

# HDFC REAL ESTATE TECH INNOVATORS 2022 FUTURE OF HOUSING

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VALUES OVER VALUE



## PropTech

Modelling the Future of the  
Indian Real Estate Sector



## Table of Contents

|  |    |
|--|----|
| Indian Economy: An Overview              | 1  |
| Focus on Infrastructure Upgrade          | 4  |
| Indian Real Estate Sector                | 5  |
| Indian Startup Ecosystem                 | 12 |
| Technology and Digitisation              | 14 |
| PropTech                                 | 16 |
| Construction Technology (ConTech)        | 28 |
| Sales Technology (SalesTech)             | 32 |
| Sustainable Technology (SustainableTech) | 36 |
| Financial Technology (FinTech)           | 40 |
| Way Forward                              | 45 |



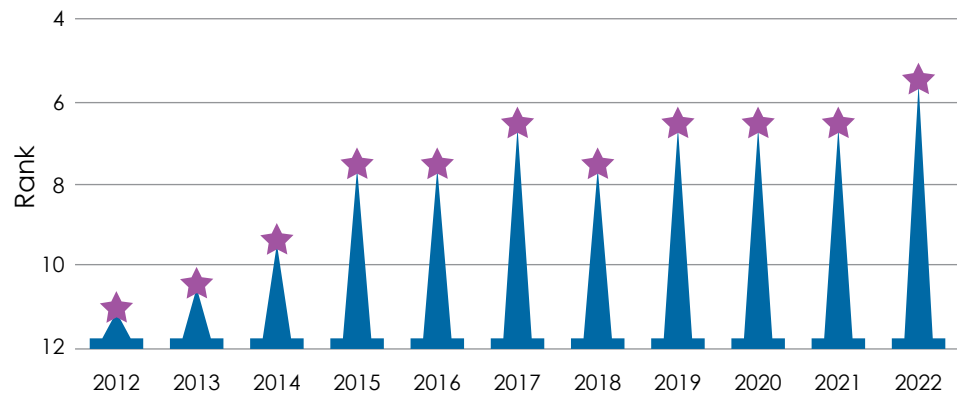


# Indian Economy: An Overview

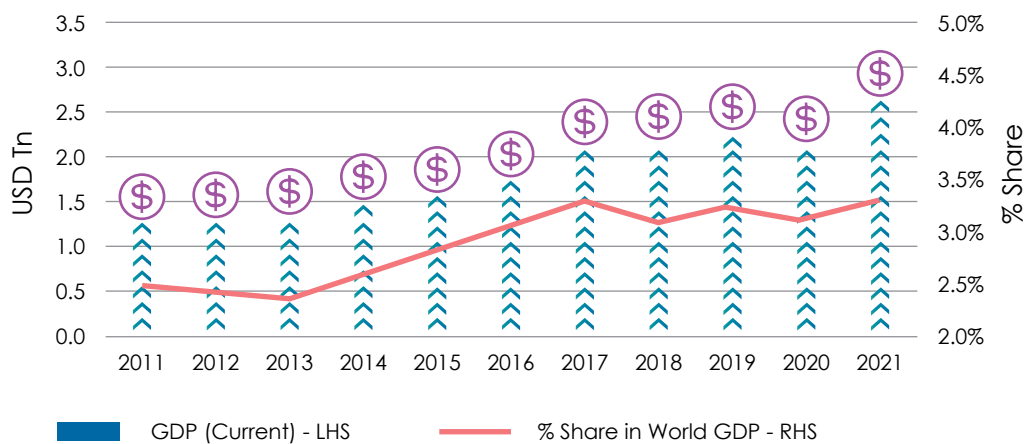
India is one of the fastest growing economies in the world. The nation's large consumer base, rapid urbanisation, robust existing and planned infrastructure projects, and the Government's constant push to become a USD 5 Tn economy by 2025 have yielded satisfactory results.

The fastest growing economy in the world

Recently surpassed the United Kingdom to become the world's fifth-largest economy



Note: India's rank in the world as per GDP at current prices  
Source: IMF













Gaining prominence due to a continued increase in the share of the World GDP

Source: World Bank





During the past decade, the population has increased by only 11%. However, the per capita income has risen by 56% enabling consumers to spend more

|  | 2011              | 2021              | % Change   |
|--|-------------------|-------------------|--|
|  <b>Total population</b>      | <b>1.25</b> Bn    | <b>1.39</b> Bn    | <b>11%</b>  |
|  <b>Literacy rate*</b>        | <b>69%</b>        | <b>74%</b>        | <b>7%</b>   |
|  <b>Urbanisation rate</b>     | <b>31%</b>        | <b>35%</b>        | <b>12%</b>  |
|  <b>Per capita income^</b>    | <b>\$ 1,458</b>   | <b>\$ 2,277</b>   | <b>56%</b>  |
|  <b>Household expenditure</b> | <b>\$ 1.02</b> Tn | <b>\$ 1.88</b> Tn | <b>84%</b>  |

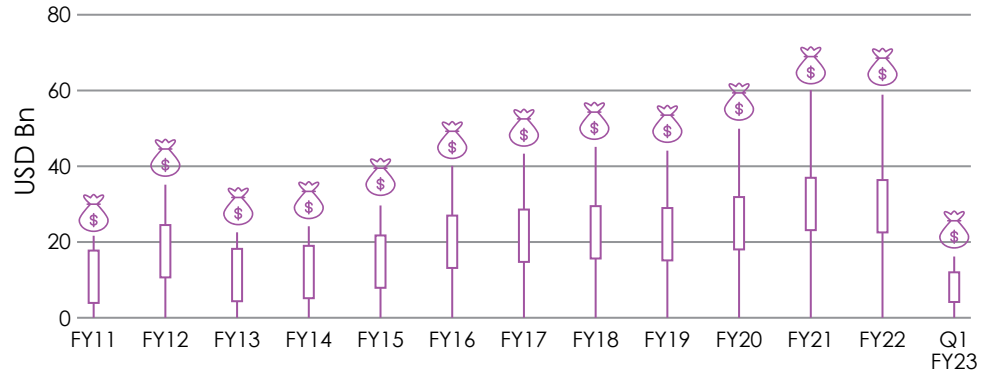
Note: ^Current USD; \*Literacy rate in India is as of 2011 & 2018

Source: World Bank, Compiled by ANAROCK Research





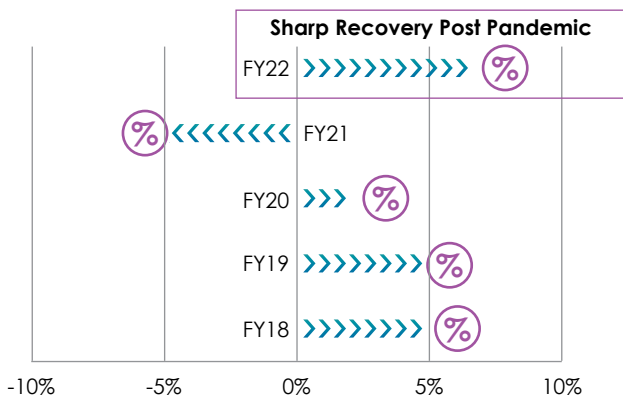
**Rising FDI Equity Inflows: USD 490 Bn has been added between FY11 to Q1 FY23**



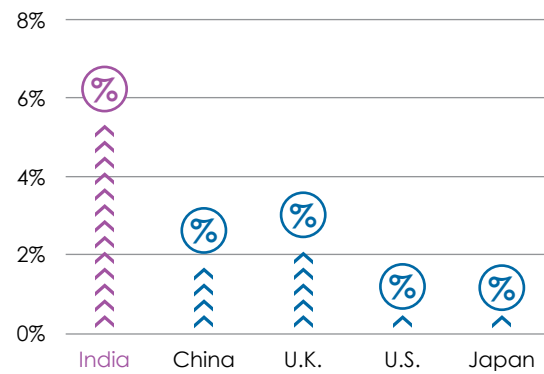
Source: DPIIT, Compiled by ANAROCK Research

## Indian Economy is Likely to Grow Multifold

### Yearly GDP Growth Rate



### 2022 GDP Growth Projections



Source: pib.gov.in; GDP projections as of October 2022 by IMF (India's growth projections are for FY23)













# Focus on Infrastructure Upgrade

## Existing Key Infrastructure

|  Airports |  Metro Rail                                  |  Indian Railways |  Road Network |  Ports |
|--|---|---|--|---|
| <b>143</b><br>Operational Airports <sup>1</sup>  | <b>~780 km</b><br>Long metro corridors are operational across the country; almost double the length of London's Metro Network | <b>~67,368 km</b><br>Indian Railways Network (4 <sup>th</sup> largest in the world) <sup>2</sup>  | <b>2<sup>nd</sup></b><br>Largest in the world at about 62.16 Lakh km <sup>3</sup>                | <b>213</b><br>13 major & 200 minor & intermediate ports                                   |

## Large Infrastructure Projects Planned to Facilitate Growth

Key projects:

|   |  |  |   |
|---|--|--|---|
|  | <b>DMIC</b><br>~1,504 km-long Delhi-Mumbai Industrial Corridor estimated to cost USD 94.9 Bn                             | <b>Bharatmala Pariyojana</b><br>~34,800 km Phase I estimated to cost USD 71.3 Bn | <b>Bullet Train</b><br>~508 km network estimated to cost USD 14.7 Bn        |
|   | <b>Sagarmala Project</b><br>7,517 km long Coastline; 14,500 km Waterways & Maritime Sector estimated to cost USD 80.3 Bn | <b>Smart Cities Mission</b><br>100 smart cities; allocated cost USD 27.3 Bn      | <b>Airports</b><br>2 Greenfield Airports at Navi Mumbai & Jewar are planned |

Note: USD 1 = INR 75

Source: Compiled by ANAROCK Research

## National Infrastructure Pipeline (NIP)

|  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>The National Infrastructure Pipeline (NIP) aims to provide world-class infrastructure across the country with an investment of USD 1.5 Tn.</li> </ul> | <ul style="list-style-type: none"> <li>9,000 projects covering 34 infrastructure sub-sectors.</li> </ul> | <ul style="list-style-type: none"> <li>The Government offers 20% of the project cost as a Grant under the Viability Gap Funding (VGF) scheme to financially unviable but socially and economically desirable projects using the Public-Private Partnership mode. A total of USD 392.4 Mn<sup>4</sup> has been disbursed under VGF between 2014-15 to 2020-21<sup>5</sup>.</li> </ul> |
|--|--|--|

<sup>1</sup>Airports Authority of India | <sup>2</sup>investindia.gov.in | <sup>3</sup>makeinindia.com | <sup>4</sup>USD 1 = INR 75 | <sup>5</sup>Economic Survey FY'22



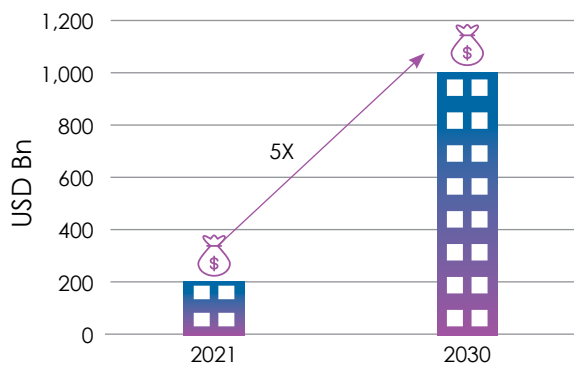
# Indian Real Estate Sector

## Building the Nation Brick by Brick

India recently became the world's 5<sup>th</sup> largest economy by overtaking the UK<sup>6</sup>. The Indian real estate sector also benefitted and grew along with it.

The real estate sector is expected to generate employment for over 67 Mn people by the end of 2022 and is likely to become a USD 1 Tn market by 2030.

Indian Real Estate – Market Size



Source: [www.ibef.org](http://www.ibef.org)

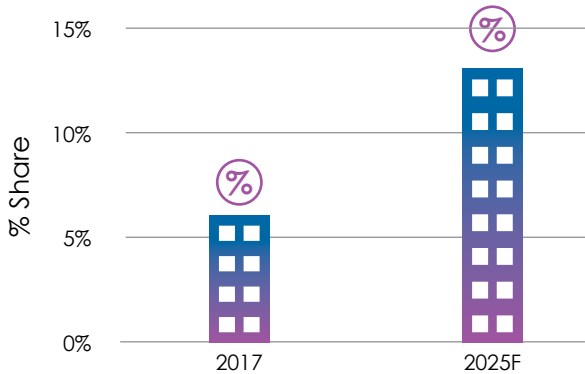
<sup>6</sup>International Monetary Fund (IMF)

The Indian real estate sector contributes around 6% - 7% to India's GDP which is anticipated to increase to 13% by 2025

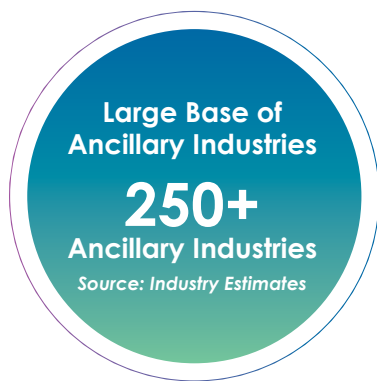


## Economic Importance

### Real Estate Contribution (%) to GDP

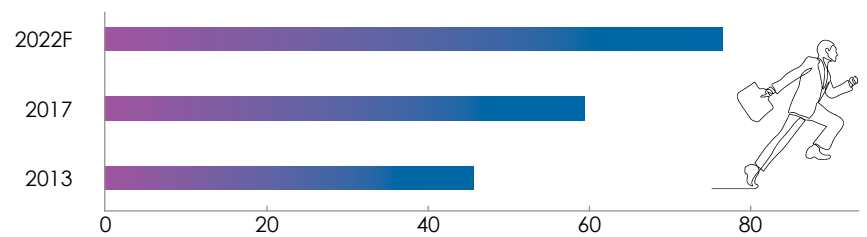


Source: Industry Estimates



### Real Estate is the 2<sup>nd</sup> largest Employment Generator

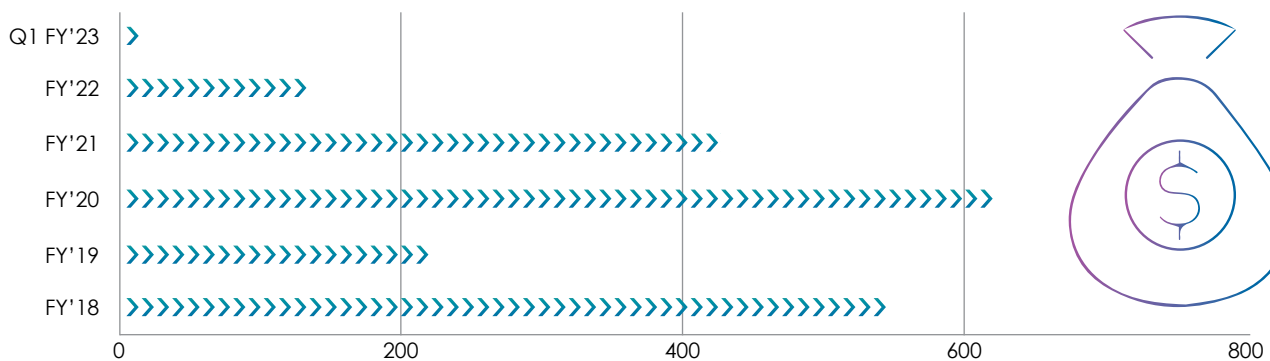
#### Employment (Mn)



