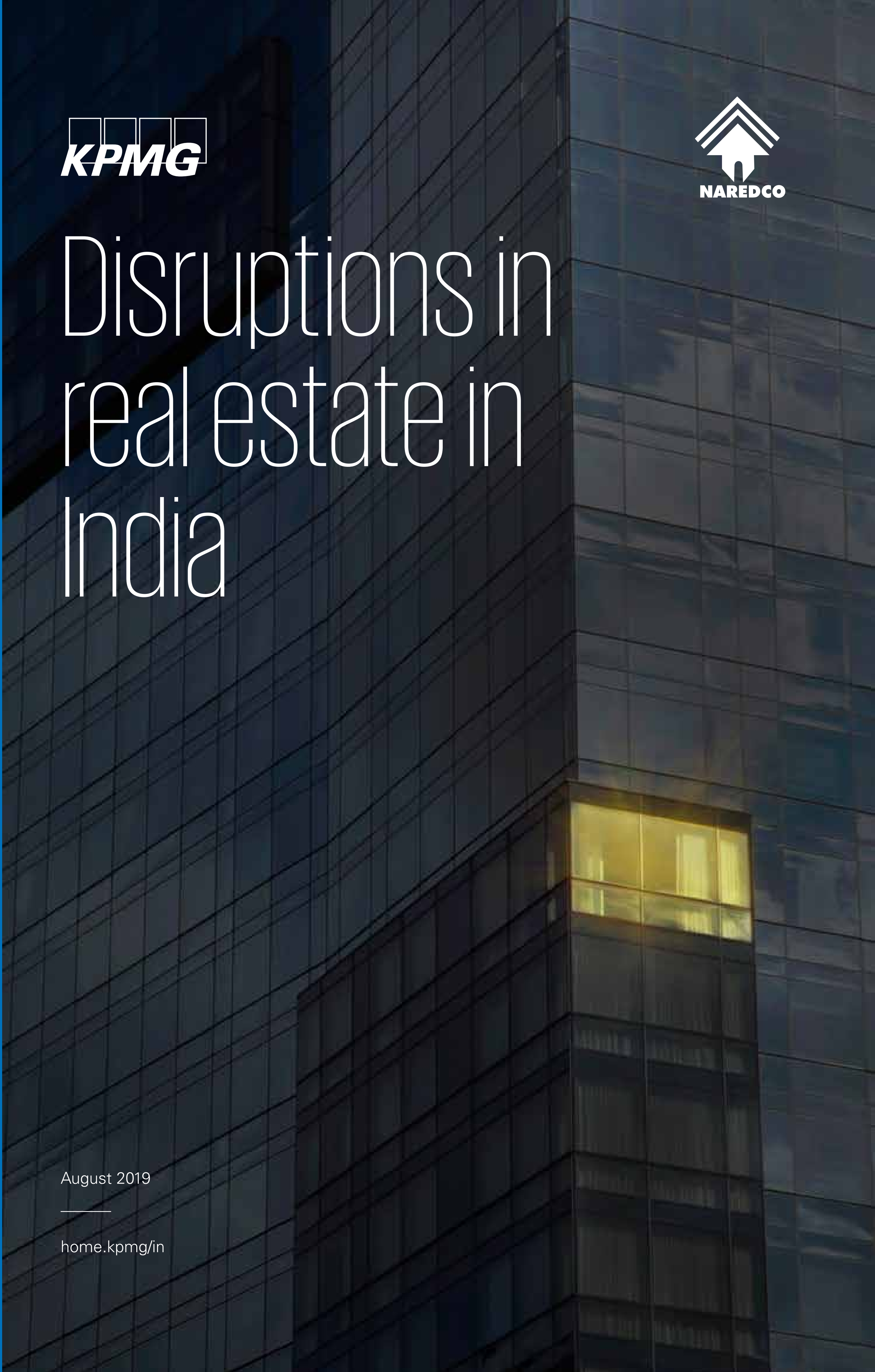

KPMG

NAREDCO

Disruptions in real estate in India

August 2019

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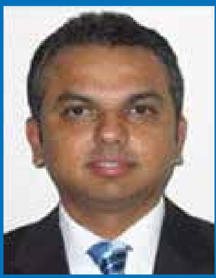
Foreword - KPMG in India



Chintan Patel

Partner and Leader
Building, Construction and Real Estate
KPMG in India

The world is witnessing unprecedented transformations affecting disruption across sectors and industries. The real estate industry is not an exception to disruptions that are catalysing technological advancements, changing business environments, altering economic realities and changing consumer behaviours. Disruptions present challenges while creating opportunities for business willing to adopt and grow.

Indian real estate sector is gradually adopting technologies that improve market access, efficiency, quality, assured delivery timelines and consumer experience. To maximise convenience, environmental sustainability and cost efficiencies, the Indian real estate industry players are progressively exploring opportunities harnessing a range of new age technologies such as Internet of Things, Building Automation, Artificial Intelligence, Big Data, Blockchain, etc. Concurrently, the Government of India has also taken up various initiatives like 'Smart Cities', 'Digital India', 'IndiaChain', 'Global Housing Technology Challenge', etc. to actively promote digitisation and ICT embedded infrastructure solutions.

The Government of India envisages to provide 20 million affordable houses to its urban poor by 2022 under the 'Housing for All' Scheme. To achieve cost-effective and timely implementation of housing delivery, the public sector is lending regulatory and fiscal impetus for adopting new and innovative sustainability and cost focused technologies, financing instruments and progressive regulations. Simultaneously, the private sector is significantly investing in exploring new building and construction technologies, business models and investment instruments to accelerate project delivery and ensure real estate value optimisation.

Over the past decade, Real Estate Investment Trusts (REITs) have proved to be a feasible and marketable option for alternate financing in real estate markets in economies across the globe. The Indian real estate sector is struggling with liquidity crisis resulting from the growing base of Non-performing Assets (NPAs). The launch of India's first REIT in 2019 came as a progressive move to address the challenge for cash strapped Indian real estate sector. The positive response received by India's first REIT and initiatives like infrastructure investment trusts (InvITs) can pave the way to build investor confidence and raise real estate capital for the Indian real estate sector companies.

India is home to the world's largest population of millennials comprising a large proportion of students and working young professionals migrating to tier-I cities, accelerating urbanisation in major urban centres. This phenomenon coupled with changing consumer expectations has warranted adoption of new technologies for ensuring fast delivery of cost-effective quality assets and services through easily accessible touch points; in turn creating a booming ecosystem for 'shared economies'. Consequently, neo-assets like co-working and co-living spaces are rapidly emerging as cost-efficient business models that are disrupting traditional real estate business models.

Given the significance of the real estate sector in the Indian economy, it is critical to assess disruptions influencing the sector. This paper by KPMG in India and National Real Estate Development Council (NAREDCO) attempts to provide an overview on key disruptions presently impacting the Indian real estate industry. Through this publication, we endeavour to profile the evolution of key disruptions, assimilate learnings from studying emerging disruptive models and mechanisms, assess upsides and challenges of disruptions from the industry perspective and highlight future of disruptive transformation trends unlocking opportunities for the Indian real estate industry. I would like to thank the stakeholders involved in preparing this background paper and hope that you would find it an insightful read.

Foreword - NAREDCO

Dr. Niranjan Hiranandani
National President – NAREDCO
Co-founder & MD, Hiranandani Group

It gives me immense pleasure to present the NAREDCO KPMG in India report titled 'Disruption in Real Estate in India' which is being launched at the 15th National Convention organised by National Real Estate Development Council (NAREDCO) on 19 – 20 August in Delhi. The report unravels the major disruptions impacting the real estate sector in India and the emerging trends expected to impact the industry going forward.

'Affordable Housing for All 2022' has been the driving agenda for the Union Government and in coming time, accelerated housing development will be backed by aggressive efforts in policy reforms, tax regulations and implementation mechanisms for achievement of the affordable housing by 2022 agenda. The emerging 'New India 2022' is expected to witness significant economic growth and rapid urbanisation, in turn creating demand for more housing in major urban centres. As positive steps forward, national level infrastructure development initiatives have been taken up on priority such as AMRUT, Smart Cities, Public Asset Monetisation, etc. combined with policy initiatives such as implementation of Model Tenancy Act at Pan India level. These are expected to create avenues for improving the housing supply and provide impetus for new real estate development in partnerships with the private real estate sector.

