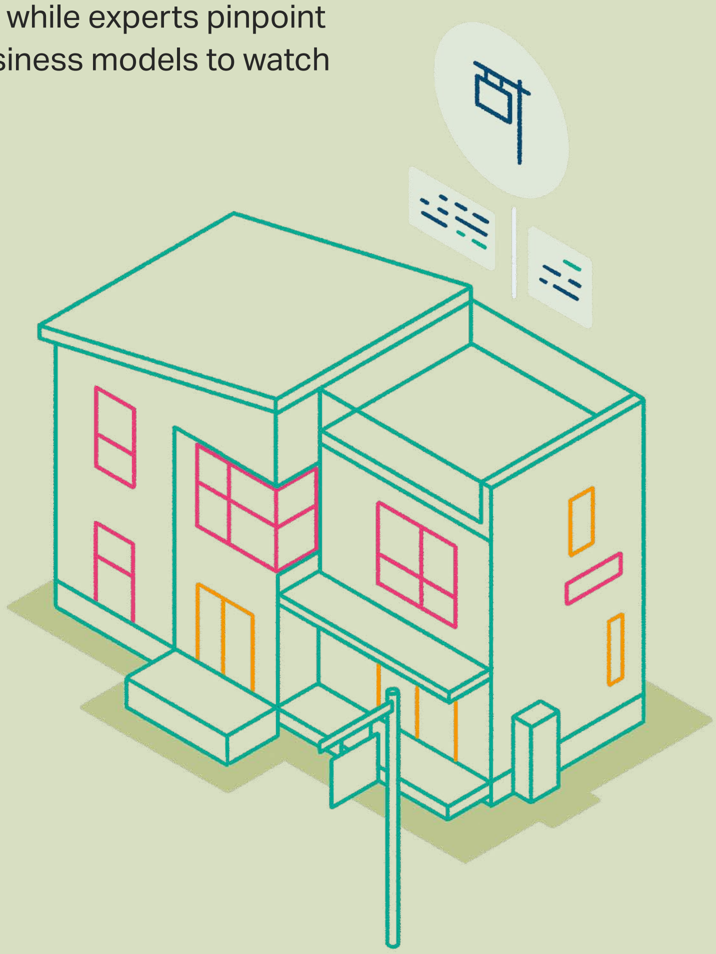
But it won't be all plain sailing. Purplebricks has been through a rude awakening this year, announcing a pre-tax loss of £12.9m in January 2022. This is partly the result of a fall in transactions — incumbent Foxtons has also taken a hit. But Purplebricks, as we learned earlier, is also having to reclassify the agents in its network to employees rather than self-employed vendors. Call it revenge of the analogue.

Proptech

Chapter III

Proptech's obstacles, and the way forward

We look a little closer at the sector's growing pains, while experts pinpoint trends and business models to watch in the future



Proptech companies are not having it all their own way, of course. While eye-watering sums of cash are being pumped into the sector, falls from grace can be swift. In 2018, hybrid estate agency group Emoov collapsed into administration just eight months after it was valued at £125m. It was later bought by Mashroom for £300k.

More recently, the SoftBank-backed US company Katerra filed for bankruptcy in June 2021, cancelling its 82 projects and laying off 8,000 employees, after burning through $2bn in funding. Another US company — Social Construct — which aimed to streamline building planning and assembly with software and automation, shut down last August despite raising $17m. Back in the UK, Movebubble, which raised over £3m to disrupt London and Manchester's private rental sector, appears to have gone offline.

According to figures by the proptech procurement platform Unissu, around 10% of proptechs are inactive. "The challenge is we are pushing a very large sector through a digital transformation journey," Unissu cofounder James Dearsley says. "The property industry is tremendously resistant to change."

"The challenge is we are pushing a very large sector through a digital transformation journey. The property industry is tremendously resistant to change."

***James Dearsley**, cofounder of Unissu*

The latest report by the European PropTech Association found the three biggest growth barriers for proptech startups in Europe are laws and regulation; internal problems in scaling processes and organisation; and a market or clients that are not ready for the solutions offered.