Source: Industry Estimates

### Construction Development attracted 4% FDI Equity Inflows (April 2000-June 2022)

#### FDI Equity Inflows (USD Mn)



Source: DIPP





# Evolution

## Moderation Phase

- o Global Financial Crisis (GFC) slowed down the economic growth
- o Residential real estate slowed down post-2013, available inventory piled up
- o Government's thrust on affordable housing
- o E-commerce companies started to come up, creating warehousing demand

## Transition Phase

- o Structural changes and policy reforms such as demonetisation, GST, and RERA transformed the real estate sector
- o Affordable housing continued to garner traction amid the central government's constant push for the 'Housing for All by 2022' campaign
- o Rise of coworking, co-living, student housing, and senior living
- o Data centre industry started to pick up pace amid the government's data localisation and digitisation policies

## Recovery Phase

- o COVID-19-induced short-term aberration across all the real estate segments
- o Demand for coworking spaces is on the rise as it provides flexibility and helps to optimise costs
- o Residential real estate performed exceptionally well as the COVID-19 pandemic reinstated the need of owning a home during such unprecedented times
- o The warehousing and logistics industry expanded further on the back of booming e-commerce companies
- o COVID-19 catalyzed the growth of the data centre industry in India

2009-  
2015

2016-  
2019

2020  
& Beyond

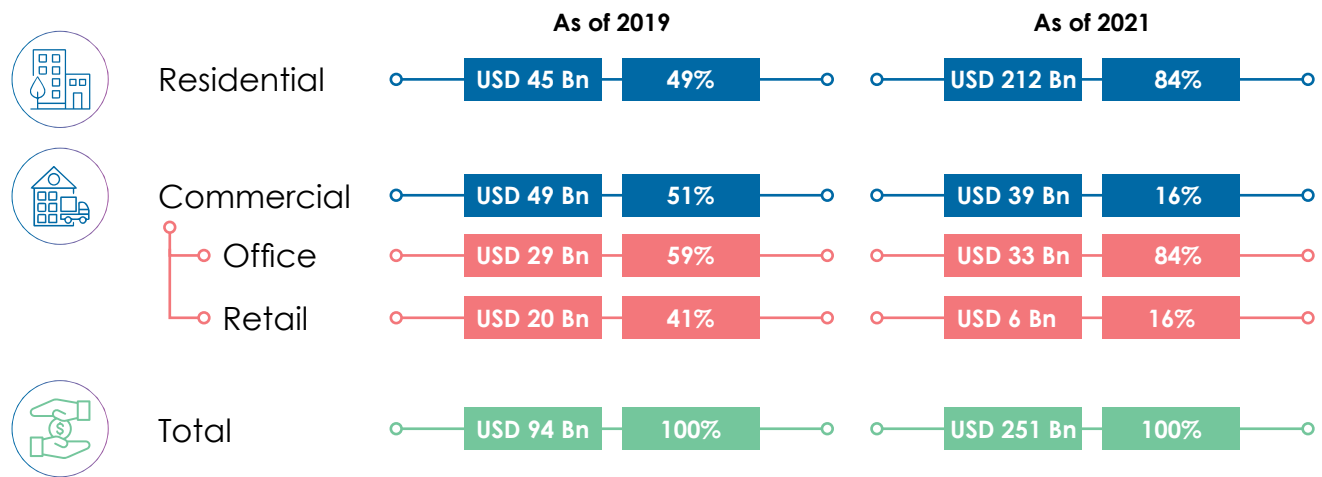


## Market Size

Various Government initiatives incentivised the residential real estate sector in the past decade, resulting in exponential growth for the asset class.



## Value of Real Estate Under Construction



Note: Data on the calendar year. Retail supply is planned to be delivered by CY 2025, Office supply is planned to be delivered by CY 2025, and Residential includes under-construction units as of 2021.

Source: ANAROCK Research

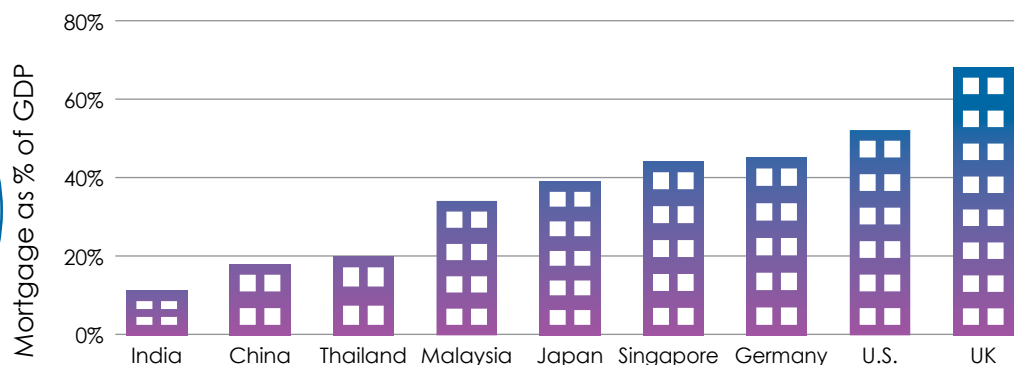






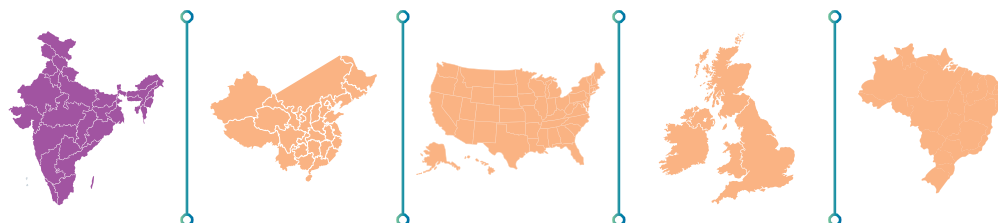
## Indian Residential Real Estate Growth Drivers

Low mortgage as % of GDP indicates upside potential for the Indian real estate sector



Source: Industry Estimates, Compiled by ANAROCK Research

Significant upside growth potential for the Indian housing sector



India

China

United States

United Kingdom

Brazil

|                               |      |       |       |      |      |
|-------------------------------|------|-------|-------|------|------|
| GDP Contribution to World (%) | 3.3% | 18.5% | 23.9% | 3.3% | 1.7% |
| Urbanisation Rate (%)         | 35%  | 63%   | 83%   | 84%  | 87%  |
| Urban Housing Shortage (Mn)   | 29.0 | NA    | 3.8   | 8.4  | 7.7  |
| Urban Homeownership (%)       | 69%  | 87%   | 65%   | 64%  | 67%  |

Note: Data is on the financial year for India; Data for 2021

Source: World Bank, Industry Estimates, ANAROCK Research





## Government Initiatives that Propelled the Growth of the Indian Real Estate Sector



### RERA<sup>7</sup>:

- **94,513** real estate projects and **69,776** real estate agents have registered
- **1 Lakh+** complaints have been disposed-off



**GST:** The introduction of Goods and Services Tax (GST) in July 2017 lowered the transaction cost of owning a house as it does away with double taxation. Only under-construction properties attract GST.



**PMAY (U):** Pradhan Mantri Awas Yojana – Urban (PMAY-U) was launched to address the urban housing shortage among the EWS/LIG and MIG categories including the slum dwellers.

Affordable housing got further impetus under Union Budget 2022-23 through the allocation of INR 48,000 Cr and a plan to develop 80 Lakh houses.

**122.69**  
Lakh

Houses  
Sanctioned

**104.75**  
Lakh

Houses  
Grounded

**63.65**  
Lakh

Houses  
Completed

**INR 2.03**  
Lakh Cr

Central Assistance  
Committed

**INR 1.28**  
Lakh Cr

Central Assistance  
Released

**INR 8.31**  
Lakh Cr

Total  
Investment

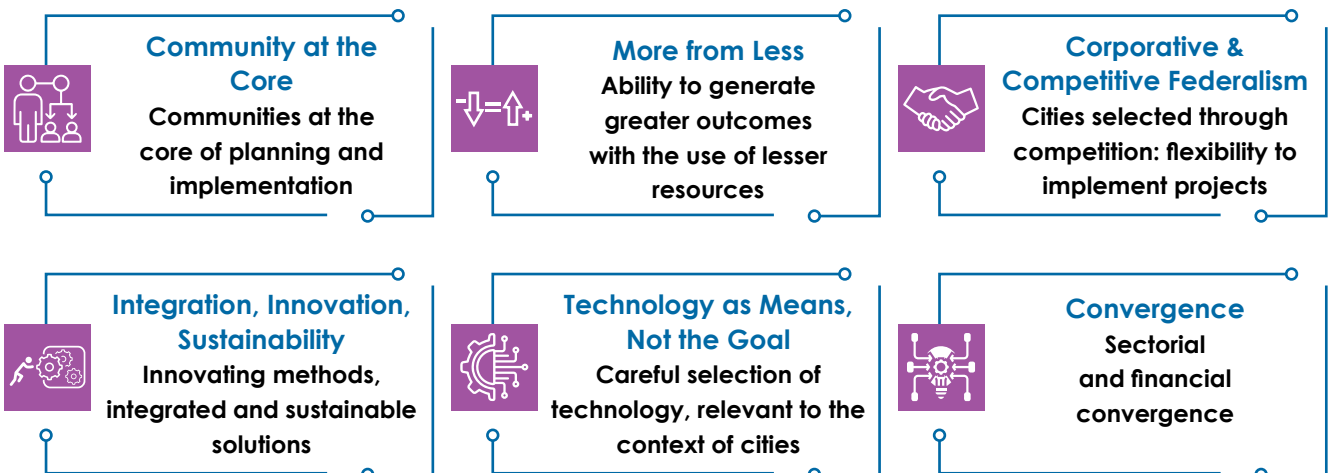
Note: Status as of 11<sup>th</sup> October 2022

<sup>7</sup>Status update by MOHUA as of 8<sup>th</sup> October 2022



## Smart Cities Mission

The Government launched the Smart Cities Mission in 2015 to drive economic growth and enhance the quality of life of people by facilitating local area development and channelling technology that leads to smart developments.



Note: Status as of 11<sup>th</sup> October 2022



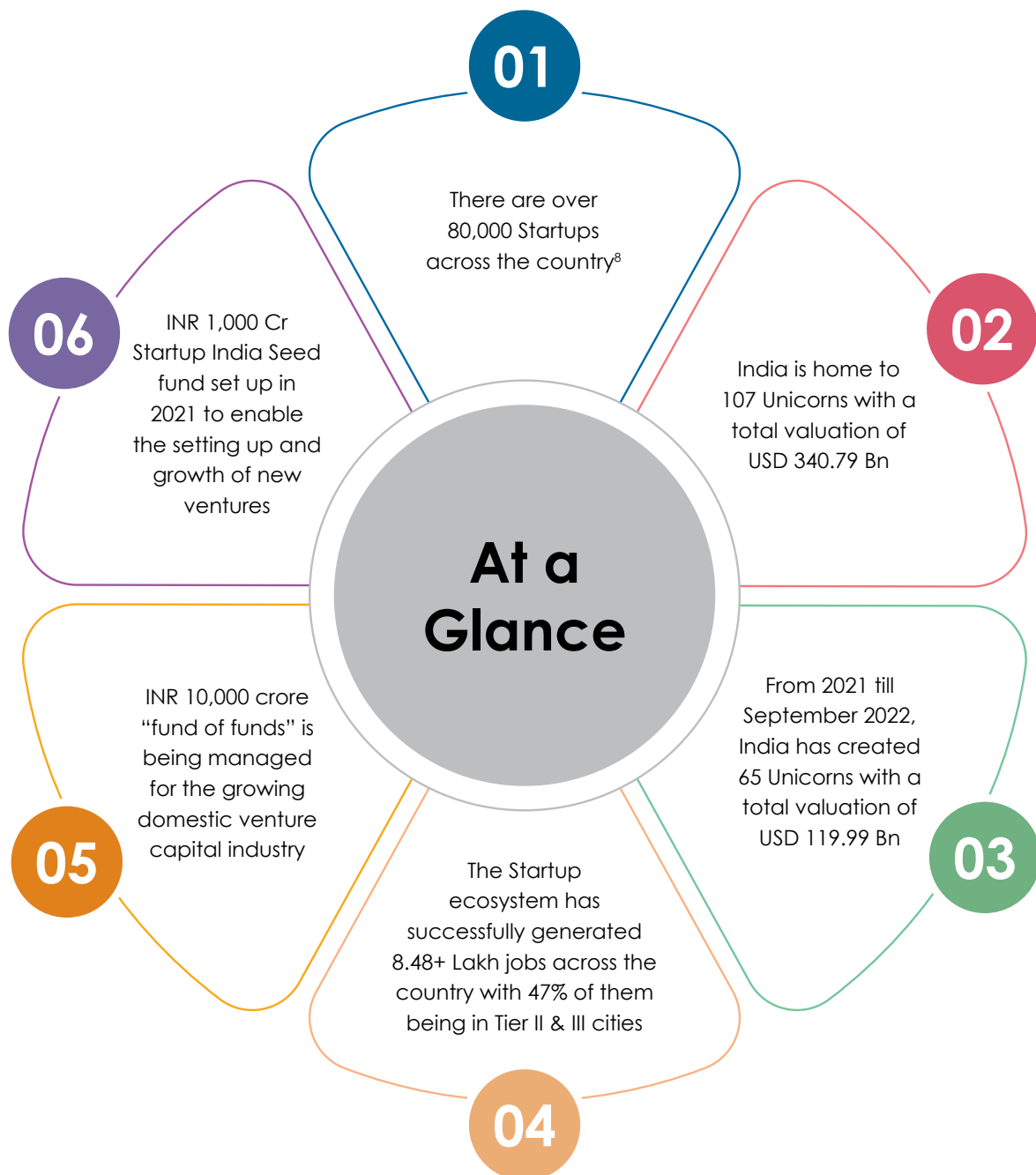




# Indian Startup Ecosystem

*An important ecosystem to drive the nation's growth*

The initiation of the startup ecosystem goes back to the clarion call of the Prime Minister in 2015. It was kicked off to enkindle the spirit of entrepreneurship among talented citizens, support economic growth, and generate alternate employment avenues. The vision has been to create a diverse set of economic activities and was ably supported by the Atmanirbhar Bharat Abhiyaan.