The Prime Minister's noteworthy initiatives such as 'Housing For All', 'Make in India', 'Digital India', 'Start Up India' have accelerated entrepreneurship fuelling demand for commercial real estate featuring flexible shared co-working options, IoT and AI enabled smart workplaces, cost-efficient and environmentally sustainable building management systems. Rapidly evolving technology, changing workforce lifestyle requirements, need for asset usage optimisation and digital business models are redefining how real estate businesses operate. As the sector moves into the feature, augmented realty user engagement, construction and property management optimisation, real estate automation and cloud based solutions will become commonplace phenomenon. Real estate capital financing pressures have led to exploration of alternate financing mechanisms, and REITs and InvITs have proven to be immensely successful. Opening up of foreign sector investments in such instruments by Central Government in the recently announced union budget evidences the fillip expected to grow the financing markets.

Emerging disruptions in real estate in India have created an industry inflection point where paradigm shifts are emerging in the way real estate businesses operate currently and will shape up in the future. New business models, emerging technologies, and alternate financing mechanism are coming to the fore requiring deeper exploration and adoption to accrue major gains for the real estate industry. In the global context, adoption of construction and property technologies, digital business platforms and shared real estate business models have proved to be effective solutions in addressing urbanisation pressures while delivering high quality smart real estate. Adoption of new models and convergent policies can likely result in new opportunities and growth for real estate and construction sector, thereby snowballing the multiplier effect.

This publication by NAREDCO and KPMG in India unravels the real estate industry disruptions and explores the context, coverage and impacts expected, highlighting the key learnings for all stakeholders towards adapting and adopting such emerging trends. Bringing focus to disruptive business models, technologies and market mechanisms, the report highlights potential opportunities for the real estate industry going forward. In view of the accelerated housing agenda of the Union Government, the evolving disruptions in real estate can serve as a catalyst to address the challenges faced by the industry and enabling affordable, sustainable, and timely delivery of housing real estate to serve the needs of the rapidly urbanising India.

I am sure the readers shall find the report insightful and will help peek into the future of the real estate landscape in India.

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Disruptions in real estate context

In the business world, a disruption refers to any innovation, business model, or mechanism developed in response to emerging market needs and trends that tend to eventually displace industry incumbents, existing models, present products or services and established alliances. Disruption brings about a fundamental change to the value proposition for a business through adoption of contemporary digital technologies; business models or methods. As per conventional nomenclature, a disruption has the following characteristics–

- It helps solve a problem through unique solutions, improving the value propositions and enhancing end user experience
- Provides a framework to adapt and keep up with changes in a competitive landscape
- Brings about paradigm shifts in business by creating new avenues, operating models, product or service; derivations and transformations to serve as solutions to market, business and end users challenges.

Continuous changes in the interconnected forces – demographics, urbanisation, globalisation, technology and consumer behaviour, are paving the way for unprecedented transformations or in effect 'disruptions' across sectors. This is leading to convergence across value chains, innovation in products and services, new forms of business models, unique competitive strategies, and shorter transaction lifespans, thus necessitating reinvention of business operating models and consumer engagement strategies.

Though disruptions are the norm across prominent sectors, the pace of adoption in the real estate sector has been relatively slow considering affinity to traditional modes of business. Many real estate transactions continue to rely on intermediaries or a human interface between stakeholders and resistance to change is widely prevalent. With reference to the future, real estate businesses cannot afford to play at the edges of emerging disruptions any longer and must embrace the phenomenon holistically; in effect warranting reinventing the overall business framework.

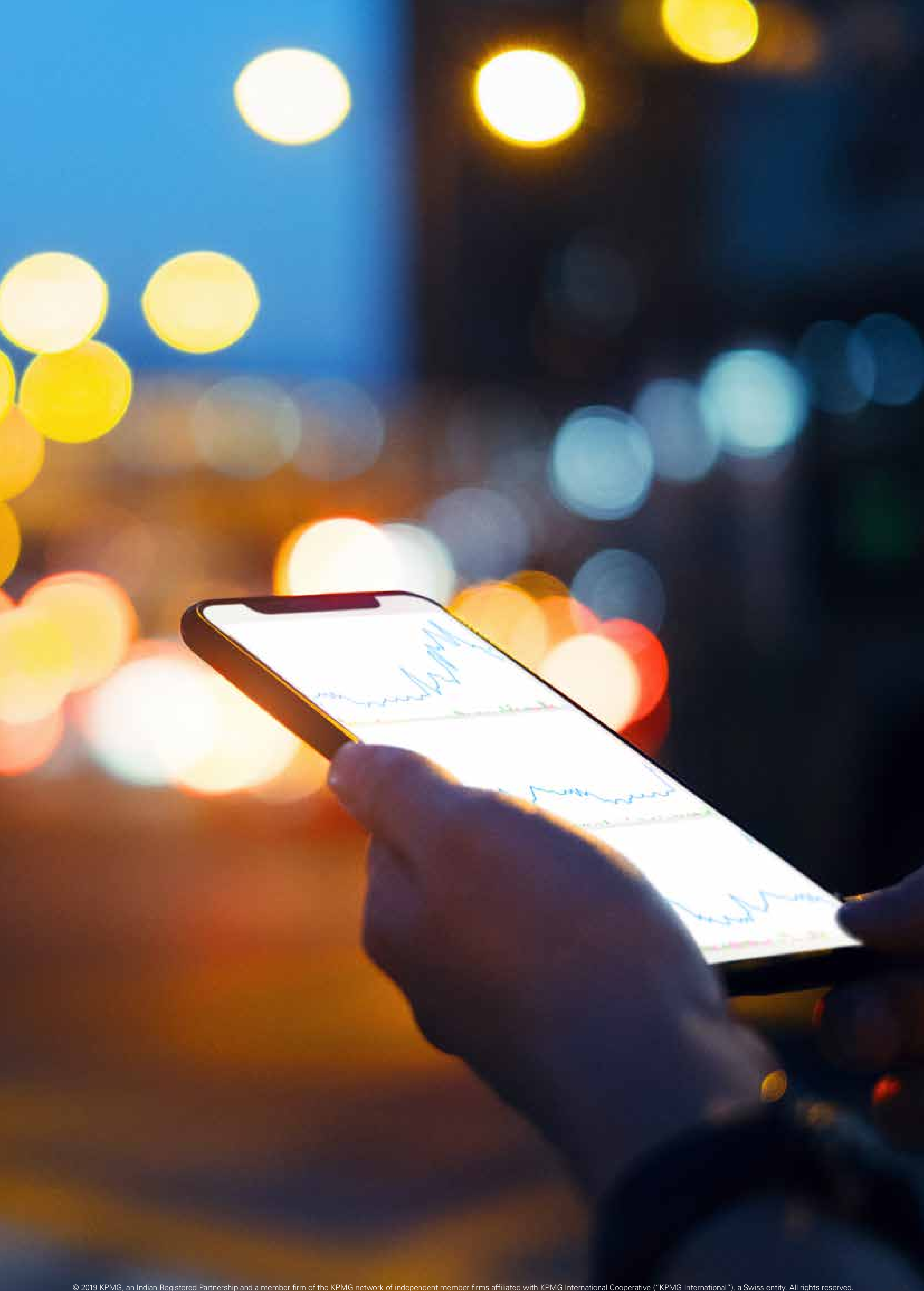
The real estate sector is gradually adopting technology to improve market access, efficiency, quality, delivery timelines, and customer experience. Emerging technologies have enabled digitalisation which are being integrated across the real estate value chain; right from project planning stages to end user engagement stages. Riding on the tech enabled disruptions, the Indian real estate sector is witnessing a significant rise in investments flowing to tech-based real estate start-ups in construction technologies (ConTech); property technologies (PropTech); digital business platforms, and 'shared economies' based real estate models. As conventional sources for real estate capital are increasingly coming under pressure due to slow growth life cycles, alternate modes of financing such as REITs have emerged, offering potential of creating a real estate asset focused substitute financial market. New age technologies such as Internet of Things (IoT), automation, cloud, artificial intelligence (AI), big data, augmented and virtual reality (AR/VR), blockchain and drones are increasingly finding applications across real estate business platforms. The focus on accelerating development of affordable housing, infrastructure by government coupled with the real estate sector's need for time and cost efficiencies in real estate project delivery; real estate financing and asset use optimisation are driving the emergent adoption of construction and property management technologies, proliferation of shared real estate models and emergence of alternate financing avenues.

With changing consumer lifestyles, rapid urbanisation and socio-economic-demographic evolution, end user expectations and experience requirement are also transforming rapidly. Technology and shared economic models have brought about time, cost, convenience and experiential efficiencies; transforming traditional real estate operational models and transaction practices. Increased focus on reducing costs; increasing user conveniences, improving end user experiences and outsourcing of generic services have fuelled emerging concepts of shared spaces and community living; reflected in the growing demand for co-working and co-living real estate spaces.