Dearsley points to a trinity of obstacles: language, legislation and liberties (particularly around data rights and GDPR). "Those three things are probably more pertinent here than anywhere else," he adds. "We have so many countries packed into a small region. A lot of solutions start off localised and then struggle to scale."

FINDING A MARKET FIT

Andrew Knight, global data and tech lead at the Royal Institute of Chartered Surveyors, which has 130,000 members around the world, says there are many instances where solutions haven't fulfilled their potential. "A proptech firm will have done something very neat and clever but it's been built with one market in mind and it's not that transferable — both from a technical and a sales and marketing perspective." Sometimes founding teams have the requisite technical knowledge but lack the industry experience to find product-market fit. "Then they're building technical solutions that are in search of problems," he adds.

That's something the founders of The Proptech Connection, which works with global VC firms, real estate companies and proptechs, have also noticed. "You need expertise across technology, real estate and venture capital, to have actually sat in each seat and understand the use cases to make something in proptech a success," cofounder and partner Stephen Macdonald says. "If you look at something like fintech, where the use cases are much more aligned and the relationships between the seller and buyer are more direct, that integration or growth is much easier. Proptech is also very broad and quite hard to define, which is a challenge from an investment point of view. There's a lot of wasted time approaching funds that don't invest in that technology or at that stage. And because proptech is not homogenous, it's very specific to the market and highly linked to the economic cycle of the country or the region."

A lack of previous experience can also mean there aren't the pre-existing relationships that make expansion possible. "Real estate is very relationship driven. It's not easy to get in front of the right people," Macdonald's cofounder Ivo van Breukelen says. "But what we have seen is those companies that make it through to Series B or C have a very high likelihood of making it all the way through."

REGULATORY AND BEHAVIOURAL PRESSURE

In terms of regulation, real estate is a "funny mix" of being quite heavily regulated, particularly where it touches banks and fintech, and not regulated at all in other areas, Knight says. Many of those involved in property transactions, for example, have responsibilities under anti-money laundering (AML) laws to check the identity of customers.

Forthcoming rules will help shape the sector. There are draft EU Directives on artificial intelligence that will impact how the technology is used across all sectors, and the European Green Deal, whereby all member states are pledging to reduce emissions significantly by 2030, has challenging targets for the construction sector. In the UK, Dame Judith Hackitt's report on fire safety (which was commissioned after the Grenfell Tower tragedy) will also have implications on the way buildings are designed, constructed and operated.

> **"In terms of regulation, real estate is a "funny mix" of being quite heavily regulated, particularly where it touches banks and fintech, and not regulated at all in other areas."**
>
> ***Andrew Knight**, global data and tech lead at the Royal Institute of Chartered Surveyors*

There are other behavioural and structural obstacles that will need to be addressed to take full advantage of the opportunities in the sector, Knight adds. "Data, for instance, is not easily shared around real estate, whether you're looking at land, infrastructure, commercial or residential. It's an eye-wateringly large challenge."

That's not as true in the US, where there's a long tradition of publicly traded and shared data about buildings, Robin Rivaton, investment director at French investment company Eurazeo, and author of Making Real Estate Great Again, says. "There could be a lot of gains if that data was available here."

Some of that momentum may be driven by the banks, which are starting to embrace the potential of open banking, he adds. "A lot of money funding construction and real estate comes from the banking industry. They will probably ask for more data on the API."

Though in many cases, it's bureaucracy from banks rather than governments that's limiting the potential of proptech, angel investor and European tech startup mentor Paloma Cabello says. "Banks are being very slow in the adoption of technologies such as blockchain that would make life much easier."