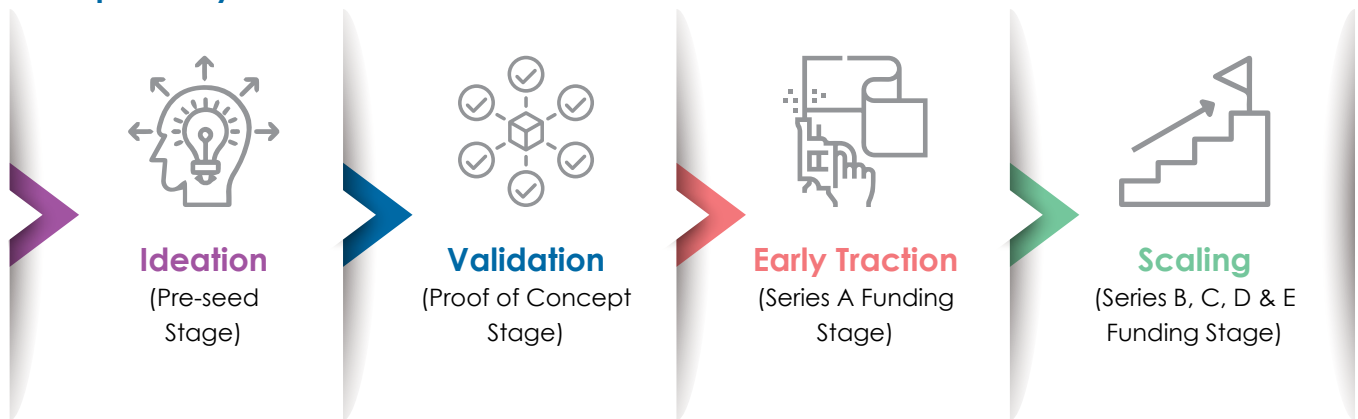


Source: Industry Estimates, Compiled by ANAROCK Research

<sup>8</sup>Startup India

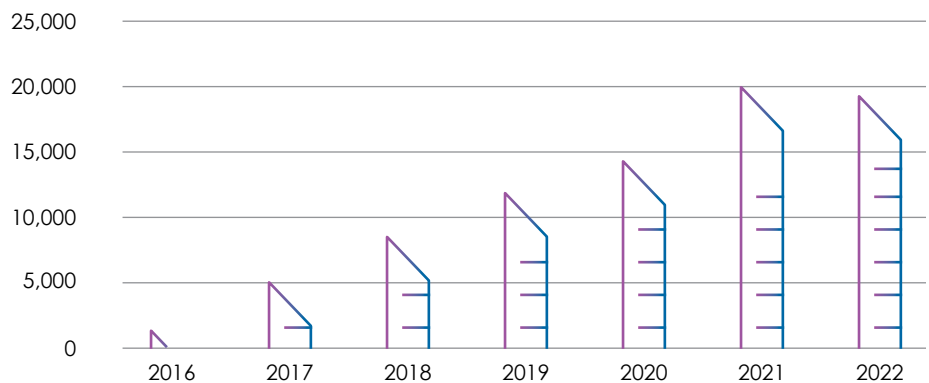


## Startup Life-Cycle



The pandemic has been a catalyst that has triggered the growth of startups

## Number of Recognised Startups



Source: Startup India; Compiled by ANAROCK Research

The top 3 sectors together account for 28% of the total startups founded across the country



**12%**  
IT Services



**9%**  
Healthcare & Lifesciences



**7%**  
Education



**6%**  
PropTech

Source: Startup India; Compiled by ANAROCK Research

## The Government's Initiatives to Accelerate the Startup Ecosystem

Over the last few years, there has been a focused thrust to create an enabling environment for the Startup Ecosystem.

### Tax Exemptions

- Exemptions of income tax for three years
- Capital gains exemption to people investing such capital gains in the Government-recognised Fund of Funds

### Legal Support in Patent Filing

- Fast tracking of patent applications for Startups
- Panel of facilitators to assist in filing applications and the Government bears facilitation costs
- 80% rebate in filing of patents

### Credit Guarantee Scheme for Startups

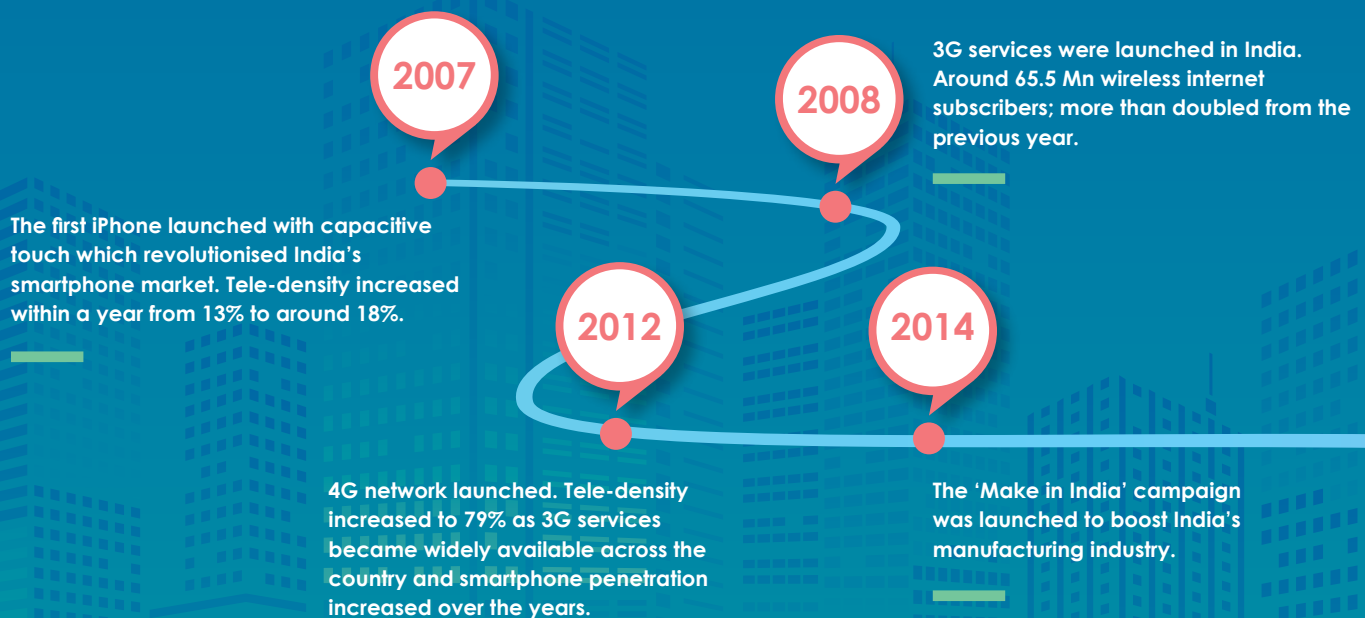
- Collateral-free, Fund & Non-Fund-based Credit Support
- Loans of up to INR 5 Cr per Startup



# Technology and Digitisation

*A major enabler that changed the face of Indian businesses*

Technology enabled easy access to data and made the user experience hassle-free and seamless. Internet services enabled businesses to cover more geographic areas, scale rapidly and tap customers across the globe. Digitisation has also turned processes seamless and eco-friendly. Digitised data can be accessed from anywhere in the world without any physical contact which expedites the process.



Source: DOT, TRAI, Compiled by ANAROCK Research



## Industry 4.0

Industry 4.0 enhances the earlier automated processes through the smart system using data, machine learning, the Internet of Things (IoT), and Artificial Intelligence (AI). This emphasises home and business automation through remotely controlled devices such as smart thermostats, leak detection sensors, and home security through Wi-Fi connectivity. They facilitate online payments and significantly reduce the fees for homebuyers.



## The Digital Revolution

The Digital India programme aimed to make technology accessible, affordable, and useful to the citizens of India. This campaign enabled various businesses to expand into different verticals and streamline their processes. The smartphone penetration along with faster 3G/4G internet services supported the digitisation drive in the country. **The launch of 5G services in India is expected to drive the next wave of growth for businesses across the country and boost the Government's digitisation drive.**

2015

The Digital India programme was launched; boosting the digitisation drive.

2016

4G services at reduced tariffs were offered. This further boosted internet consumption across the cities. Tele-density improved to 83% with 1,034 Mn mobile phone subscribers. Wireless internet subscribers increased by 392% to 322.2 Mn compared to 2008.

National Digital Telecommunications Policy 2018 was introduced to fulfill the information and communication needs of citizens and enterprises. Tele-density increased to 93% with 1,189 Mn mobile phone subscribers.

2018

The COVID-19 pandemic reiterated the importance of technology and digitisation for business sustenance. Tele-density decreased to 89% compared to 2018 as major players started increasing tariffs to achieve profitability.

2020

5G services launched across the major cities of India. Tele-density further decreased to 83% as major players increased tariffs.

2022



# PropTech

## *The Need of the Hour*

PropTech, as the name suggests, is the unification of technology with property, to build, sell and manage real estate assets smartly and effortlessly.

## Major Global PropTech Companies

### airbnb

App-based marketplace for **vacation rental accommodations**. It offers lodging, homestay, and tourism services worldwide via websites and mobile applications.



Shared Spaces –  
Hospitality



2008



San Francisco



2011



74.8+

### wework

A commercial real estate company that provides **flexible shared workspaces**. It designs and builds physical and virtual shared spaces and office services for entrepreneurs and companies.



Shared Spaces –  
Co-working



2010



New York City



2014



9.0+

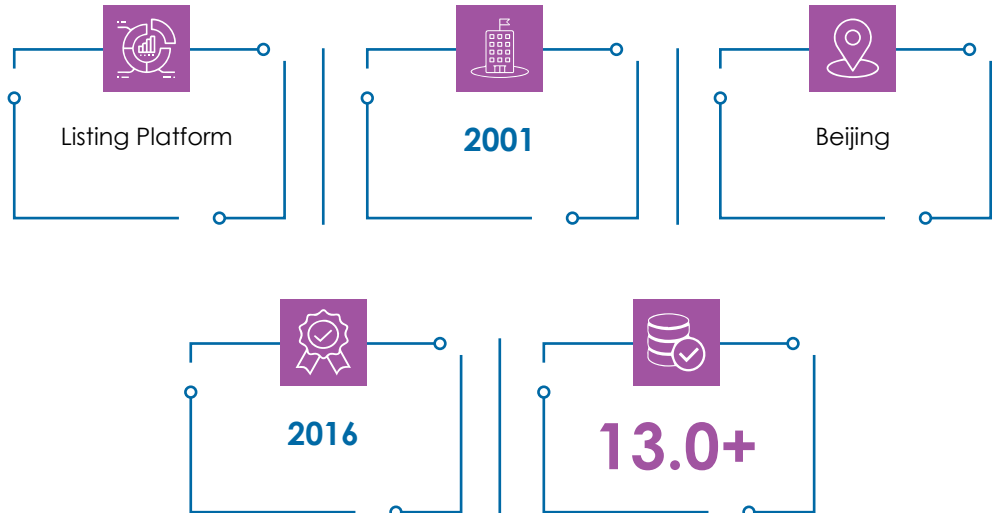






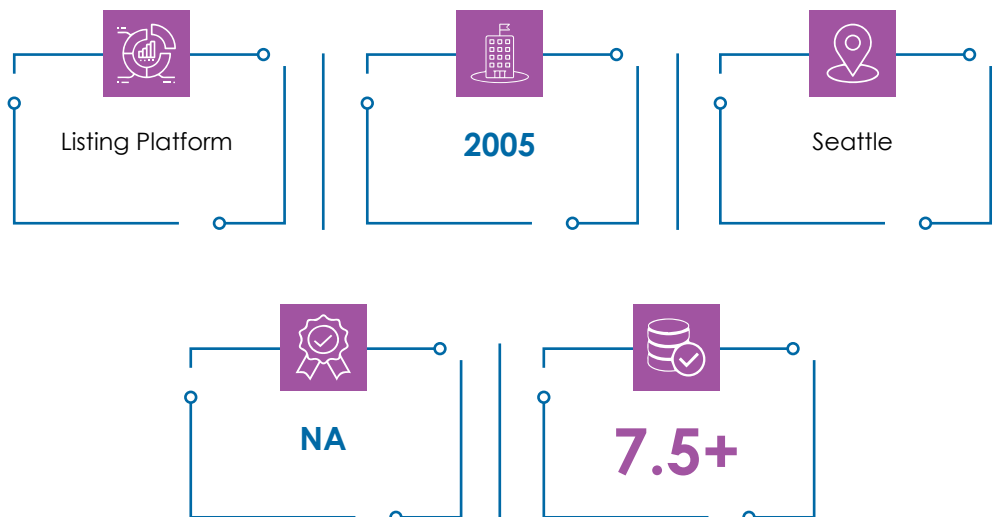
## LIANJIA

Offers **real estate brokerage services**. It operates an online real estate service platform that covers secondary residential property transactions, new property transactions, leasing, and other related services.



## Zillow

An app-based **listing platform for residential properties** that offers selling, buying, renting, or financing options to its customers.