Disruptions in the real estate in India

As the real estate life cycle evolves to adapt to the disruptions and real estate developers strive towards improving financial management moving away from traditional financing such as debt, private equity, NBFC financing, etc.; alternate avenues for public investment and capital financing are opening up in the form of real estate investment trusts (REITs) and infrastructure investment trusts (InvITs).These emerging trends in real estate are becoming 'real disruptions' in the context defined above.

This paper intends to dig deeper into the five critical disruptions impacting the real estate industry in India today. The objective is to profile the evolution of disruptive changes, the models and mechanisms of disruptions, assimilate learnings demonstrated by the bringers of disruption, evaluate disruptions from an industry perspective and highlight future of disruptive transformation trends that can create potential opportunities for the real estate industry in India.



Technology and digital real estate platforms

Adopting technology interventions, a national movement is in motion for actively promoting digitalisation, embedding technology enabled construction efficiencies and enabling ICT-based infrastructure solutions through initiatives such as 'Smart Cities', 'Digital India', 'IndiaChain' and Global Housing Technology Challenge. Technology is redefining stages of the real estate business life cycle across financing, construction, operation and management, marketing, and transaction stages.

Technology enabled disruptions across real estate construction life cycle[1,2,3,4,5,6]

Land acquisition

- Drone mapping & Geographical Information Systems in land maps, density and land pooling surveys
- Blockchain and E-MIS streamlining land records
- Haryana and Telangana governments using blockchain and e- portals

Designing

- Building Information Modelling (BIM) used in designing efficient buildings
- Tech apps (Snaptrude) offer smart computer aided design software transforming hand drawn floor plan sketches into 3D BIM design

Construction

- Lean Principles, Cloud based Project Management, 3D print building designs etc. enabling time and construction cost savings
- A pedestrian bridge in Alcobendas, Madrid has been built using 3D printing

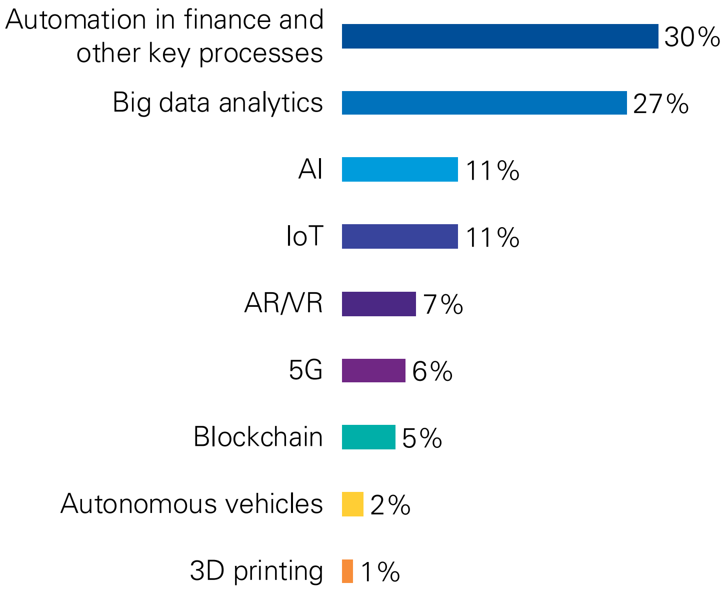
In the global context, technology disruptions are generally segmented into Construction Technologies (ConTech) and Property Technologies (PropTech) which are cited interchangeably due to overlapping synergies. However, at a finer level, these may be distinctly defined based on minor differentiators. We view the landscape of ConTech to include real estate planning, design, construction and project management technologies encompassing project management technologies, innovative building materials, evolving techniques such as prefabrication, material sourcing, building information modelling (BIM) and smart buildings, lean project management principles, cloud based project management, etc. focusing on technology and innovation enabled efficiencies in building construction and management. In parallel, we view PropTech to primarily encompass digital and technology business platforms such as online and mobile based real estate businesses, convenience focused consumer tech and real estate-as-a-service shaping up evolving real estate business models and services.

As per KPMG's global Proptech survey[7]; key ConTech and PropTech interventions such as finance process automation; artificial intelligence (AI), Internet of Things (IoT) integrated with Big Data and analytics integration are expected to affect immediate and significant business impacts. Other tech interventions such as 3D printing, blockchain, Virtual and Augmented Reality (VR/AR) are also viewed as disruptions expected to impact the real estate industry. In the context to business change impact, technology disruptions are expected to deliver promising upsides in improving customer experience, more than improving business's financial returns.

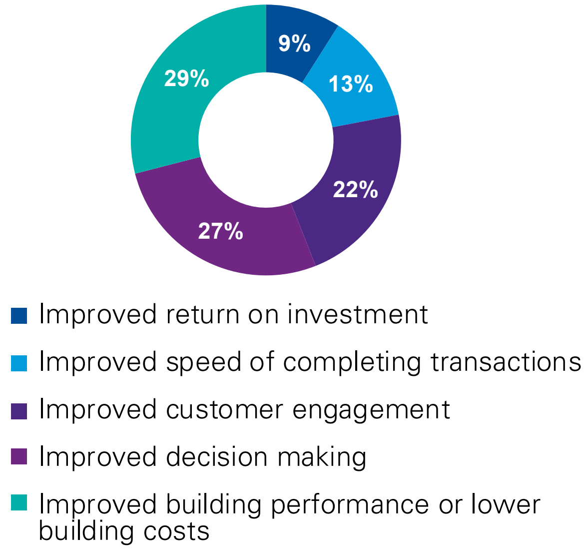
1. Telangana govt to use blockchain tech for securing land records, Livemint, 17 October 2017
2. Top 10 in PropTech: Current Trends in Real Estate Technology, SICOS, 05 October 2018
3. The 16 Most Interesting Advances in Construction Technology of 2017, Construction Junkie, 15 January 2018
4. The four technologies shaping the future of real estate, 02 October 2018
5. Don't Miss these 5 Real Estate Tech Trends in 2018, 22 January 2018
6. Using blockchain to make land registry more reliable in India, UNDP, 01 May 2018
7. Bridging the Gap, KPMG Global PropTech Survey, November 2017

Technology innovations in the real estate sector[8]

Which technological innovations will have the biggest impact on the real estate industry in the short term?



Which business improvements driven by digital/technology innovation will have the biggest impact on the real estate sector?



Entities across the real estate value chain are progressively exploring opportunities to harness emerging technologies to optimise real estate planning and operations, maximise customer ease of access/use, improve customer experiences, and achieving better environmental sustainability, thus transforming real estate into a more expansive, efficient and effective sector.

8. The road to opportunity, KMPG Global PropTech Survey, September 2018.

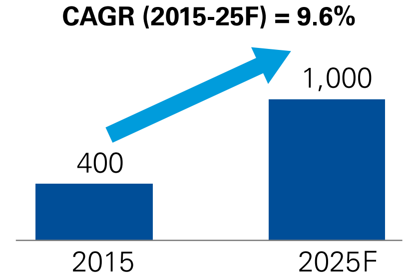
CONSTRUCTION TECHNOLOGIES – FUTURE READYING BUILT ENVIRONMENTS IN INDIA

The Indian construction sector is projected to touch INR50,000 billion by 2022, expanding at a CAGR of approximately 16 per cent, since 2018[9]. Rapid urbanisation, government-led infrastructure enhancements across smart cities, housing, education, healthcare, transportation, combined with increased foreign investor spends, shared economy models and improved regulatory reforms have been the key drivers fuelling the overall sectoral growth.