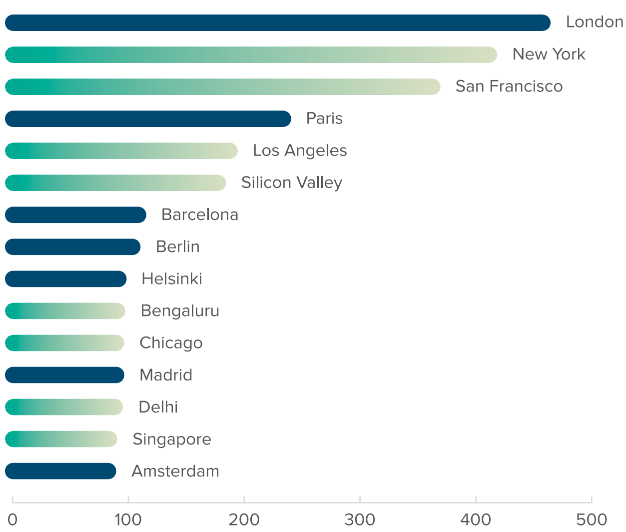
MONEY MATTERS

Europe has a long history of losing startups to the US when they're looking to scale. Across sectors, an estimated 44% of scaleups launched in the EU leave the region at their Series B or C phase. Many go to the US, where venture capital funding for later-stage scaleups is 34 times higher than the EU, according to European Commission estimates. But that's starting to change, Rivaton adds.

Europe boasts a number of global proptech hot spots

Top 15 cities with the highest number of proptech companies globally

***Source:** JLL, Crunchbase*



French iBuyer Zefir recently raised $22.7m, led by the US investment fund Sequoia Capital. "It's very French-focused," Rivaton says about the startup. "For me, that proves the assumption that something has changed — that one of the most famous American VCs would fund a French-only startup."

There are other examples — in 2021 Clikalia secured $518m in debt and equity funding in what is thought to be one of the largest Spanish venture capital rounds to date, led by Los Angeles-based Fifth Wall. It's one of the first deals funded by Fifth Wall's new $159m fund, which is dedicated to the European market. Last year, the British SaaS platform for landlords and property managers, Plentific, also raised $100m in Series C funding from San Francisco VC Brookfield Growth and others.

"So money is here," Rivaton adds. "Four or five years ago, proptech was not funded at the right level but now it's not a money problem."

Of course, not every region in Europe is experiencing the same level of VC interest. Sylvia Pavlova is the founder of PropTech Bulgaria and one of the board members of the European PropTech Association. While Bulgaria is home to 130 proptechs, only 16% have received external funding.


Clikalia office

"Eastern Europe has the lowest number of VC deals in the region, compared to others," Pavlova says. "Western Europe, southeast Europe and Nordic companies are very well funded." Despite higher capital efficiency in southern and eastern Europe — in other words, a better return relative to investment volume — and a rising trend in the number of proptech solutions, the market is maturing elsewhere. Bulgarian success stories include Allterco, which is now listed on the Frankfurt Stock Exchange, Structor, which joined Pi Labs in 2020, and Concrene, a concrete nanotechnology company.

"For me, that proves the assumption that something has changed — that one of the most famous American VCs would fund a French-only startup."

***Robin Rivaton**, investment director at Eurazeo*

MODEL BEHAVIOUR

For Radboud Vlaar, partner at Finch Capital, many of the challenges facing European proptechs come down to the business model and the ability to scale it across countries. The investment firm is one of the most prolific proptech investors, backing six startups in the sector so far. Most recently, it led a $7.25m investment round in London-based proptech and flexible rental platform Lavanda.

"In residential, there are huge differences in each country when it comes to mortgages," Vlaar says. "There are structural differences in terms of what you need to do, checks you need to make, and the pain points in these processes are different."

"Take the Netherlands and the UK," he adds. "In the Netherlands, mortgages are on 20-year terms. So you get more money per mortgage but then you have to wait for another 20 years for that customer to come back again. Whereas in the UK, they can come back every three or five or seven years. One model is to build up a base with customers and keep servicing them. The other is just to help them once and say 'see you later'."