► Business Segment



► Year of Establishment



► Headquarter City



► Unicorn Year

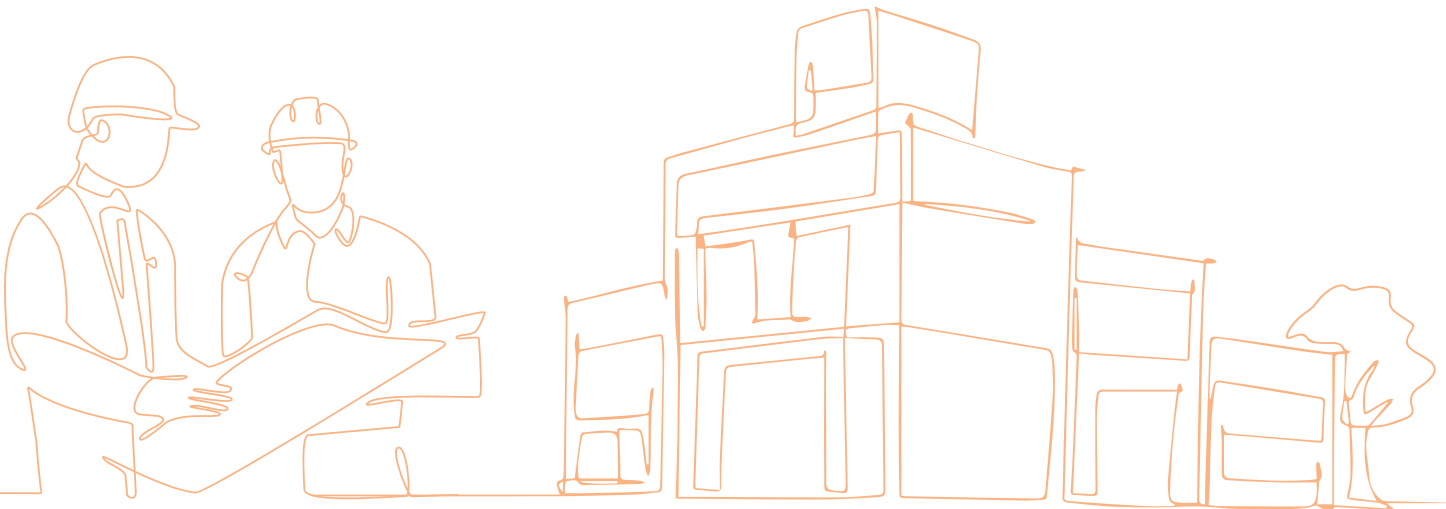
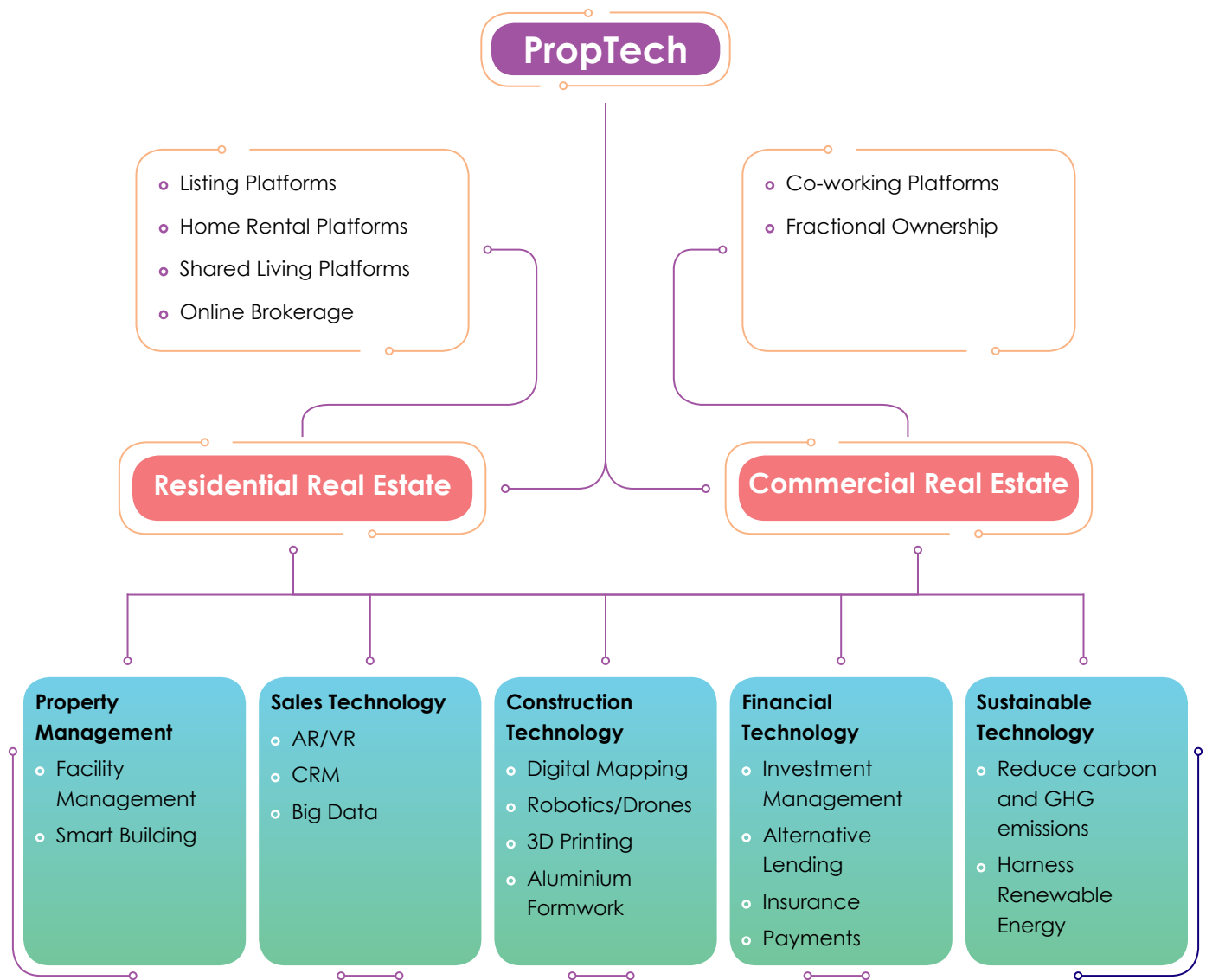


► ~ Valuation (USD Bn)

Note: Valuation as of 25<sup>th</sup> October 2022  
Source: Compiled by ANAROCK Research



## PropTech Market Map





## Evolution of PropTech in India

The real estate industry has been infusing technology to improve efficiency and quality. The turn of the 21<sup>st</sup> century witnessed the first digital initiative in the real estate sector with the arrival of online listing platforms, which revolutionised the process of search and discovery.

### Early times

- Listing platforms - enabled easy search & discovery



### Mid times

- Listing platforms advance to depict data analytics and heat maps
- Introduction of CRM systems for improved inventory management and efficient operations
- Augmented reality and 3D imaging of the property gains prominence
- Chatbots for more personalised customer experience
- Building automation

### Present times

- Interactive visualisation of the projects and spaces in virtual reality
- Use of Big Data and Blockchain in project execution
- Sustainable technology in construction and maintenance
- Deployment of IoT and drones for monitoring, and 3D Printing, and Aluminium formwork for efficient construction

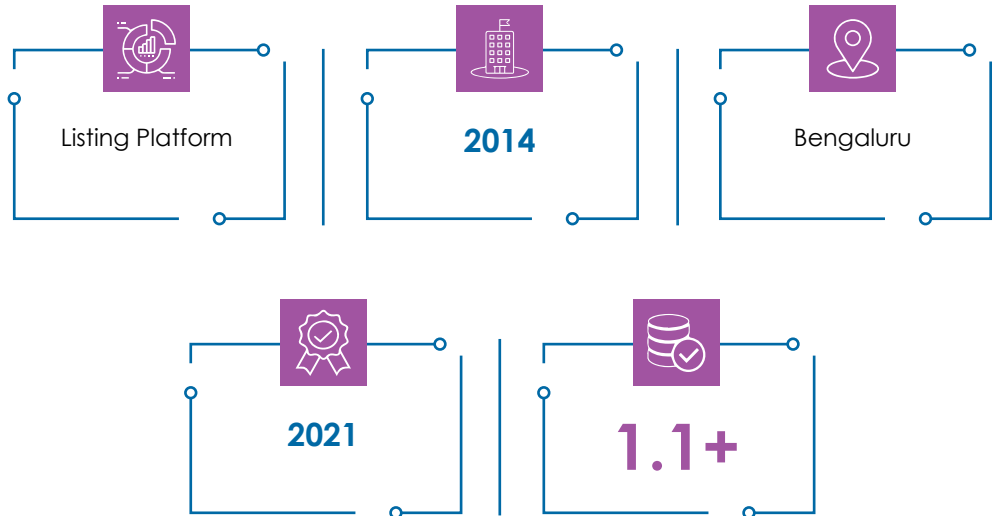




## A Few PropTech Unicorns in India

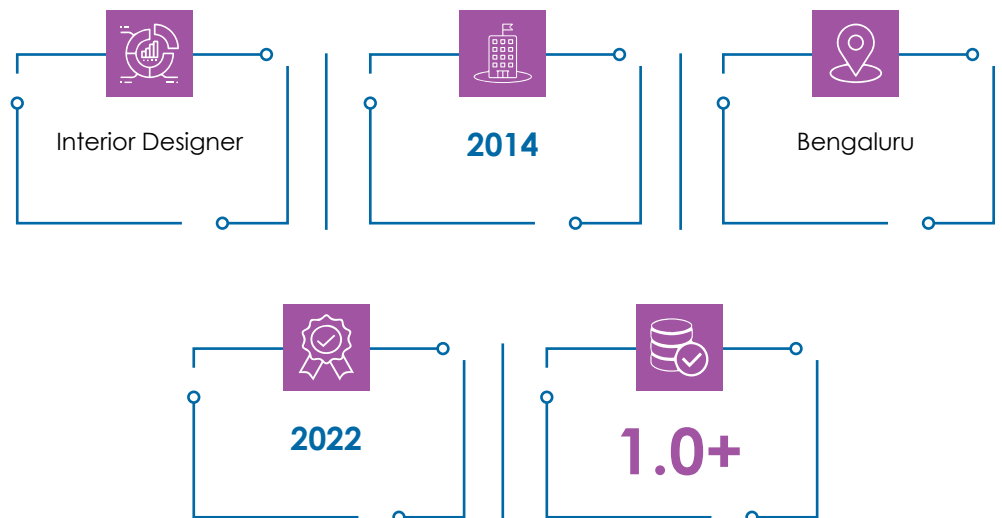
### **NOBROKER**

A peer-to-peer **property listing platform** enabling efficient real estate transactions. Brokerage-free listings on the platform help its customers to take informed and profitable decisions.



### **LIVSPACE**

Online in-home **interior designs** for home improvement. The company provides a one-stop solution from design to installation for homeowners.



► Business Segment



► Year of Establishment



► Headquarter City



► Unicorn Year



► ~ Valuation (USD Bn)

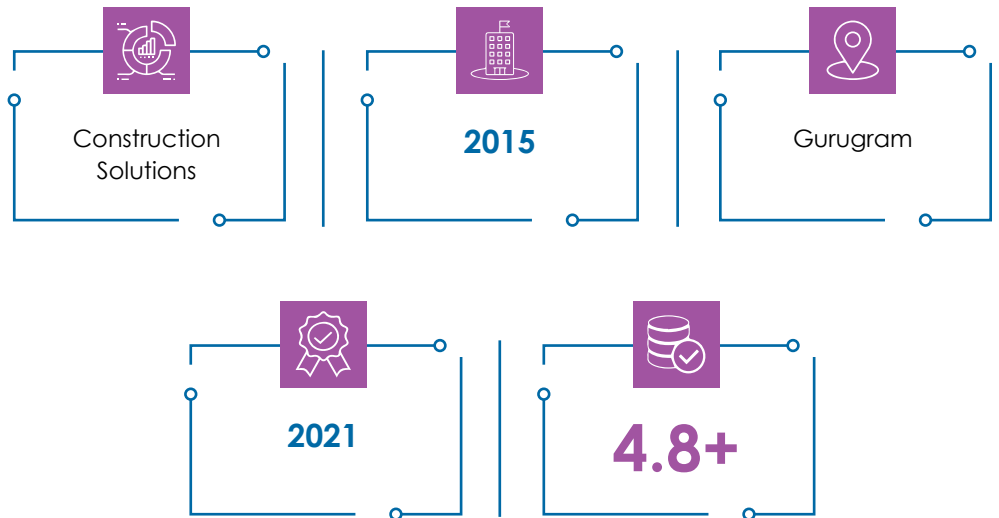
Note: Valuation as of 25<sup>th</sup> October 2022  
Source: Compiled by ANAROCK Research



## ofbusiness

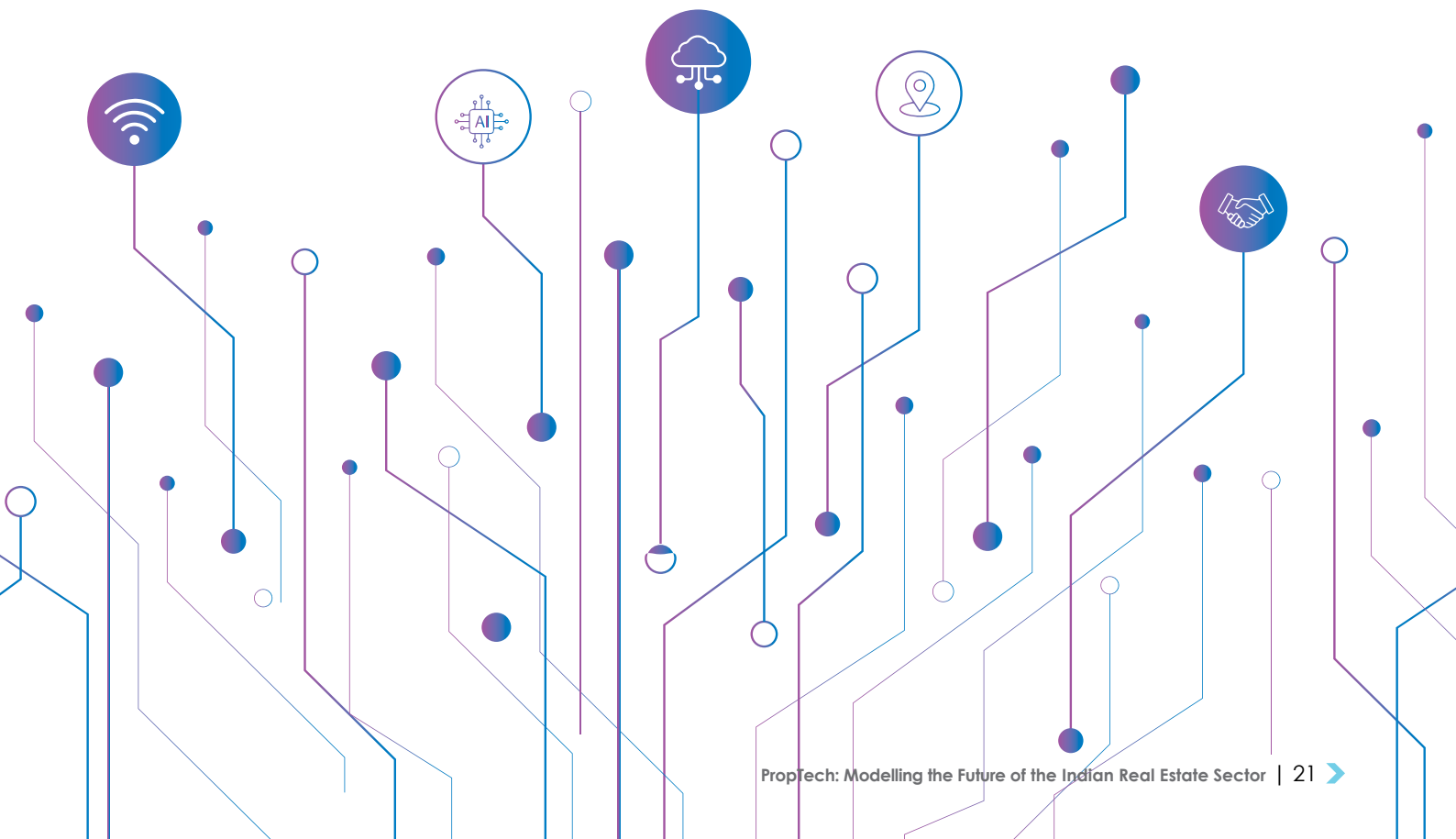
**Online marketplace for procuring building materials and financing for SMEs.**

It integrates technology into SMEs' buying behaviour to make available better products, at better prices, and in better timelines to customers with comprehensive online and offline support.



Technology has helped the real estate sector in India to recover fast from the turbulent period of COVID-induced lockdown.

Despite some initial resistance to the evolving changes, Indian real estate has come around to implementing and incorporating the changes for the better; and as a result, favourably impacting developers, investors, buyers, and brokers.