Construction sector in India: Macro perspective[10,11,12,13,14]

India building and construction market size

USD billion



India needs **an infrastructure investment of INR43 trillion** by 2022

GDP

GDP contribution to increase from 7 per cent currently to 15 per cent by 2030

Employment

To generate 75 million total jobs by 2022

Skill development

Target of re-skilling 25,000 unskilled workforce, primarily in the organised sector

Union Budget (FY20)

Additional tax deduction of INR1.5 lakh on interest on home loans for affordable houses

FDI (April 2000 – March 2019)

- Construction development: INR2,217 billion
- Construction infrastructure: INR938 billion

Infrastructure development

- 100 smart cities
- 5 industrial corridors
- 6 mega ports
- 50 new regional airports

Note: ^ Infrastructure sector includes power, construction development and construction activities *- first two months of FY18

*Note: The market size includes residential, commercial and infrastructure construction. USD to INR conversion done using 2017 average conversion rate (USD1 = INR67.809)

Source: Make in India, Invest India

9. Indian $738.5 Billion Construction Market Report 2018-2022 - Opportunity, Trends and Drivers, ResearchAndMarkets, 10 April 2018
10. Indian real estate and construction: consolidating for growth, KPMG, September 2018
11. Make in India and Invest India website
12. FDI statistics, DIPP, Accessed on 26 June 2019
13. Indian $738.5 Billion Construction Market Report 2018-2022 - Opportunity, Trends and Drivers, ResearchAndMarkets, 10 April 2018
14. Real estate and construction sector to generate 75 million jobs by 2022: Study, Business Standard, 19 August 2016

Technology adoption upsides and challenges in real estate sector

Upsides	Challenges
• Government of India's push towards affordable housing, urban infrastructure, sustainable buildings and smart cities • Rapid urbanization, favourable age demographics and rising income levels creating real estate demand • Increasing penetration of internet and smartphones pushing online transactions • Higher focus on convenience, cost saving, time to transact enabled by digital platforms and technology enabled transactions • Emergence of shared real estate models, new asset classes and efficient commercial space management	• Conservative industry mindset leading to resistance to change and adoption of digital technologies • Slow pace of adoption owing to cultural considerations, resistance towards completing high-value transactions online • Consumer preference for in-person interaction and reliance on intermediaries for major investment decisions pertaining to real estate • Myopic view of long term cost-benefits emanating from technology adoption

Demand for faster, more efficient and cost-effective construction has resulted in increased usage of innovative construction technologies. Globally, with the rise in construction costs (up by 5.6 per cent in 2018 and 5.5 per cent in Q1 2019), decline in construction workforce (by 12.9 per cent since 2007) and increasing wage bill (31.2 per cent hike on average), real estate developers and construction companies are heavily investing in proven construction technologies bearing potential to solve time, cost and skilling issues.[15] ConTech initiatives have the potential to usher a digital landscape utilising streamlined processes and assembly like mass production systems through the use of innovative materials and prefabricated standardised components developed off-site. Considering scalable technology solutions is a specialised task, several start-ups have emerged globally in the ConTech space; leveraging easily available investor funding to grow and partner with real estate developers for collaborative construction delivery models.

15. ConTech: Can it save CRE from rising construction costs?, JLL, 18 July 2018

Key ConTech interventions and use cases[16,17,18]

	Collaboration and Project Management Software	Offsite Construction and Precast Technologies	Cloud Based Project Information Systems	Building Information Modelling (BIM)
Technology	Real-time process monitoring and tracking reducing time delays and ensuring cost controls across project delivery stages	Faster assembly and centralized production resulting in reduced delivery timelines and costs	Virtual real time information exchange between multiple teams enabling operational cost cutting	Improves building management and use productivity by 20-30 per cent and energy savings of 10 per cent over asset lifetime
Demonstrated Benefits	A leading U.S. based construction contractor achieved an annual cost savings of USD100,000 and 25 per cent building time through use of construction management software	Precast construction in residential housing has proved to be time effective as projects are completed 15 per cent faster speed, partly offsetting time cost overruns during construction stage implementation	Real estate companies can reduce approximately 30 per cent of their IT spending by eliminating the need to maintain and manage in-house servers	A commercial centre in Finland utilised centralised BIM models, enabling quick design cycles, efficient transfer of data, greater control of construction process, reduced wastage and labour cost

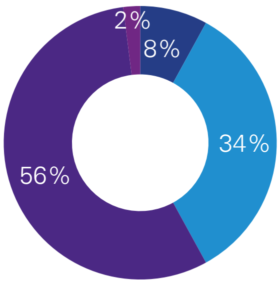
	Lean Principals Construction Management	Smart Building Solutions	Sustainable Building Systems
Technology	Combines integrated project delivery, BIM, Last Planner System, 5s, and Kaizen principles for lean management, maximising value and minimising waste	Uses combination of IoT connected devices, Cloud and Data analytics for real time interface and personalised end user experiences	Uses heat insulation, energy efficient fixtures, sensors, rain water harvesting, solar PV panels and data analytics within HVAC system designs
Demonstrated Benefits	A leading construction contractor used lean construction methods involving prefabrication, on-site dashboards and integration workshops to ensure 50 per cent faster construction and reduce costs by half	A leading microchip manufacturer created IoT enabled smart buildings in Bengaluru using ~9,000 tracking sensors to optimise lighting, occupancy, temperature, energy consumption in real time, saving USD ~645,000 annually	A captive commercial set up of pharma major in Noida has integrated green building concepts, resulting in 70 per cent lower energy consumption and operational cost savings viz traditional buildings

Evidenced from KPMG's global PropTech survey[19], past three years have been a turning point for stakeholders' perception towards use of technology in the real estate industry as players open up to disruptive shifts and move towards acceptance and adoption. As organisations mature digitally, they are investing in real estate technologies at a firm level instead of isolated silos, upskilling their manpower, and altering business models to exploit technology benefits. Though the consolidated perception is changing with majority players perceiving technology as an opportunity enabler, they struggle to pave a clear path to adoption for harnessing the power of technology.

16. Procore Case Studies, Accessed on 04 July 2019
17. NZEB website
18. NZEB website
19. Bridging the Gap, KPMG Global PropTech Survey, November 2017

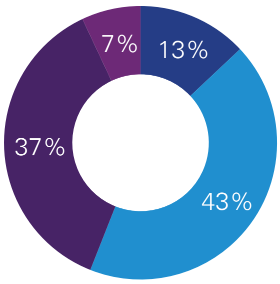
Real estate industry ConTech adoption: Ready but unclear[20]

How have the attitudes of those in the corporate real estate industry changed towards PropTech over the last 12 months?



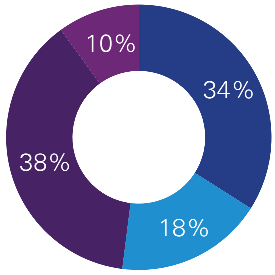
- PropTech still viewed as a threat
- PropTech still viewed as an opportunity/enabler
- PropTech increasingly now viewed as an opportunity/enabler
- PropTech increasingly now viewed as a threat

Where would you rank your organization with regards to digital and technology innovation maturity? (Zero is behind the curve, ten is cutting edge)



- 0-2
- 3-5
- 6-8
- 9-10

Does your organization have a clear digital and technological innovation vision and strategy?



- Yes, enterprise-wide
- Yes, within business units
- No, but we are currently working on one
- No

Relative to the global context, ConTech adoption in Indian real estate industry has just begun its journey. Despite being at a nascent stage, India may emerge as the leading market for ConTech adoption riding on growing demand for real estate across asset classes and the growing technology ecosystem. Demand for real estate remains strong owing to rapid urbanisation, increasing office commercial activity, and large infrastructure development initiatives such as smart cities and affordable housing projects. In contrast, labour costs are rising, skilled worker availability is weaning and demand for on-time quality delivery for real estate is creating pressure on developers.[21] ConTech is being adopted to ease delivery pressures across demonstrated instances and the ecosystem development is on the rise:

- **Prefabricated homes for easing affordable housing shortage:** close to 8 per cent houses delivered under PMAY scheme were built using precast concrete construction technology in Maharashtra, Gujarat and Andhra Pradesh[22].
- **Prefabricated structures for delivering infrastructure projects:** Prefab structures used across most metro rail projects in major urban centres to accelerate project delivery with limited interruptions.
- **Revamping cities into smart cities:** ConTech such as BIM, AR/VR, AI, Big data and analytics are being used to automate processes, improve operational efficiency and infrastructure management at city level, making erstwhile cities smarter cities.
- **Smart industrial corridors:** Big data, analytics, MIS and drones tech are being used to plan and monitor development of industrial and multimodal transport corridor projects to ensure efficient interplay of synergies.
- **Sustainable communities using IoT smart solutions:** Smart solutions used for real time monitoring and tracking of energy, water, air, waste, transportation and parking aspects for efficiency and sustainability of resources.
- **ConTech incubation and technology hubs:** Affordable Sustainable Housing Accelerators (ASHA) set-up to provide incubation and acceleration support for technologies in the affordable housing segment.

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20. The road to opportunity, KMPG Global PropTech Survey, September 2018. The KPMG Global PropTech survey 2018 involved 270 respondents and was conducted in June and July 2018. It had a wide mix of respondents from across regions, job role, and company type, with 60 per cent respondents from EMA region, 44 per cent respondents were part of senior management, and 31 per cent were developers.
21. Affordable housing in India with Precast Construction, NBMCW, February 2017
22. Is India's construction industry ready to build smart cities?, Deccan Chronicle, 20 November 2018

Global Housing Technology Challenge (GHTC)[23]: Leap forward in ConTech adoption

Objective

Government targets completing 10 million affordable houses under PMAY by 2022. Launched in January 2019 Central Government for adopting global construction best practices for delivering affordable housing at lower costs and delivery times.