Dearsley from Unissu points to failures such as Emoov — the company that went into administration at the end of 2018 — as indicative of the issues online estate agencies have in the UK in particular.

"The business model is forever tainted. Perhaps it just doesn't work in the UK but might in other markets where the average fee is much higher. In the UK, the cost of acquiring the customer is far more than the money they're making." He's also apprehensive of the iBuyer trend, which Emoov pivoted to in 2021. "The reason why iBuying doesn't necessarily work is because of the amount of upfront cash that you need in order to buy properties. And then you need algorithms that ensure you're buying them at the right rate.

"There have been some successes in certain markets where all the houses are identical and the pricing is very simple. But somewhere like London, you've got so much variety, no algorithm is going to predict the price brilliantly. It's always going to be tricky."

The way forward, Dearsley believes, is for some of these solutions to merge with others to create a larger, full-service entity. "The biggest challenge the tech industry has at the moment is solving problems that don't exist, or realising the problem they're solving isn't big enough to make a sustainable business. Proptechs should look for some similarities with other businesses and work with them to create a much bigger entity that solves multiple problems."

PROPTECH RIVALS PAL UP

As the market matures, experts expect to see a wave of M&A between actors. That is starting to happen already — recently HqO bought Office App to expand into Europe; UK proptech firm CoreTech Solutions was acquired by the Dutch-headquartered PFM Intelligence Group; and US online mortgage giant Better has bought Property Partner and Trussle.

"We're starting to see some of the main players partnering up," Macdonald from the Proptech Connection says. "That's a natural progression — to dominate your space in two or three countries and then partner up with the big guys to feed into their network. That's the pathway to global expansion."

Vlaar from Finch Capital also expects to see a blend between the more traditional real estate sector and technology: "The traditionalist has to be much more digital, and the digital will have to have more of a human

Besix, partnered with Office App

element to it. A lot of the components in the home ownership journey have been digitised but it's still not end to end. The one-click mortgage, the embedded finance component of proptech, is not there yet but in three to five years, I think it will be."

Investors are most interested in ESG, construction and solutions around data, Macdonald adds. "I think there's effectively now a race to see who can capture data the earliest in the project process and apply those insights across portfolios. Because that's where the value is."

> **"The regulation is crazy – real estate owners and property developers are being asked to produce tons of data and so far they're unable to do it."**
>
> ***Robin Rivaton****, investment director at Eurazeo*

SUSTAINABILITY SOLUTIONS

Rivaton believes ESG will be one of the main trends in the coming years: "The regulation is crazy – real estate owners and property developers are being asked to produce tons of data and so far they're unable to do it." In France and Belgium for example, each housing unit has been graded from A to G depending on its energy efficiency. From 2023, it will be illegal to lease G-rated units. There are an estimated half a million properties that fall within this class.

As well as the pressure from ESG on construction and property firms to become more sustainable, Rivaton also predicts solutions focusing on the housing crisis. "Housing scarcity is really complicated to tackle. One solution is fractional ownership for the younger generation, with co-investors in properties. That's quite costly under the traditional legal framework we have today. But blockchain could be a possibility."

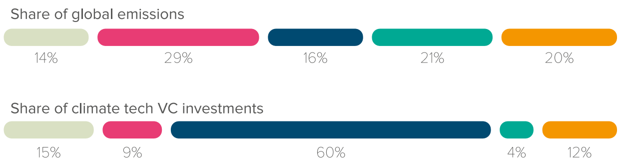
Cabello sees great potential for that too, particularly as Europe needs to meet the evolving needs of an ageing population. "The over-60 population is going to grow exponentially in the next few years. That creates the necessity for new living solutions for these people. And because we're living longer, we are also going to need a link between property and health, which can be done with tech. There's a lot of room for improvement and a lot of room for efficiency. And it's a desperate need in Europe; it's going to be a huge problem. We need a more dynamic, more connected, more transparent real estate sector."

"My message to startups would be, if you don't do it, others will do it for you," she adds. "Someone will prove the model in another market, jump in and they will be unstoppable."