## Impact of PropTech on the Stakeholders in the Value Chain

PropTech has disrupted the business operations of every player in the real estate sector, including landlords, tenants, investors and brokers. The stakeholders have reaped the benefits of technology in many ways as depicted below:



### Investors/Financiers

- Investment management solutions minimises the chance of critical mistakes that lead to losses
- Improved market research to track the development, investment, leasing, buying, and selling opportunities
- Secure contracts that are in best interest of the project



### Developers & Occupiers

- Improved transparency leading to better loyalty and cordial relations with the use of CRM tools
- Efficient use of resources through construction management solutions resulting in cost savings and better impact on the environment
- Seamless communication platform across all stakeholders on repairs and maintenance, thereby, resulting in better time management



### Brokers

- Automation leading to reduced paperwork and cost reduction
- Easy data collection leading to focused marketing through artificial intelligence
- Secure remote transactions and digital contracting enabling improved buying experience
- VR, AR, 3D views, walkthroughs, etc. aiding sales

Source: Compiled by ANAROCK Research



Business analytics driven by data has immense potential in real estate operations. Depending on the efficacy of collection, the usage of data can drive a successful real estate venture.



### **Analytics**

The granularity of research data can reveal vivid elements of the property's future risks and opportunities based on geographical, social, and economic conditions.

### **Precise Property Valuation**

Large sets of data are better capable of forecasting the demand and pricing in the future with elevated levels of accuracy.



### **Improved Prospecting, Marketing, and Sales**

Analysis of demographic data can enable better mapping of the target segment leading to relevant offers and incentives.

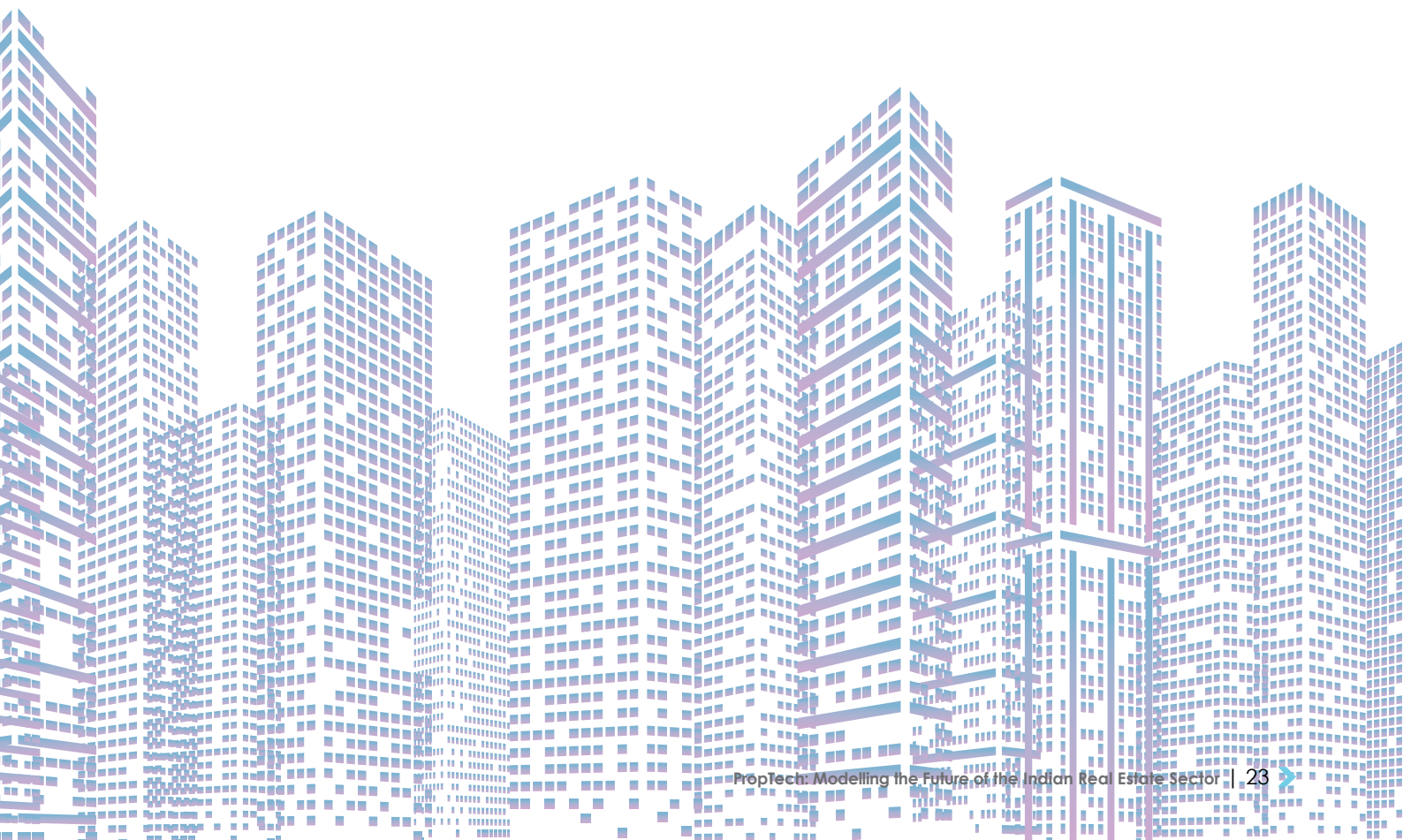
### **Property Development**

Analytical research data can help to assess the demand in a particular location, thereby, advising the best option to be built.



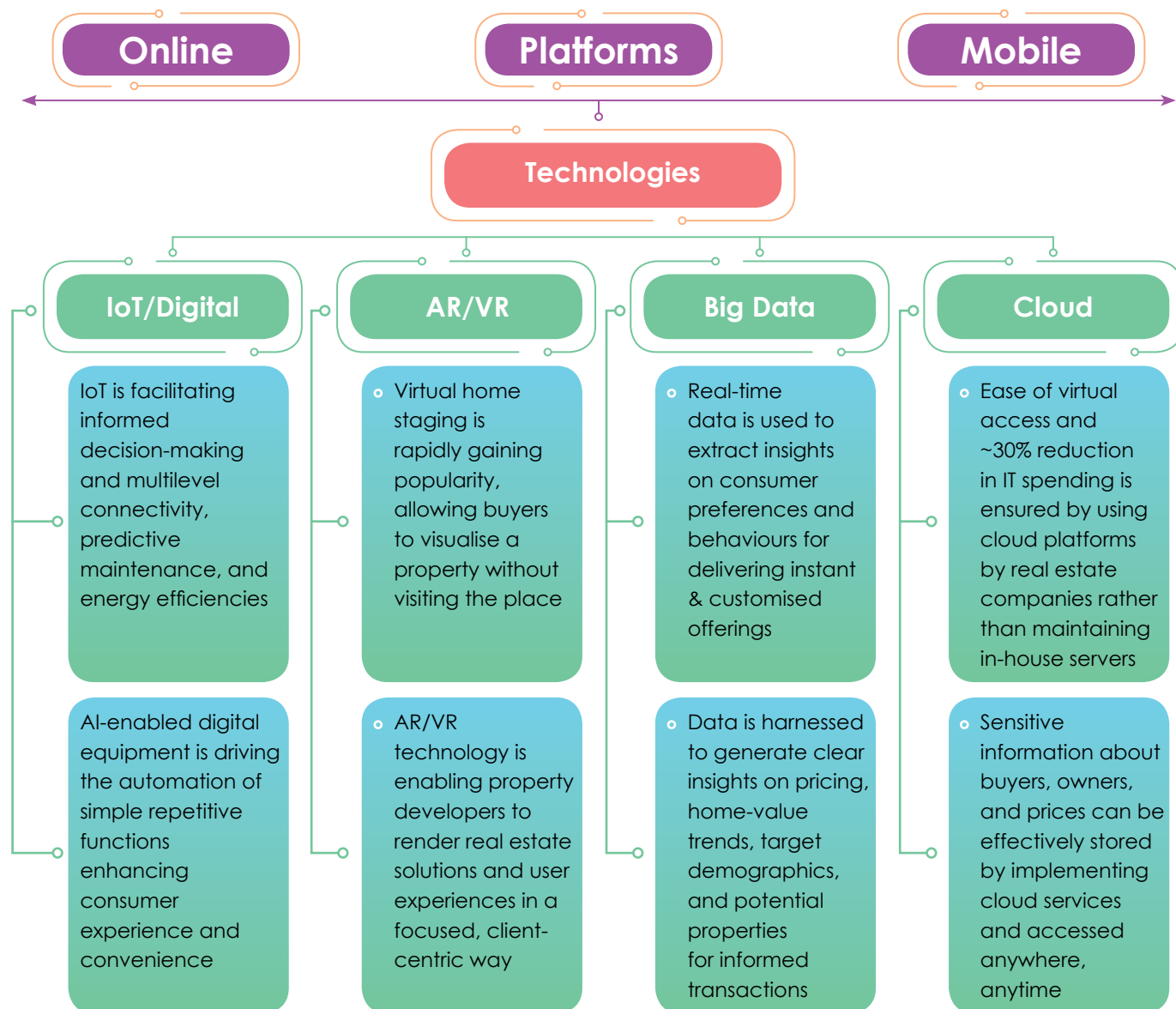
### **Risk Prediction**

Data analysis becomes the key standpoint for creating clear predictive analyses of the risks of investing in certain buildings and projects.



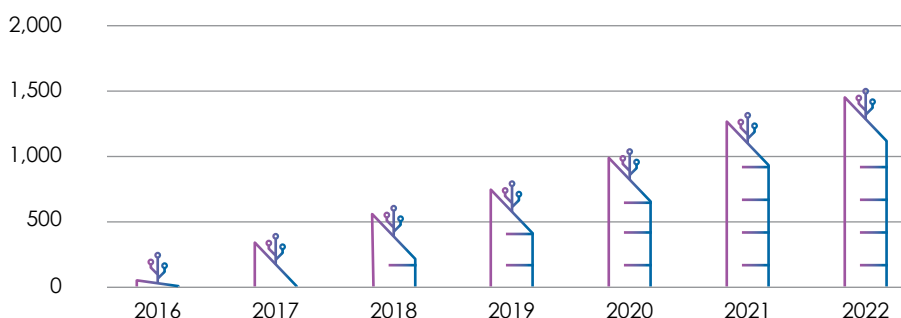


## Real Estate Technologies and Platforms



PropTech disruptions using various platforms and technologies have far-reaching impact. According to Forbes, 95% of buyers engage on online platforms at the discovery stage of their home-buying journey and 51% buy property online.

## PropTech Recognised Startups

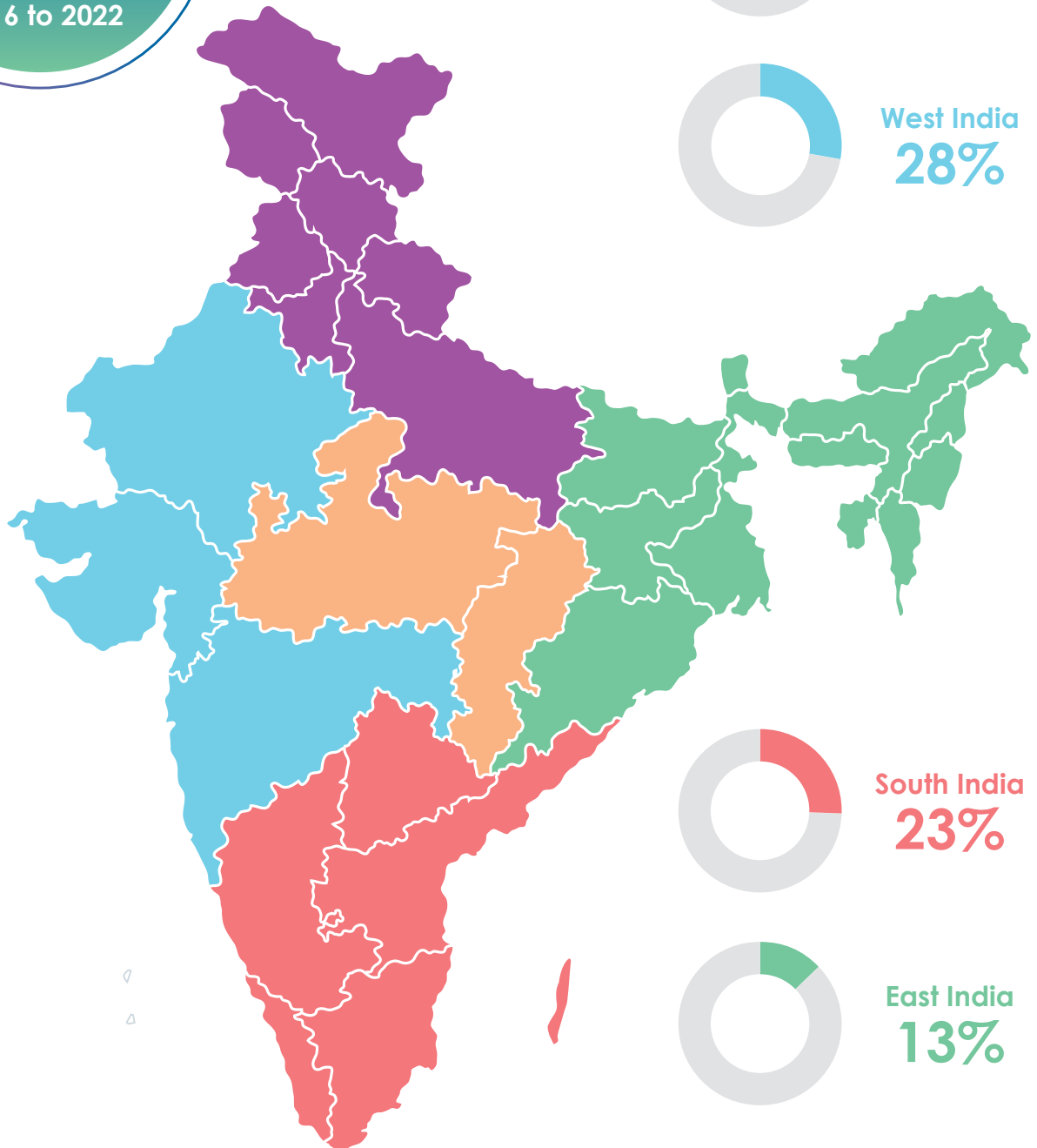


Source: Startup India; Compiled by ANAROCK Research

While the residential real estate accounts for 84% of the total value under construction real estate, only 13% (700 - 800 companies) of the total recognised PropTech startups focus on housing. This provides significant upside potential to be leveraged.



West and South India account for ~50% of the PropTech-recognised startups between 2016 to 2022

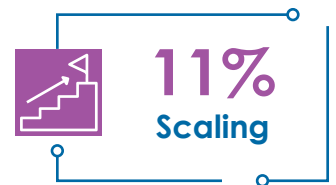
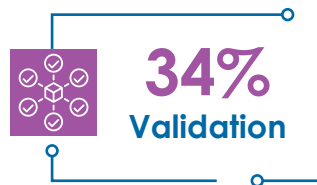


This map is a generalised illustration only for the ease of the reader to understand the locations, and it is not intended to be used for reference purposes.