Technologies Showcased

54 ConTech providers from 25 international countries showcased technologies in 3D precast volumetric, precast components assembled at site, light gauge and pre-engineered steel structural system, prefabricated sandwich panel system, monolithic concrete construction and stay-in-place formwork system.

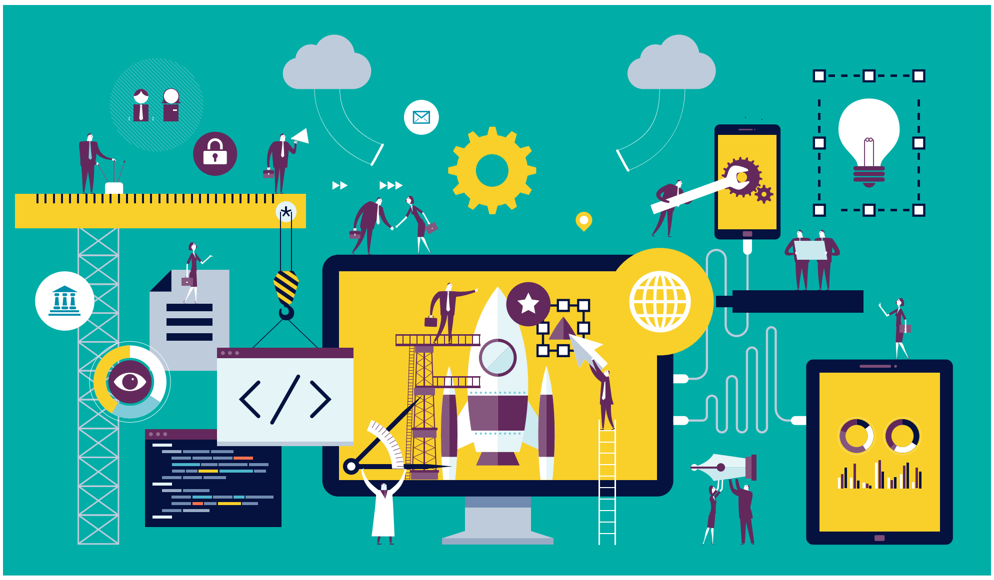
Adoption Status

Group of pilot cases – 'Lighthouse projects' launched using construction technologies offering faster construction, time savings, better resource utilization, minimized wastages, design efficiencies, light weight and environmental friendly materials, improved quality and durability.

Future Outcomes

Accelerated delivery of affordable housing projects, adopt cost-effective and replicable technologies for future urbanization, proliferate sustainable tech for environmental benefits and replicate use in other development interventions such as metro projects, and smart cities

Parallel to government led initiatives, private sector participants are also looking at the ConTech space aggressively with major participation from international ConTech players in India.



23. Technical Evaluation Committee report for shortlisting of proven technologies for participation in bidding for construction of light house projects, Ministry of Housing and Urban Affairs, 28 May 2019

Private developers have also joined the fray recognising the advantages offered by ConTech. One such real estate pioneer is the Brigade Group having established Asia's first real estate, retail and hospitality focused start-up accelerator programme called Brigade REAP[24], focusing on promoting ConTech start-ups.

Brigade REAP: ConTech platform in India[25]

REAP Platform

Identifies and nurtures start-ups focused on real estate technologies. Initiated interactions with more than 2,000 start-ups and mentored 24 start-ups across six pillars – business model, product, people, technology, go-to-market strategy, and scale.

Technologies Promoted

- IoT-based smart solutions: offering solution related to Smart homes, smart communities, smart cities, home automation, building management systems (BMS), analytics and enterprise data management, construction management
- Cleantech and Renewables: Alternate energy source use, waste and water management
- Nano technology: Lighter structures, stronger concrete composites, energy-efficient glasses and self-cleaning paints
- Visual computing: AR/VR, facial recognition and video security, surveillance, analytics

Demonstrated Benefits

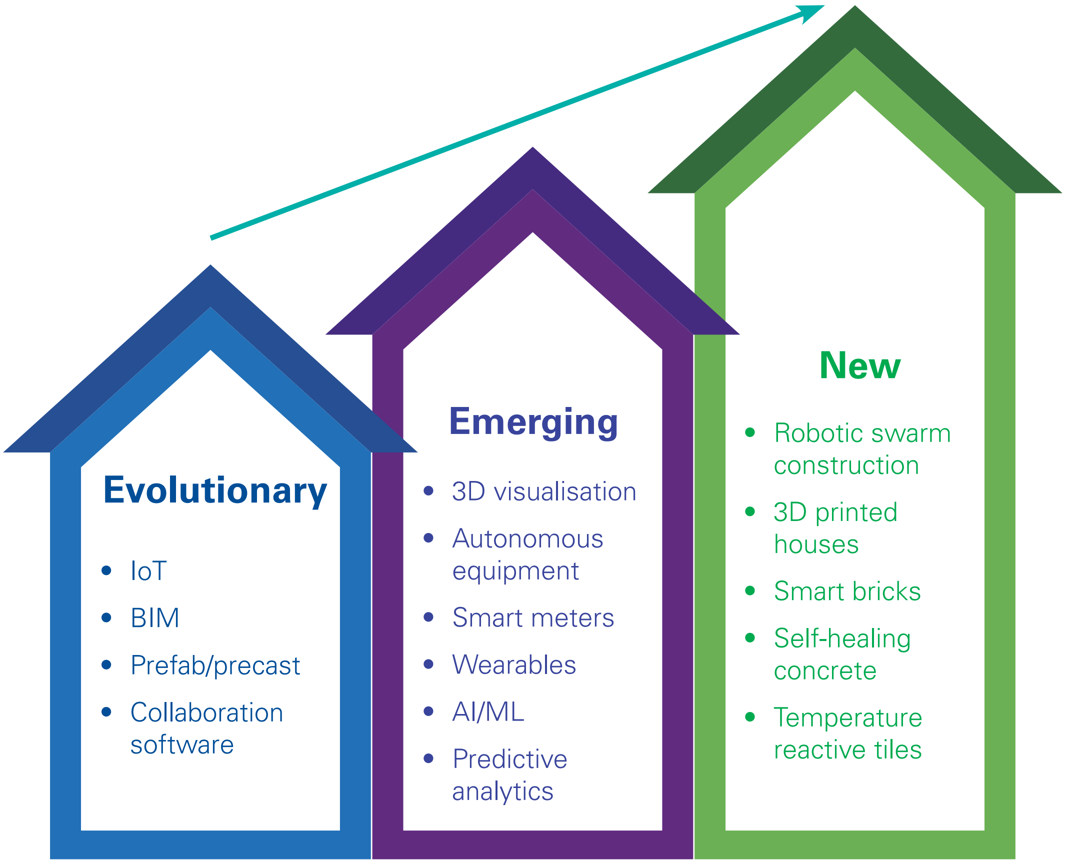
- Technology incubation for modelling and testing technologies for top 24 startups
- Average revenue increase of ~70% for mentored start-ups from use of ConTech
- Improved funding and investment reach with 40% start-ups being able to raise external funding
- Active integration of promoted technologies across major development projects such as Smart Cities Initiatives

Adoption of new age ConTech has brought in improved margins, increased sustainability and better cost controls for the real estate adopters. BIM processes are known to have reduced project errors by up to 61 per cent, reduced communication times by 55 per cent, and enabled higher quality projects by 52 per cent[26].