Closing the gap: VC funding for sustainable real estate lags far behind the sector's contribution to emissions

Share of global emissions vs share of climate tech VC investments in Energy, Industry, manufacturing and resource management, Mobility, Real estate and Food and agriculture

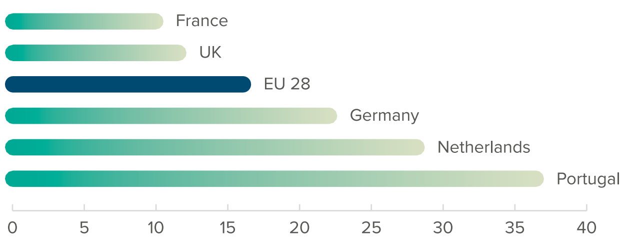
Source: *PwC*



Affordable housing is becoming scarce amid a steep increase in real estate prices

Cumulative change in housing prices in Europe between Q1 2016 and Q2 2019

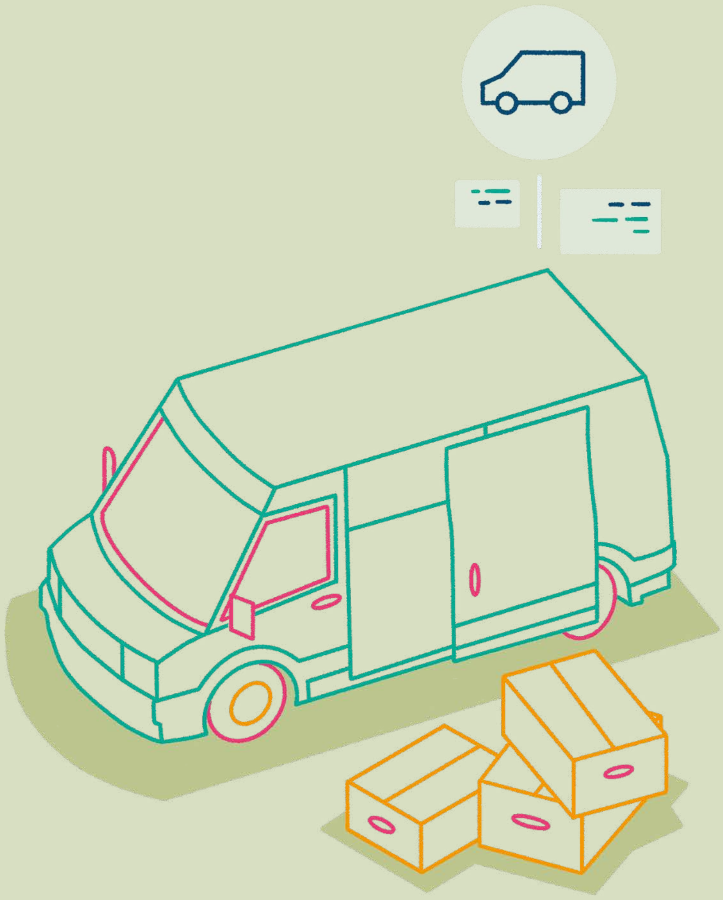
Source: *Caixa Bank*



Proptech

What's next for proptech?

The big trends appear to be moving in the sector's favour



European startups can look forward to opportunities ahead, thanks to structural shifts in their favour. While real estate has had a wild ride during the pandemic, with plenty of carnage, the crisis has opened new niches and accelerated existing trends — think of virtual viewings during lockdown, or office space "matchmaker" platforms built at a time when remote and distributed work were a fringe trend.

Macroeconomic trends could also help. Rising interest rates might be bad for homeowners — but they're good news for property investment-focused startups, as capital flees volatile equities into a safer asset class. That will increase demand for their advanced data and analytics for deal-making, valuations and portfolio tracking.