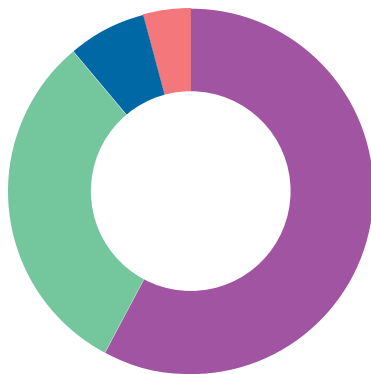
Source: Startup India; Compiled by ANAROCK Research



36% of the total PropTech-recognised startups have already raised funds from various large investors



Source: Startup India; Compiled by ANAROCK Research



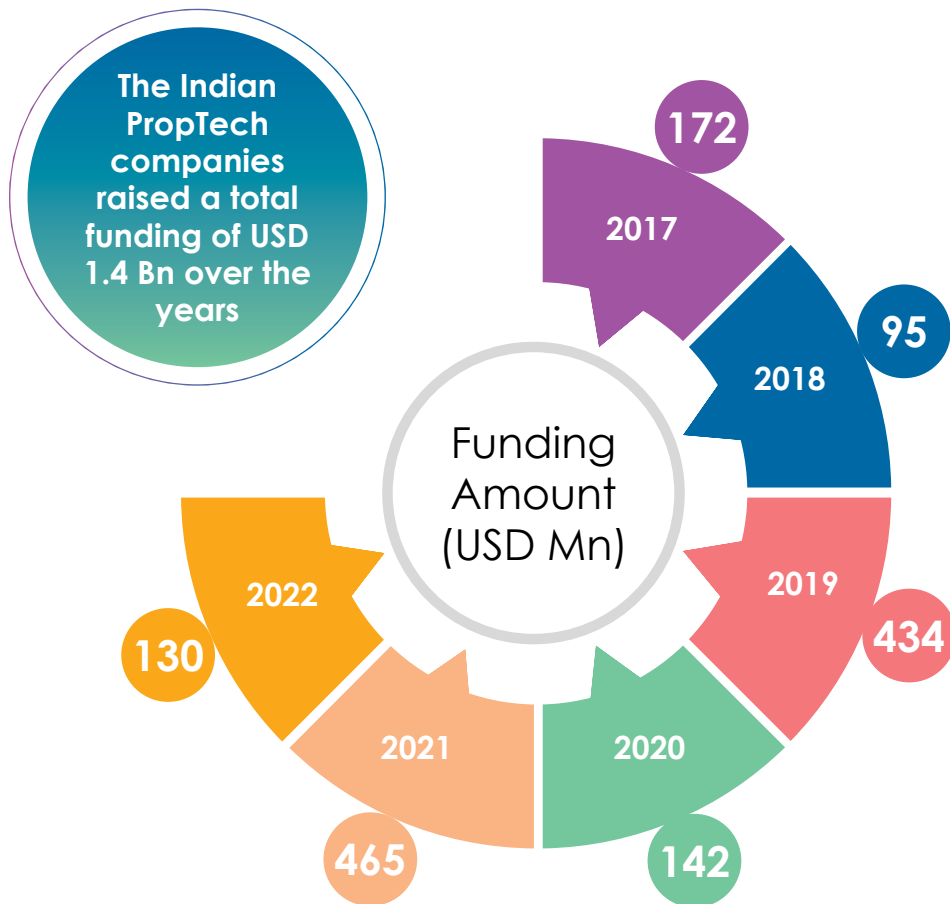
|                        |            |
|------------------------|------------|
| <b>ConTech</b>         | <b>57%</b> |
| <b>SustainableTech</b> | <b>31%</b> |
| <b>FinTech</b>         | <b>7%</b>  |
| <b>SalesTech</b>       | <b>5%</b>  |

ConTech accounts for 57% of the PropTech recognised startups between 2016 and 2022

Source: Startup India; Industry Estimates; Compiled by ANAROCK Research







While PropTech in India is still in its nascent stage, there is tremendous scope for growth and development.

Note: Data as of Q3 2022  
Source: Industry Estimates,  
Compiled by ANAROCK  
Research





## Construction Technology (ConTech)

*Technology enabled construction to ensure timely and safe deliveries*












Construction technology refers to the collection of innovative tools, machinery, modifications, software, etc. used during the construction phase of a project that enables advancement in field construction methods, including semi-automated and automated construction equipment.

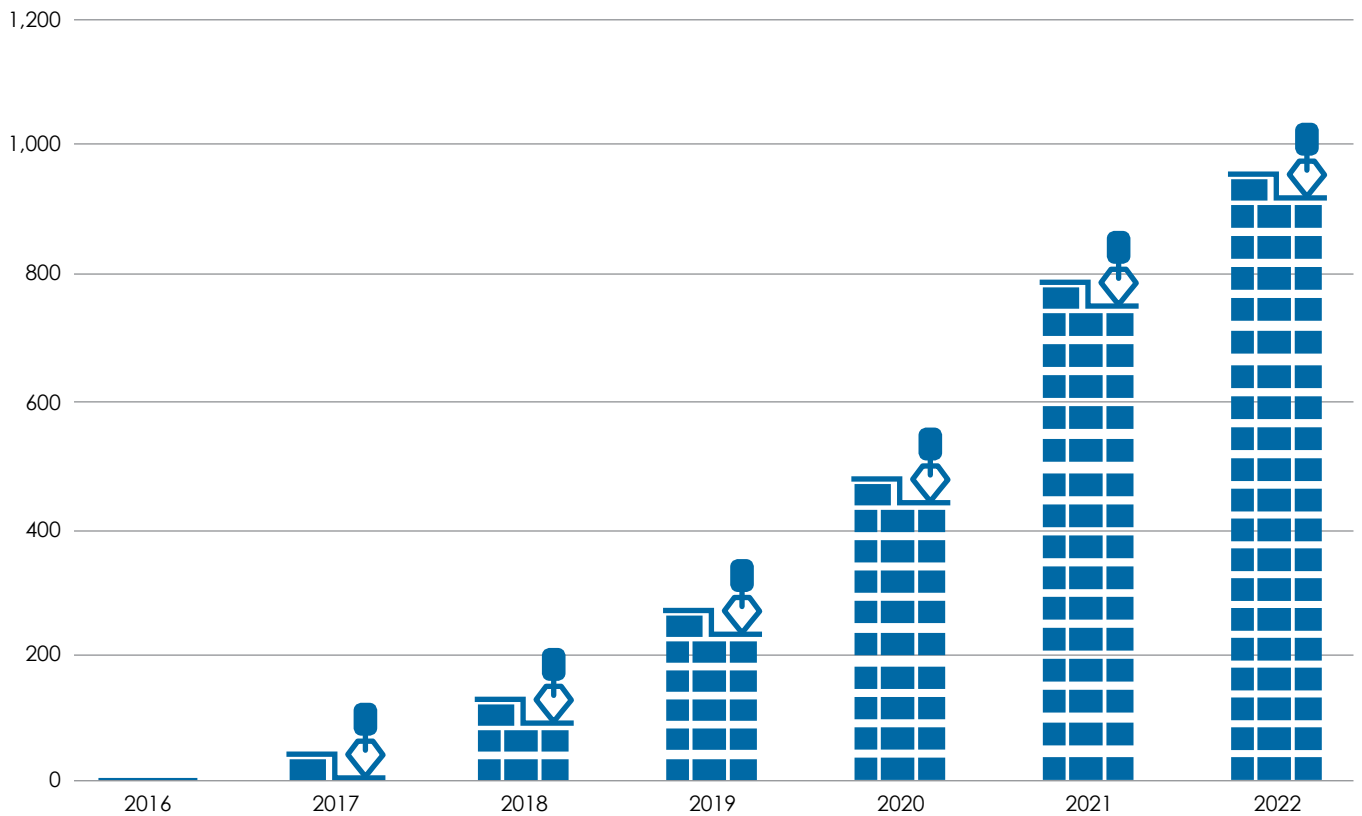
The need for cost-effective, efficient, and faster construction has enabled the usage of innovative technologies. These initiatives can usher in a digital landscape using innovative materials and standardised components.

## Important ConTech Interventions and Their Benefits

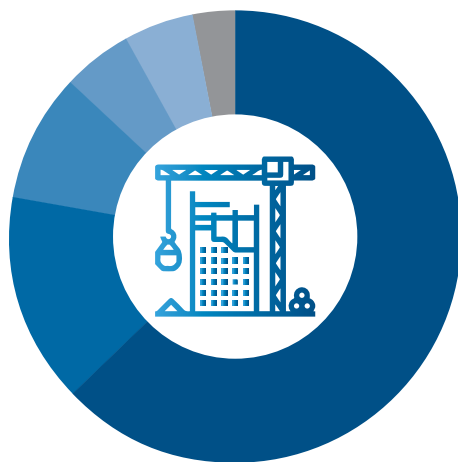
| ConTech Intervention   | Objective   | Benefits  |
|--|---|---|
|  <b>Collaboration and Project Management</b>        | Real-time process monitoring and tracking leading to a reduction in time delays and ensuring cost controls across project delivery stages | Reduce construction time by up to 25% through efficient use of construction management systems                |
|  <b>Off-site Construction and Pre-cast systems</b> | Faster assembly through centralised production  | Residential projects through pre-cast complete 15% faster   |
|  <b>Cloud-based Project Information Systems</b>   | Real-time exchange of information across multiple teams   | Real estate companies can save 30% of their IT cost by eliminating in-house servers                           |
|  <b>Building Information Modelling (BIM)</b>      | Improve the efficiency of managing the services   | It can lead to a 20% to 30% increase in productivity and 10% savings of energy over the lifetime of the asset |
|  <b>RFID Technology</b>                           | Record details of material and access effortlessly in a paperless way   | Optimisation of construction planning and execution and reduce cost over-runs                                 |
|  <b>Nano Technology</b>                           | Achieve high strength and durability  | Lower the operating and maintenance time and cost   |
|  <b>Electronic Simulation</b>                     | Reduce errors and omissions   | Improves the cost, schedule, and quality  |



## ConTech Recognised Startups



Source: Startup India; Compiled by ANAROCK Research



Construction & Engineering

**63%**

New-age construction Technologies

**15%**

Construction Materials

**9%**

Others

**5%**

Construction Supplies & Fixtures

**5%**

Homebuilding

**3%**

**Construction  
& Engineering  
accounts for 63% of  
the total ConTech-  
recognised startups  
between 2016 and  
2022**

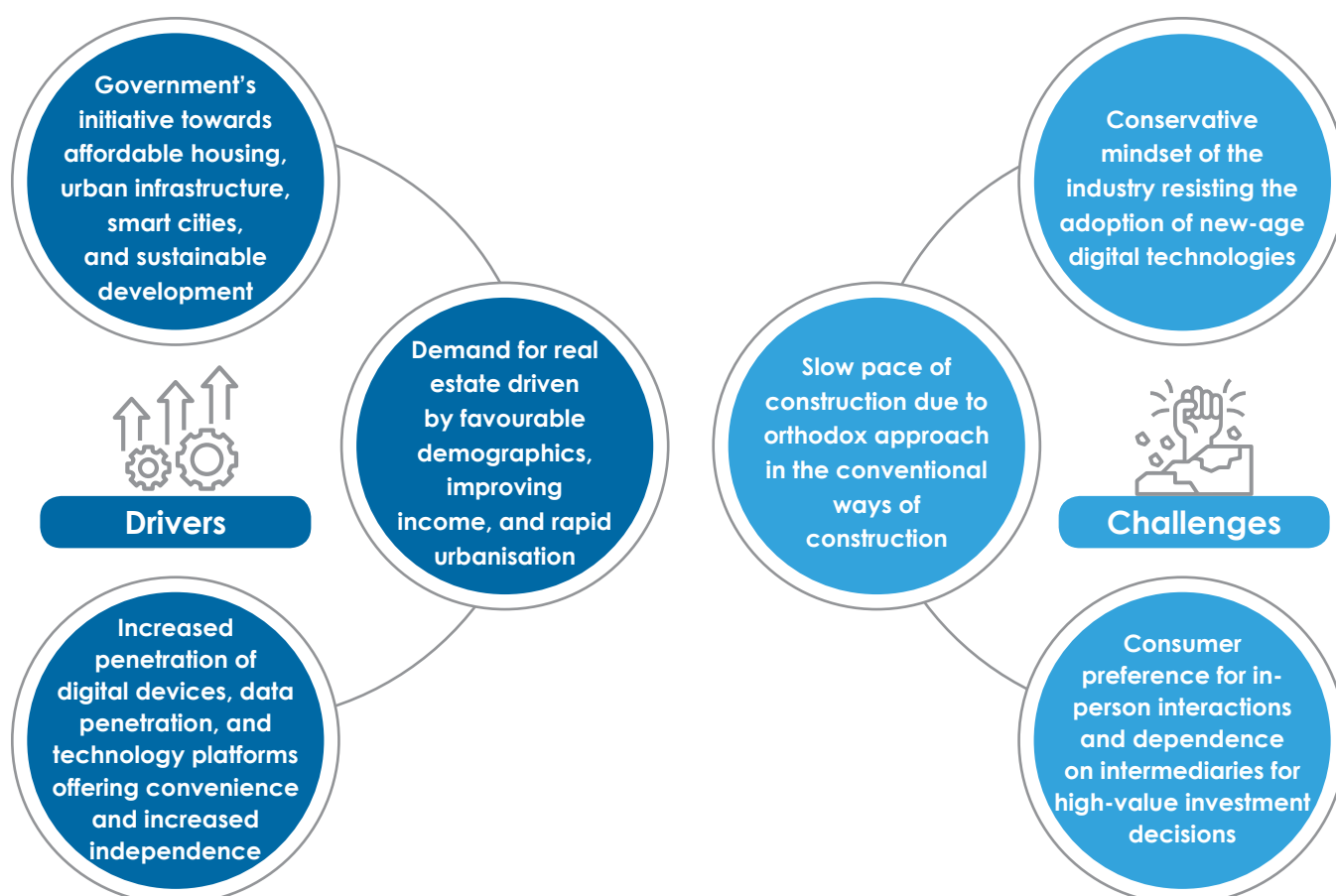
Source: Startup India; Compiled by ANAROCK Research







## Drivers and Challenges for ConTech



While the Indian construction sector has lagged in embracing and implementing technology, compared to the world, the scenario is rapidly changing. Nearly 66% of the construction companies in India are prioritising digital transformation.

The construction sector is expected to radically transform with the accelerated adoption of ConTech in various forms ranging from drones, AI, VR, advanced analytics and IoT. The future will also see the adoption and deployment of robotics, 3D printing, smart bricks, self-healing concrete and temperature-reactive tiles.





## Sales Technology (SalesTech)

*The emerging need to engage with the clients incessantly and seamlessly*





SalesTech may be defined as an amalgamation of tools and platforms that are deployed to accelerate and enhance sales productivity, efficiently and effectively. Broadly, it can be classified as sales automation and sales enablement.

Automation is a necessity for an organisation's sales strategy – especially if sellers want to maintain a competitive advantage in their respective industries. It is an efficient way to optimise the prospecting process and ensure that a company has more time to focus on nurturing leads, supporting current clients, and personalising customer experiences.