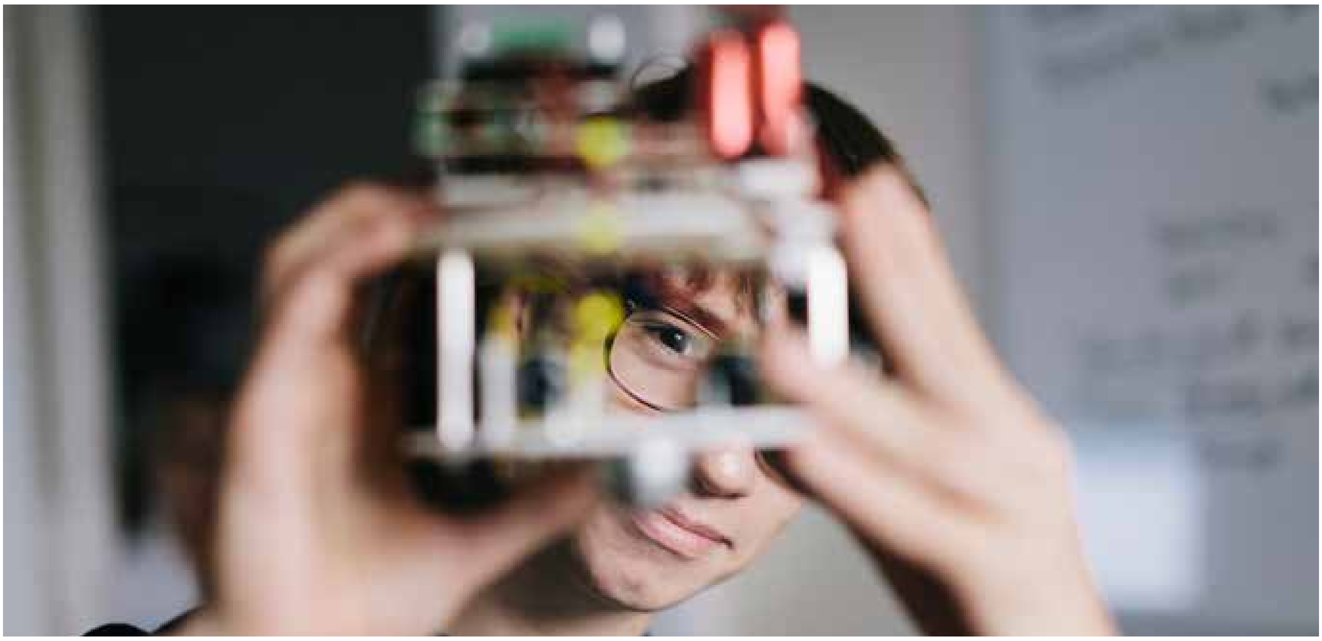
Going forward, the pace of ConTech adoption is expected to accelerate in India with the emergence of newer technologies in the ConTech space. The demonstrated benefits of advanced ConTech solutions in improving construction and real estate asset performance are widely known. As the construction and real estate industries evolve with the changing times, ConTech offering advantages of better product quality, speedy completion and low manpower reliance, efficient construction techniques is likely to gradually replace the traditional construction frameworks in India.

24. Bridge REAP website, Accessed on 27 June 2019
25. PropTech Market Map, Built World Technology Alliance India, Accessed on 4 July 2019
26. Technology is poised to disrupt the construction biz, realtyplusmag.com, May 2018

Future of ConTech disruptions across Indian real estate industry[27]



Accelerated adoption of technologies related to drones, AR, VR, 3D printing and robotics across ConTech processes related to advanced building information modelling, digital collaboration, advanced analytics, and internet of things are likely to completely transform the conventional businesses and bring about a paradigm shift in the real estate construction sector.



27. 5 Major Construction Technology Trends to Watch in 2019, Connect&Construct, 15 February 2019

DIGITAL REAL ESTATE BUSINESS PLATFORMS–VIRTUAL LEAD FORWARD

Erstwhile real estate business models relied heavily on personal interactions between intermediaries such as agents and brokers controlling interactions between buyers, sellers and financers across the value chain. With the proliferated adoption of technology across the value, a disintermediation trend has emerged, offering greater access, visibility, options and choices to end users at their fingertips. Our view of PropTech primarily encompasses digital and technology business platforms such as online and mobile based real estate businesses, convenience focused consumer tech and real estate-as-a-service shaping up evolving real estate business models and services.

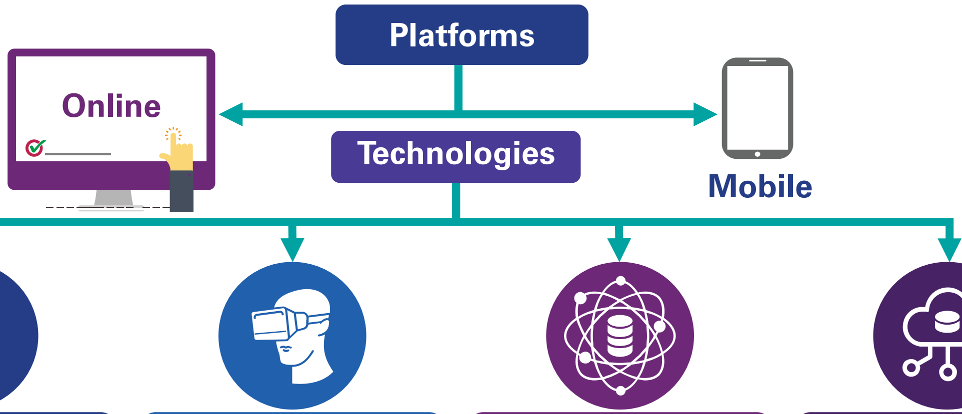
In this context, PropTech has acted as a major disruption for the real estate sector; forcing traditional businesses to re-evaluate their models for benefits, reach and effectiveness in reaching the end users. PropTech aids both consumers and real estate companies to research, buy, sell, rent and manage real estate transactions through online digital business platforms, consumer focused tech and provision of real estate as-a-services. PropTech has been a game changer to the conventional way of executing real estate transactions between real estate providers and real estate end users across varied multiple asset classes. The digital model disruption has diverted focus to service and experience differentiation in the real estate transaction process; through technology integration across product innovation, service delivery, consumer experiences, thus reshaping the conventional real estate transaction models.

Disruption cycle enabled by PropTech

Technology enabled digital real estate platforms are enabling better consumer experience, connected communities, ease of transaction, informed consumer decision-making, expansive geographic reach, better sales and inventory management. The observed impact of such digital interventions perfectly fits the definition of a disruption; cited on the onset.

Digital business platforms are progressing into value chain enablers facilitating faster data access, better data sharing, improved resource utilisation, consumer convenience; transaction transparency, increased margins from data analytics, eliminating the legacy issues related to multiple intermediaries and elevating customer experience. With increasing reach of internet and smartphone penetration globally, the landscape for digital business platforms has emerged two fold - online and mobile applications based business platforms. Across these segments, multiple PropTech such as IoT, AI, VR/AR, big data and cloud based systems is being employed to deliver tech enabled gains.

Real estate technologies and platforms



IoT / Digital servants

- IoT is facilitating informed decision making and multilevel connectivity, predictive maintenance and energy efficiencies across real estate assets
- AI enabled digital servants are driving automation of simple repetitive functions enhancing consumer experience and convenience within real estate

AR/VR

- Virtual home staging is rapidly gaining popularity, allowing buyers to envision a property without actually visiting the place
- AR/VR technology is enabling property developers to render real estate solutions and user experiences in a focused, client centric way

Big data

- Real-time data is used to extract insights on consumer preferences and behaviours for delivering instant & customized offerings
- Data is harnessed to generate clear insights on pricing, home-value trends, target demographics and potential properties for informed transactions

Cloud

- Ease of virtual access and ~30% cut in IT spending is ensured by using cloud platforms by real estate companies rather than maintaining in-house servers
- Sensitive information about buyers, owners, and prices can be effectively stored by implementing cloud services and accessed anywhere, anytime

Using varied platforms and technologies, the impact of PropTech disruptions globally has been far reaching; especially in the housing real estate segment. As per Forbes, 95 per cent of buyers globally access online platforms to search for homes, and 51 per cent buy homes found using online platforms.[28]

Opendoor Labs – Reforming real estate through PropTech[29]

Transformation

Business model

- Online direct home buying
- Purchases homes directly from the homeowner, designs and improves the built property, and lists it on the market at a mark up price
- Focus on Tier II cities   Phoenix, Dallas, and Atlanta

Technology

- Uses smart algorithms and data analytics to capitalise on the information gathered and expand into financing as well as addressing the pain points during the home buying and selling experience
- Utilises tech enabled solutions to increase efficiency