The oft-cited behavioural and cultural shifts of the post-Covid world are also good news. Many once hotel-bound travellers have finally made the shift to Airbnb and its ilk, due to better hygiene control and personal space. The more affluent and fortunate, who took the opportunity to move to pleasant climes during lockdowns, may have got a taste for trips that combine pleasure and business in ways that could stick. That is good news for Airbnb and all the software platforms that help hosts manage their properties.

"The continent's ageing populations are likely to force new kinds of co-living and retirement-friendly housing models."

People's attitudes to their homes are changing. Hybrid working looks set to be a norm for those that can, increasing interest in upgrading living environments for more comfortable work — while others want to better their current home rather than buy a new one, whether due to economic difficulty, unaffordable prices or the cost of interest rates rises. One of Europe's biggest success stories is an online market for DIY home improvement products.

Environmental regulations are tightening, and the continents' ageing building stock is in dire need of a sustainability overhaul. That will require innovations in materials, data, sensors and environmental performance analytics. Europe's housing stock also needs to grow much faster as prices rocket out of reach for many, especially the young.

The continent's ageing populations are likely to force new kinds of co-living and retirement-friendly housing models. Delivering that work in time and on budget will require plenty of tech by developers and construction companies.

The tech stack itself is evolving too. The flowering of the API ecosystem, driven by open banking, is allowing end-users to stitch together different proptech software, ensuring interoperability and fostering collaboration. Virtual reality, immersive content and the metaverse have decent use cases in areas like property viewings and building design.

Property looks like one of the few sectors in which blockchain is actually solving a problem, in areas like fractional ownership through retail investment platforms. Artificial intelligence continues to break ground in terms of power, performance and range, and is well-suited to the vast number-crunching involved in investment and portfolio optimisation. Hoovering up useful datasets, like satellite imagery for plot identification, or sifting through reams of planning and zoning laws, could be a new gold rush.

There will be shakeouts too — and some business models may not pan out. The iBuyer trend could struggle if the analytics are off and valuations prove faulty. While property markets do not whipsaw like stocks do, they are not immune to downturns. IBuyers could also find themselves limited to markets where houses are similar and pricing is simple.

Many startups are doing the same thing, which will lead to consolidation and some falling away. Experts reckon the most successful will dominate their sector in a clutch of companies and then partner with bigger players to expand globally. The beauty of proptech, though, is that the problems startups focus on are generally universal. With the right product and growth strategy, Europe's startups can go global.

An effortless mortgage is possible

“The one-click mortgage, the embedded finance component of proptech, is not there yet but in three to five years, I think it will be.”

***Radboud Vlaar**, partner, Finch Capital*

The mushy middle: working remotely with less frequent office trips

“Will people go to the office again to meet with their colleagues? If people work at home, what will that mean for inner-city retail? Will we see an increase in logistics? These are the big trends we will have to monitor closely.”

***Nadja Hofmann**, chief investment officer, Exporo*

More transparency and liquidity: two valuable paths

"A major bug in the housing market remains its illiquidity. Whereas many other transactions have been simplified and sped up by tech, the process of buying or selling a home — beyond the emergence of property portals such as Rightmove and Zoopla — feels stuck in the analogue age. Given the dominance of private owners in residential real estate, housing markets also remain incredibly opaque relative to commercial property sectors. These two factors mean proptech solutions that drive transparency and liquidity will become increasingly valuable."

***Samantha Kempe**, cofounder and CIO, IMMO Capital*

Fractional home ownership seems inevitable

“I’m pretty sure it won’t be uncommon to have a co-investor in your home in the coming years.”

***Robin Rivaton**, investment director, Eurazeo*

Tough climate laws will drive innovation

“To be carbon neutral in the next 30 years, all European countries are facing the same challenge. The pressure is high and this is the first time there is this kind of pressure on the industry. It is driving so many business models and investors.”

***Anja Rath**, managing partner, Proptech1 Ventures*

Co-living needs will grow and grow

“Population ageing is exponential — so we need co-living solutions that are more affordable.”

***Paloma Cabello**, angel investor and tech startup mentor*

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