**Many global companies are seen to have achieved concrete benefits from deploying SalesTech tools. Some of the benefits include:**

Increased sales revenue  
by almost **60%**

Growth in sales  
opportunities by over  
**50%**

Improvement in  
conversion rates by  
close to **40%**

The need for such technology in the real estate sector was felt most vividly during the pandemic to connect virtually with their prospects and clients to maintain the cashflows.





## Augmented and Virtual Reality (AR & VR)

Today buyers want a 3D view of the property and views of their chosen units. Many companies have started focusing on walkthroughs to help understand the impact of natural lighting and ventilation.

Such virtual experiences significantly save cost, time and effort involved in sales, while enhancing customer experience, convenience and engagement.



## Big Data Analytics

This creates opportunities for in-depth analysis of the demography and social profile of the prospective buyers which helps create targeted campaigns. Data from these platforms helps to classify prospects. These insights empower the sales and marketing teams to effectively create the right type of content and refine every stage of the sales process. Thus, it enables better engagement with prospective buyers leading to improved conversions.



## Benefits to Buyers and Sellers

- Detailed 3D modelling and real-time visualisation techniques, help developers to offer a cost-effective and personalised buying and building experience for their customers.
- Customer can mix and match from curated palettes of design styles and themes. The real-world collections of fitting, finishing and furniture products can also be showcased creating a possibility of upselling. This is particularly beneficial for the builder, as the modification can be done during the construction stage with minimal cost escalations and wastage.
- Buyers also benefit by saving time and effort in retrofitting the built space in the post-construction period.
- Organisations that invest in digital transformation are equipped with a roadmap that allows their sales teams to meet new, ever-evolving customer demands. It also helps companies improve customer service and experience, and boost brand awareness and reputation, with a direct bearing on revenue and profits.



## Number of Recognised SalesTech Startups



Source: Industry Estimates; Compiled by ANAROCK Research



|                   |     |
|-------------------|-----|
| Listing Platforms | 70% |
| AR/VR             | 21% |
| Online Brokers    | 9%  |

Source: Industry Estimates; Compiled by ANAROCK Research

Listing Platforms  
dominate the  
total SalesTech  
recognised startups  
between 2016 and  
2022







## Sustainable Technology (SustainableTech)

*The domestic real estate sector is gradually stepping up its initiatives toward sustainable development*

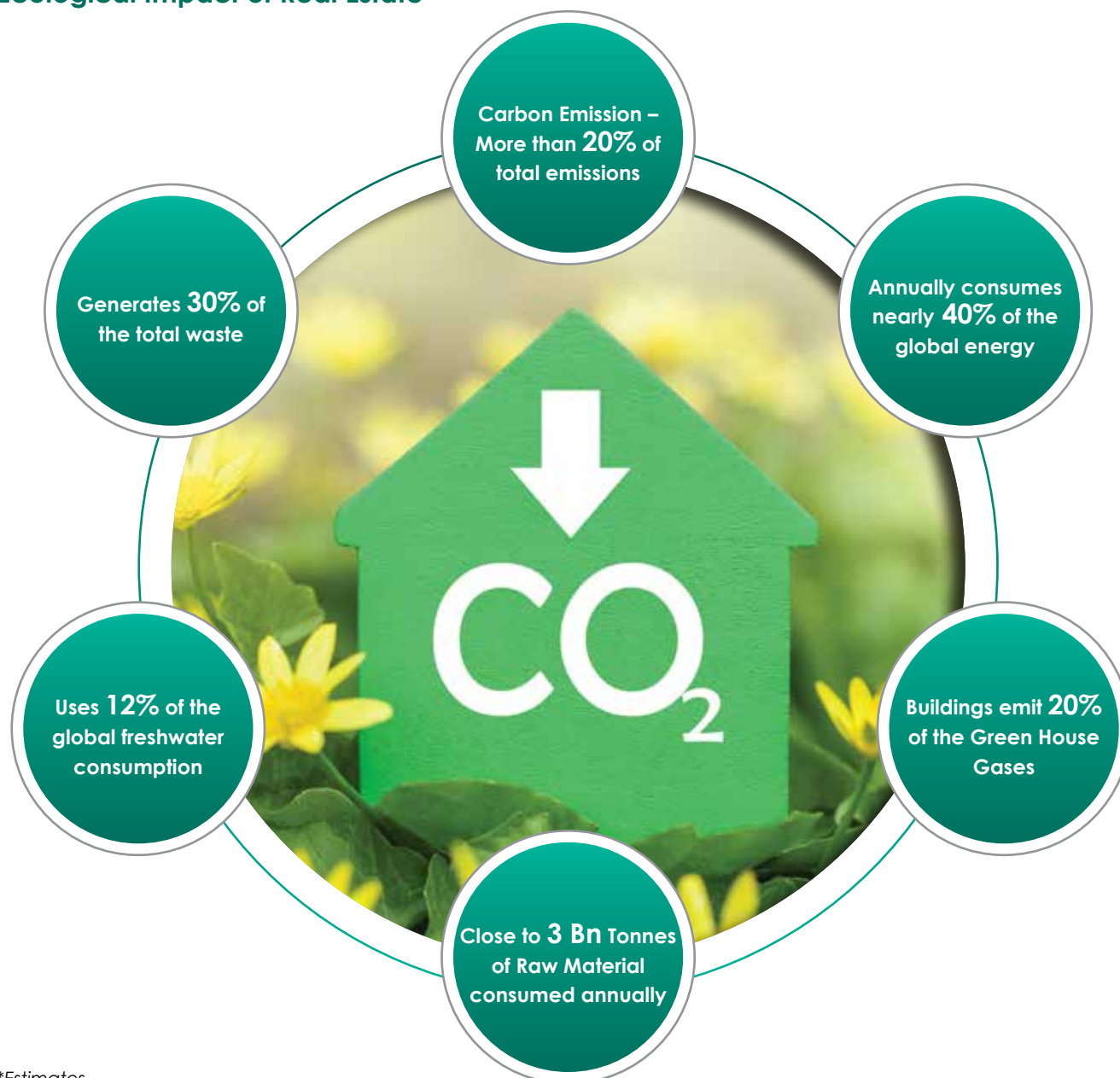






The real estate sector consumes more energy than any other sector. While it is simple to ascertain the fact, it is equally complex to quantify. It becomes imperative to prioritise environmental safety and sustainability.

### Ecological Impact of Real Estate\*



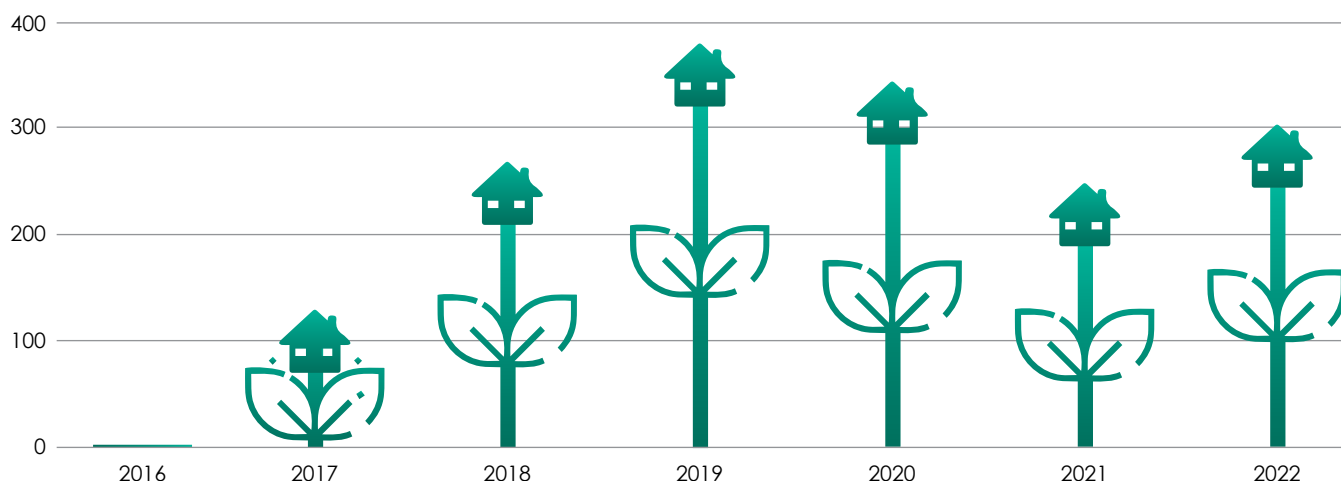
\*Estimates

While the implementation of sustainable practices in commercial real estate developments has been more pronounced, the residential segments are also rapidly adapting to the trends. The use of renewable raw materials, carbon-neutral solar energy, landscape design aligned to the topography, recycling and replenishing bio-waste, and natural ventilation has yielded beneficial results and the buyers are also more discerning of such practices.

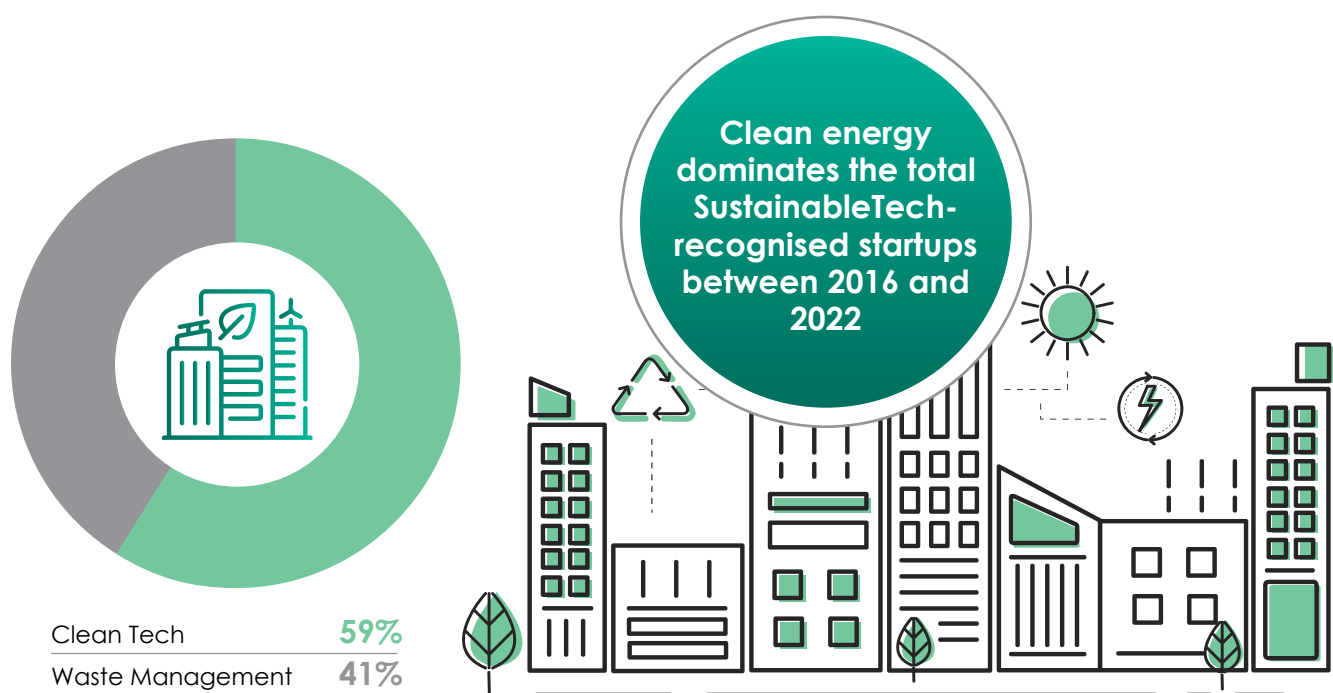
There is an increasing trend of using advanced building design software that helps analyse and reduce active energy usage by optimising passive energy sources for lighting and ventilation design. Various technologies in Heating, Ventilation, and Air Conditioning (HVAC) have helped reduce the energy consumption per unit in modern buildings that are equipped with self-sustainable sources of energy, heat recovery systems, tapping rooftop solar and micro wind turbines to off-take the energy demand.



## SustainableTech Recognised Startups

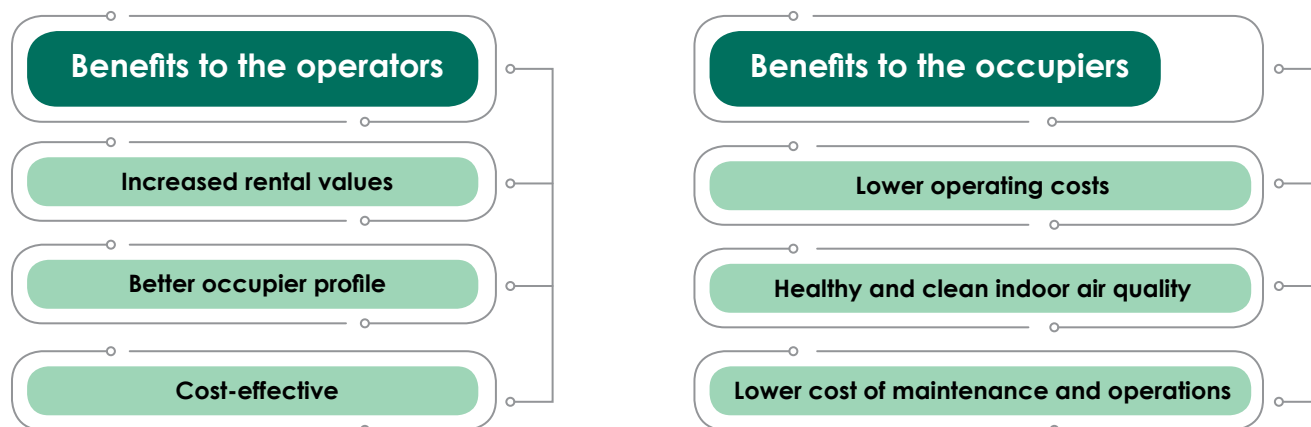


Source: Startup India; Compiled by ANAROCK Research



Source: Startup India; Compiled by ANAROCK Research

## Operators and Occupiers of Sustainable Green Buildings Globally have Substantial Benefits





## Green Commercial Buildings in India Offer a Better Cost Arbitrage



The stock of certified green office space in India increased to over **200 Mn sq ft** at a CAGR of **11%** over the decade. Most of the stock is owned by REITs and institutional investors.

Green Commercial Buildings command a premium of **15% to 30%**

Vacancy is **5% to 10%** lower in Green Commercial Buildings

Lower operations cost in the range of **20% to 30%**

Electricity consumption reduced by **40% to 50%**

**20% to 30%** savings in water consumption

Source: Compiled by ANAROCK Research



## IGBC - Green Building Movement India

**8.07 Bn sq ft** of registered footprint

Over **7,270** projects

More than **2,830** Certified Green Pro products

**5,660+** Accredited IGBC Professionals

Source: Industry Estimates, Compiled by ANAROCK Research

The principal advantages of air quality, pure and potable water, natural light, fitness, and comfort are meticulously merged into the offering to deliver an enriching living experience. Such a residential development may attract a premium of 4% to 5% which the buyers today are willing to pay, knowing that it will be compensated in the future. Several dutiful and industrious developers have gone a step ahead, in not just focusing on their development, but also proactively undertaking initiatives that impact the community at large.