Impact

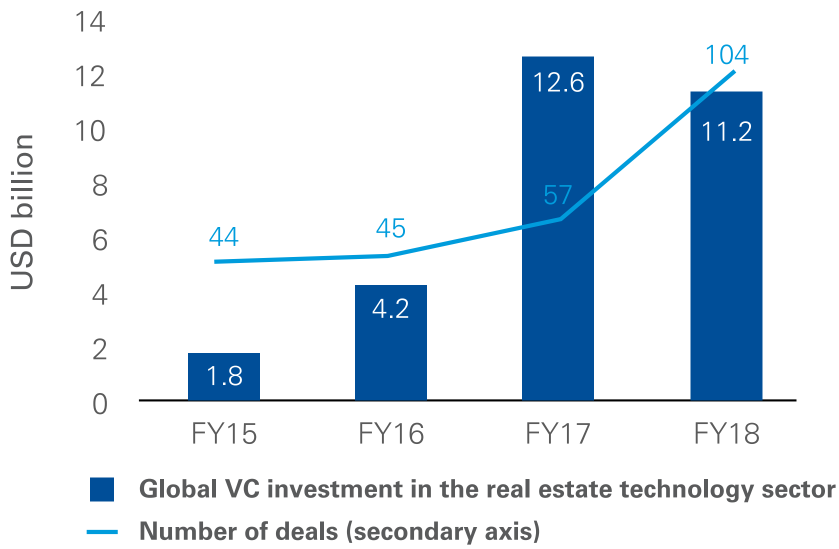
- Valued at USD3.7 billion
- One of the fastest growing start ups in the real estate segment, in the US
- Accounts for   3 per cent of home sales in Phoenix and Dallas
- Grew the geographic coverage from 6 cities to 19 in last one year, plans to have presence in 50 cities by 2020

28. Digital Transformation of Real Estate Companies, Kreyon, 27 March 2019

29. Bridge REAP website, Accessed on 27 June 2019

Digital real estate platforms are witnessing increasing market interest from end users and financial investors as e-commerce business platforms evidence positive growth. The global focus has now shifted towards online marketplaces, integration of digital technology, and innovative business models, which has led to the emergence of PropTech industry. The PropTech market is expanding at a reasonably fast pace, evidenced by heightened investment activity in the sector. PropTech companies raised USD7.8 billion investment between 2013 and 2017, comprising 179 PropTech start-ups. Over 60 per cent of these PropTech companies are located in the Asia Pacific region. As the demand for property tech innovative solutions rises, USD3 billion is expected to be invested globally in 2019 for the growth of PropTech companies.[30] M&A activity in the sector has also seen a significant increase in the last few years. Global VC investment into PropTech has been on a steady rise since 2015 though now consolidation trends are also emerging. Investors are looking at PropTech as the silver lining expected to drive the future growth in the real estate industry.

M&A deal count and VC funding in the global PropTech landscape[31,32]



Compared to global trends, the advent of PropTech in the Indian real estate sector has been a fairly recent phenomenon. Early PropTech businesses in India focused primarily on providing digital marketplaces for transacting residential and retail commercial real estate driving benefits of market reach and reduced intermediaries and transaction costs. Competition increased as a number of online real estate platforms came to the fore and consumers required greater access to real estate information for decision-making. This resulted in online real estate businesses improving service differentiation by providing additional visual perspectives and information features enabled by use of VR, AR and drone technologies. In parallel, increasing real estate transaction flows fuelled need for organised format real estate market information and data analytics – a major market gap peculiar to the unorganised fragmented nature of Indian real estate. Tapping into this untapped market need, PropTech data aggregators offering real estate market data services also emerged.

30. What is PropTech ? An introduction to Property Technology, PropTech Australia

31. Volume of real estate tech merger and acquisition activity worldwide from 2013 to 2018, Statista, Accessed on 28 June 2019

32. Volume of real estate tech merger and acquisition activity worldwide from 2013 to 2018, Statista, Accessed on 28 June 2019

Evolving Landscape of Proptech in India[33,34]

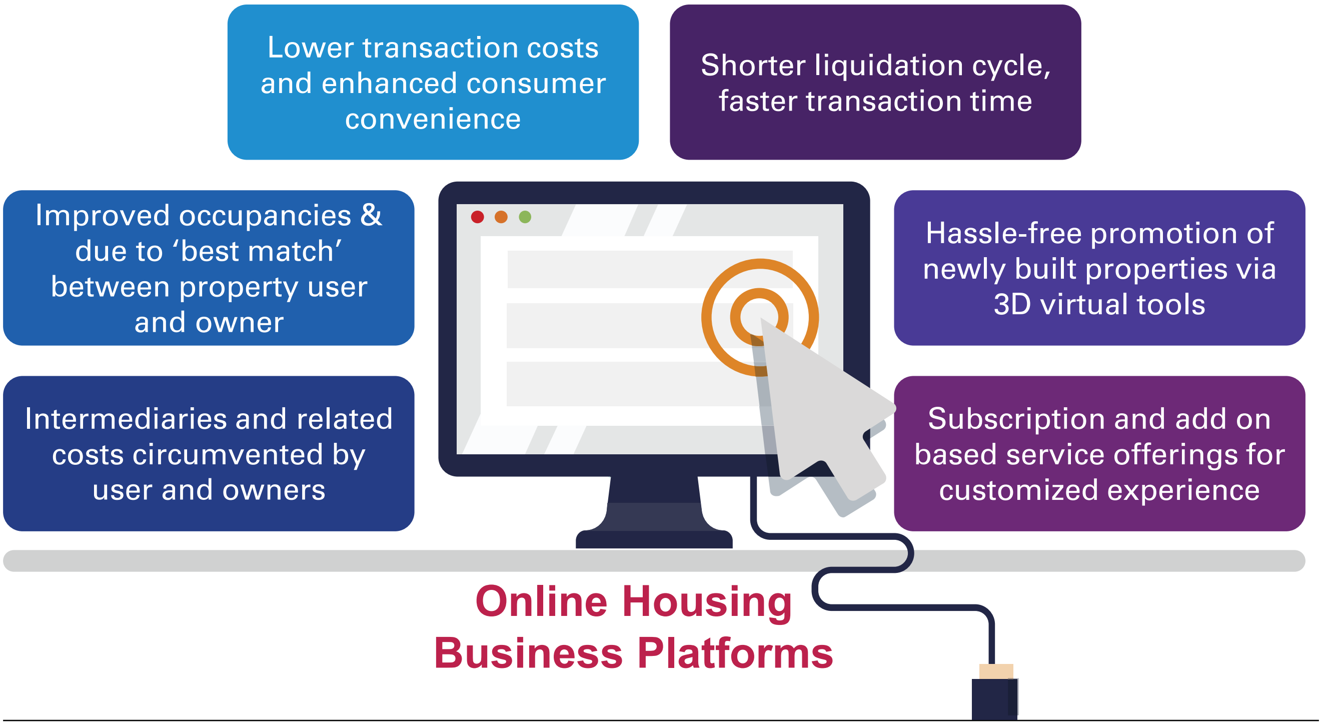
Early digital real estate platforms	• Magicbricks and 99acres were the early pioneers to offer online classifieds for real estate property listings. • Offered micro market specific listings for residential and commercial real estate within major cities • Directly connected end users to property brokers and owners
Proliferation of Online Digital Transaction Platforms	• Competing players adopted similar models for online property listings with differentiated services offerings • Major online portal operators included PropTiger, Housing.com and Makaan.com
Data Aggregators Real Estate-as-a-Service	• Real estate market information asymmetry led to emergence of centralized data aggregators and analytics platforms– providing customised research & data as a service via online portals • Online mortgage and financing platforms emerged in parallel to tap into the end user real estate financing services segment
	• Growing integration of VR, AR, drones, 3D visualization, big data analytics amongst online platforms to provide customized service; enhanced consumer experience for differentiation

33. Proptech startups see huge potential in Indian real estate market, The Week, 29 May 2019

34. Company websites

A majority of the PropTech businesses have remained limited to residential and commercial property segments considering the burgeoning housing shortage and rapid urbanisation, and urban migration trends. Housing search is one of the key focus areas for end users utilising PropTech enabled business platforms. Given the focus on housing, real estate industry is witnessing exclusive tie ups between digital business platforms and real estate developers to provide solutions around content creation, VR integration, and improved customer experiences.[35]