All of these amalgamate seamlessly to assist in curating sustainable real estate for the future, stimulating the real estate industry's leap into a truly 'green normal.'



## Financial Technology (FinTech)

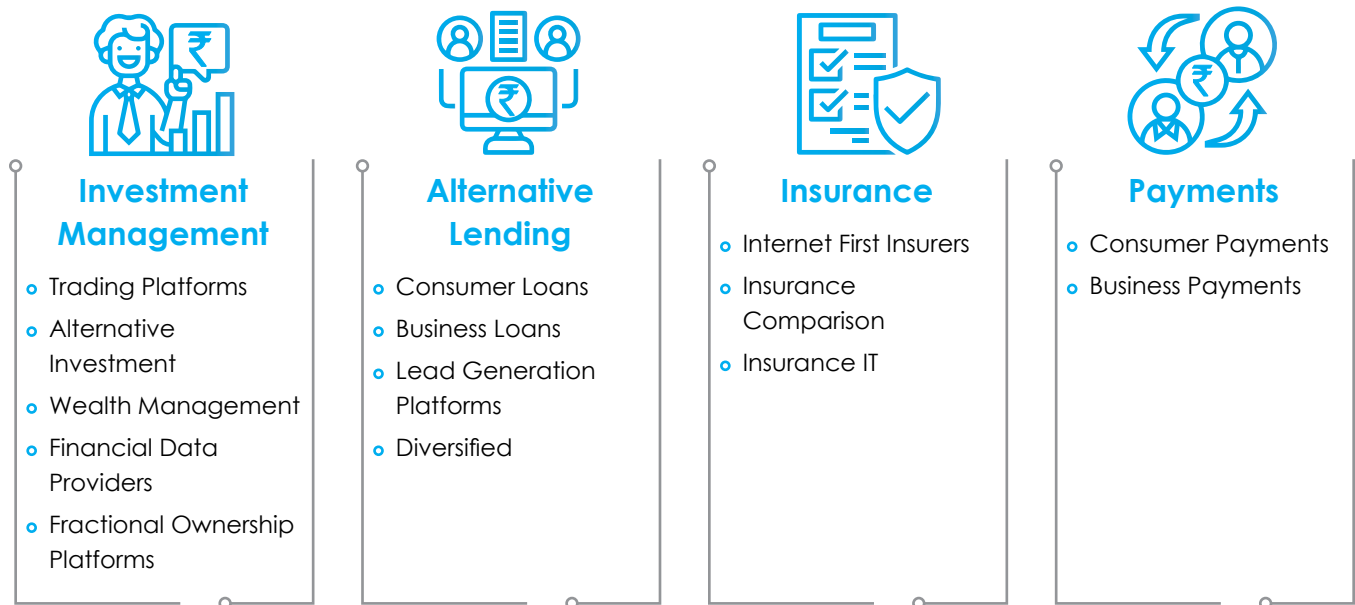
*FinTech is shaping the future of financing in the Indian real estate sector*





Financial management for buying a home or investment can be challenging if not managed well. There are multiple mortgage options in the market to choose from – Banks, NBFCs, private companies, etc. However, the entire process of loan disbursement/investment is cumbersome and time-consuming. FinTech companies simplify and secure the loan disbursement/investment process and make it hassle-free by using blockchain technology.

### The Indian FinTech Market Expanded across Sectors over the Years



### FinTech applications in Real Estate – A Few Examples

FinTech in Real Estate de-risks property transactions (buying, selling, and renting) by acting as an intermediary and ensuring contractual obligations.

Simplifying the lending process for SMEs in the construction industries by collaborating with all three industry stakeholders - Builders, Manufacturers and Lenders.

Investments in the real estate sector simplify with the use of FinTech as transparency increases at both fronts – Investor and Investee.





### Investment Management

FinTech is rapidly changing the landscape of investment management. Technological advancements such as Big Data, Artificial Intelligence (AI) and Machine Learning (ML) have simplified the process of evaluating investment opportunities, optimising portfolios, and mitigating risks.



### Alternative Lending

FinTech companies have established a major role in the financial domain by servicing a large population who do not have access to funding from financial institutions. With the use of AI and ML, these companies are being able to generate an alternative lending score that does not solely rely on an individual's bureau score for credit ratings, thereby, easing financial access to a large population base.



### Insurance

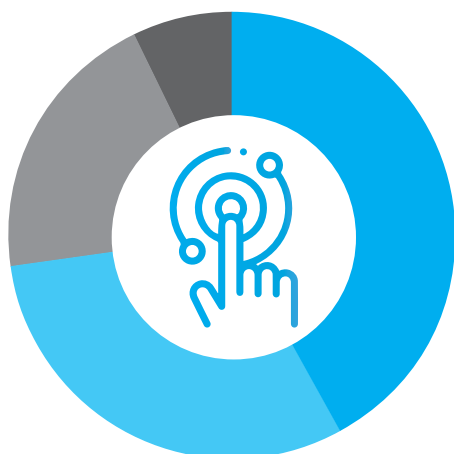
Technological innovations such as connected devices, IoT, AI and Big Data analytics are transforming operations, risk understanding and product development. FinTech, in the insurance sector, has accelerated the application process, automated underwriting, and streamlined the claim filing process. Some companies have created IoT-based insurance programmes that use connected devices to monitor health and daily routines to customise insurance premiums.



### Payments

Technological advancements such as contactless payments, AI-ML-powered systems, and integrated payment systems have improved efficiency, security, and customer satisfaction in the payments sector. Other than that, online payments generate consumer data which enables lending secure and easy.

#### FinTech Companies by Business Line



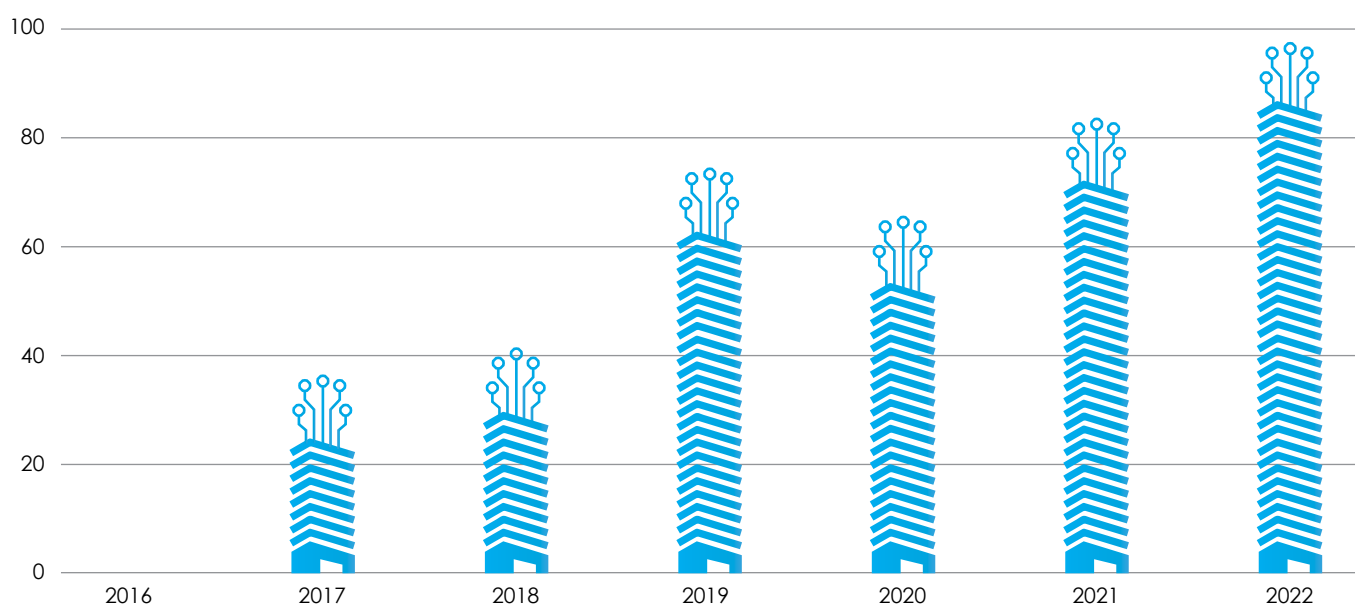
|                       |     |
|-----------------------|-----|
| Investment Management | 42% |
| Payments              | 31% |
| Alternative Lending   | 20% |
| Insurance             | 7%  |



Source: Industry Estimates; Compiled by ANAROCK Research



### FinTech for Real Estate – Recognised Startups



Source: Startup India; Compiled by ANAROCK Research



## Blockchain: Endless Implications in FinTech

- It enables streamlined documentation (eliminating disputes stemming from inconsistent documentation), replaces legacy systems, and helps to reduce labour costs.
- Blockchain technology is likely to be dominant in real estate with the introduction of the metaverse as cryptocurrencies and non-fungible tokens (NFTs) will enable purchases and value storage in virtual reality.
- NRIs may experience a cross-border enhanced and seamless payment clearance system taking the advantage of blockchain technology in real estate. It reduces the time to three seconds from five days in the case of international transactions. As per industry estimates, B2B cross-border transactions are expected to reach a total value of USD 35 Tn in 2022.
- The technology enables transparent crowdfunding which can help real estate developers to raise funds at competitive rates.
- Layering in blockchain technology can help to secure sensitive financial information and reduce the chances of human error and fraud.
- Credit scores from various institutions such as Experian and CIBIL can be automated to avoid errors and offer a cheaper, more efficient, and more secure way of lending.



## Benefits to the Developers and Occupiers



### Developers

- The seamless and paperless fundraising process saves time and cost.
- FinTech enabled transparent crowdfunding; funds at competitive rates.
- The hassle-free payment clearance system for raw material suppliers streamlines processes and saves time.
- Enhanced customer satisfaction as the online paperless process is hassle-free and secure.
- Real-time data to identify high sales potential areas and ticket configurations to maximise profits.
- Database to help in taking the right decisions at every stage of real estate development – from land identification to after-sales service.



### Occupiers

- A secure, paperless, and transparent loan disbursement process creates a better customer experience.
- Improved decision-making with the help of real-time data from FinTech companies to mitigate the risk.
- Database to identify high sales areas and ticket configurations to make informed decisions.
- Faster and secured international payments to enable NRI participation in Indian real estate.
- Options to invest in large projects through crowdfunding to reap the profits.
- Avoid fraud and errors by automation process using blockchain, usher transparency and confidence.





# Way Forward

PropTech is rapidly transforming the ways and means of doing business in the Indian real estate sector. It brings speed, agility, efficiency, and transparency to property development and sale. Also, real estate sales have become location-agnostic due to digital communication, visualisation, and sales.

The number of recognised PropTech startups in India witnessed a sudden surge as the pandemic hit the nation. PropTech startups in India increased by 48% post the pandemic (2020 till date). This indicates the rising importance and wider acceptance of PropTech in India. The growth of PropTech startups is likely to continue in this decade and the annual rise of new companies may be in the range of 22% - 25% each year as the real estate sector expands to touch USD 1 Tn by 2030.

While the construction industry is currently allocating less than 1.5% of its total revenue to technology, and that too for the non-site locations, this share is likely to gradually rise to at least 5% in the short term and around 10% in the medium term, as the need for and importance of tech adoption is increasingly being felt by each passing day.

Construction and execution at the sites appear to be the biggest focus area as evident by the major share of ConTech startups which accounts for nearly 57% of the overall PropTech startups between 2016 - till date. These companies have nearly doubled in the last 3 years as the developers have realised that over-dependence on the human workforce in construction can jeopardise the schedule, add risks, and delay projects in times of disruptions. 3D printing in real estate has already been implemented in other parts of the world. It is only a matter of time before we shall see the same being implemented in India. While it may start with the mega infrastructure projects initially, it will surely spill over to the real estate sector as well.

The desired economic growth and the government's push to develop infrastructure together with the vision of a digital India, smart cities, and Atmanirbhar Bharat are expected to provide the tailwind for the real estate sector leading to increased acceptance and usage of technology. It may be a long and evolutionary process, but the near future signals some quick action, adoption, and acceptance to rapidly scale the real estate sector.











## Notes

[illegible]



HDFC Capital is a for-profit global impact platform to sustainably address the needs of the affordable/ social housing ecosystem for all stakeholders through a combination of knowledge accumulation, innovative financing, partnerships, sustainability, and technology.

Set up in 2015 as a subsidiary of HDFC Ltd., HDFC Capital provides investment management services for real estate financing in India by way of a US\$ 3 billion platform targeting the development of affordable and mid-income housing in India.



Startup India is a flagship initiative of the Government of India, intended to build a strong ecosystem for nurturing innovation and startups in the country that will drive sustainable economic growth and generate large-scale employment opportunities. The government through this initiative aims to empower startups to grow through innovation and design and to consolidate and facilitate the startup ecosystem of the country.

Contributing to the Prime Minister's vision of an 'Aatmanirbhar Bharat', Startup India has been supporting entrepreneurs and transforming India into a country of job creators rather than job seekers.

The National Startup Day, celebrated on January 16th every year, is an ode to commemorate the inception of Startup India and the wave of entrepreneurship in the nation. As we progress towards building the 'New India', Startup India is determined to take along the visionary entrepreneurs and budding startups to accelerate India's growth journey.



ANAROCK is India's leading independent real estate services company with a presence across India and the Middle East. The Company has diversified interests across the real estate lifecycle and deploys its proprietary technology platform to accelerate marketing and sales. The ANAROCK services suite includes Residential Broking & Technology, Retail (in partnership with Vindico), Commercial, Investment Banking, Hospitality (in partnership with HVS), Land Services, Industrial and Logistics (in partnership with Binswanger), Investment Management, Research, Strategic Advisory & Valuations and Project Management Services (in partnership with Mace), Flexi Spaces (in partnership with myHQ & Upflex) and Society Management Services (acquisition of ApnaComplex-India/ANACITY-EMEA).

ANAROCK has a team of over 1800 certified and experienced real estate professionals who operate across all major Indian and Middle East markets. ANAROCK also manages over 80,000 established channel partners to ensure global business coverage.

HDFC Capital and Invest India recently launched a PropTech platform – HDFC Real Estate Tech Innovators 2022 – to identify, recognise, and award disruptive innovations within the affordable housing ecosystem in the construction, sales, fintech, and sustainability tech verticals.

HDFC Real Estate Tech Innovators 2022 is being powered by ANAROCK and supported by leading ecosystem stakeholders like Sequoia, Matrix Partners, Accel, 3One4 Capital, Blume Ventures, Alteria Capital, YourNest, Pi Labs, Gruhas PropTech, Edina, Saint Gobain, CIIE.CO @ IIM Ahmedabad, IIT Kanpur, IVCA, and TiE Delhi NCR.

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