PropTech enabling benefits for housing business platforms in India

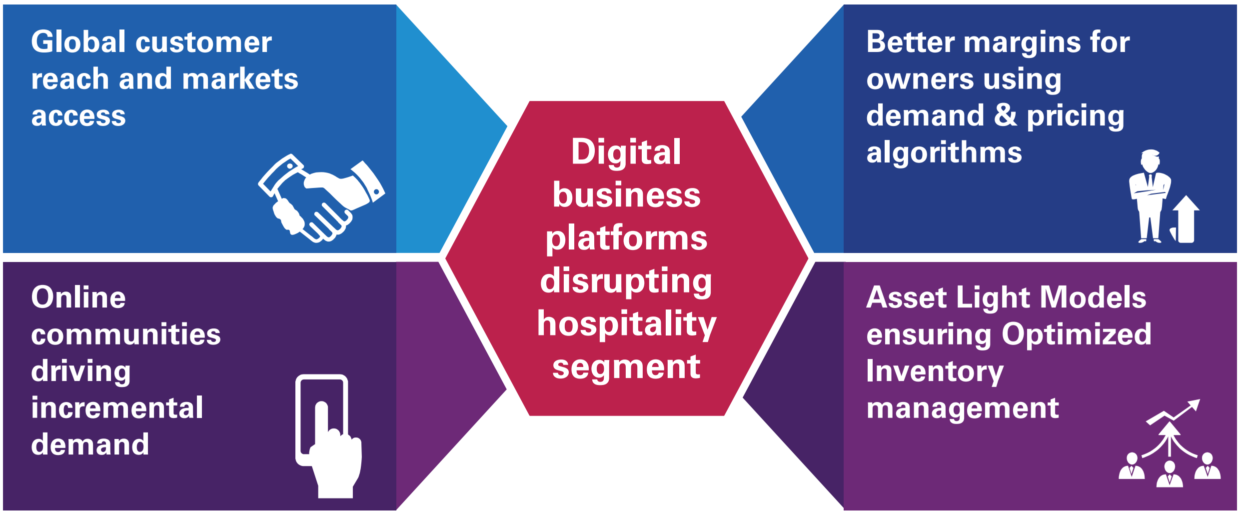


While Indian PropTech start-ups received USD242 million between FY16 to FY18[36] from an overall sector perspective, revenues of digital housing platforms are likely to grow at a double digit rate. Elara Technologies, the owner of three major realty portals in the country – Housing.com, Makaan.com and PropTiger.com, is advancing at more than 60 per cent year-on-year growth rate. It acquired home rental platform, FastFox, for INR10 billion in 2019.[37] Magicbricks recorded revenue growth rate of 74 per cent y-o-y in Q2 2019.[38] In 2019, NoBroker, a property listing portal, raised USD51 million to expand operations and deal closure rate[39]. Further consolidation is expected as larger players seek to gain technological and competitive advantage.

Though online housing real estate business platforms remained the drivers for expansion of PropTech in India, a new wave of PropTech led disruptions has been ushered in within the hospitality real estate segment. India has witnessed a prolific rise in penetration of digital platforms based hotel aggregators that have transformed the way consumers' access hospitality options. Capex light models providing reasonably good margins while also ensuring wide consumer market reach, convenience and optimised inventory management have been the key growth drivers for such technology enabled hospitality business platforms.

35. Housing.com partners with Tata Housing to develop digital platform, Housing.com, 27 December 2016
36. https://medium.com/KunalLunawat/the-future-of-proptech-in-india-84c06a513028 (Oct 25, 2018)
37. Housing.com parent firm acquires home rental platform FastFox for nearly Rs 100 cr, The Hindu Business Line, 01 April 2019
38. Magicbricks Q2 revenue up 74 per cent as double-digit growth continues, Economic Times, 27 June 2019
39. Real estate startup NoBroker raises $51M in Series C funding led by General Atlantic, Yourstory, 05 June 2019

PropTech disruptions in hospitality real estate[40,41,42,43]



Global

- Airbnb disrupted hotel industry by bringing the concept of renting private property as hotel alternative
- Enabled customized offerings unlike standard hospitality options across online and mobile platforms
- Creating a parallel competing hospitality market discounting pricing power of traditional hotel businesses

6-12 per cent service fees + 3 per cent processing fees + **USD31 billion valuation**

India

- Started as an asset light online hotel room aggregator; OYO Rooms has diversified into operating leased properties under OYO brand hotels through fully managed franchise models
- Created pan India network presence and unique budget hospitality proposition using small properties & boutique hotels

7 per cent increase in commission + **Raised USD1 billion in 2018**

The business models in the hospitality segment are fast undergoing changes, as operators look to increase the volume of properties under their ambit. In 2018, the mid-segment hotel market in India was estimated at USD4 billion, growing by 17 per cent year-on-year since 2015 and is projected to see similar momentum in the future, led by tech enabled hospitality aggregator platforms.

The future of PropTech enabled real estate businesses and digital business platforms looks promising. Adoption of PropTech and digital business platforms is moving away from just being an enabler; and is now considered a necessity for survival and growth. As real estate companies move into the future, a new phase of the PropTech revolution is on the horizon, bringing new technologies and associated business disruptions with them.

40. Bridge REAP website, Accessed on 27 June 2019
41. How OYO is working to become the world's biggest hospitality chain, one hotel at a time, 25 March 2019
42. Oyo now gets over 90% of revenue from hotels under franchise model, says CEO, Livemint, 18 January 2018
43. How Airbnb Makes Money, Investopedia, 27 June 2019

The new age: Future of PropTech[44,45]

Early PropTech

Focus on portfolio management

- Real estate institutions adopting technologies based on quantitative approaches for portfolio management and optimisation
- Closed form enterprise technology solutions such as CRM and SAP with limited communication or integration with external technologies

Before 2004

PropTech 1.0

Internet Led Online Models

- With coming of internet and mobile internet access, online real estate aggregators and real estate business portals emerged
- Real estate users adopted to online transactions due to ease of access, options, cost savings and market reach

2005 - 2010

PropTech 2.0

Innovating business models

- Evolved real estate end user preferences focused on convenience, ease, intermediary free transaction times
- Alternate real estate service providers emerge exploiting aggregation and shared economy concepts.
- Tech enabled focus on elevate user experience in renting, buying, selling, and use of real estate spaces

2011 - 2016

2017 onwards

PropTech 3.0

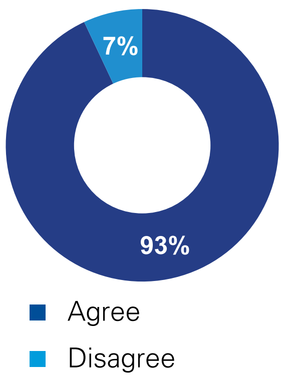
Leveraging next generation technology (AI, AR, VR, ML, etc.)

- Convergence of property and technology for driving automation based convenience, customized data for decision making richer end user experiences
- Real estate FinTech transaction platforms for customized financial offerings and trading of real estate ownership
- Smart real estate platforms for outsourced real estate asset & services management
- Virtual exploration platforms for remote asset use experiences & customized real estate solution offerings

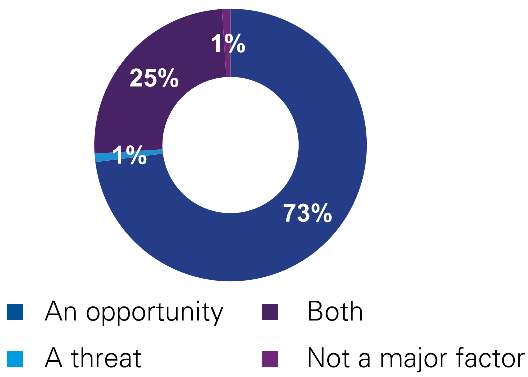
Emerging technologies like IoT, drones, AR/VR, and big data analytics are pegged to transform the way end users interact with real estate providers and experience real estate offerings. As evidenced by KPMG's Global PropTech Survey[46], majority of businesses view digital and technological innovations as an opportunity and resonate the need to engage with PropTech companies for coping with the ever-changing dynamic business environment.

Potential and challenges of PropTech: Industry perspective

Do you agree with the statement "Traditional real estate organizations need to engage with PropTech companies in order to adapt to the changing global environment"?



Overall, how does your company see digital and technological innovation?



44. Modernizing Real Estate: The Property Tech Opportunity, Forbes, 22 February 2019
45. What is PropTech ? An introduction to Property Technology, http://proptechaus.com.au
46. Bridging the Gap, KPMG Global PropTech Survey, November 2017

PropTech disruptions are here to stay, and real estate businesses today need to avoid short-sighted reactions. Instead, for harnessing the gains from such tech disruptions; real estate businesses need to build a holistic view and long-term strategy for integrating technologies across the real estate value-chain.

Critical success factors for enabling technology adoption in the real estate sector

1. **Establish dedicated team for implementing technology innovations ensuring continued use for solving real business problems**
2. **Develop digital and technology adoption strategy for leveraging innovation in achieving strategic business objectives**
3. **Create ecosystem to build relationships and drive strategy for stakeholder buy in across real estate life cycle**
4. **Transition from business focused to customer centric approaches driven by digital & tech innovations**
5. **Establish future vision and seek management commitment to drive tech initiatives**
6. **Focus on tactical and strategic business transformations enabled by digital & technology innovations**
7. **Continuously measure implementation outcomes and impacts delivered by use of technology and digital nnovations**
8. **Keep abreast with market disruptions and harness tech driven insights to evolve businesses**
9. **Imbibe learning culture for calibrating with emerging market and consumer trends**
10. **Adopt agile and adaptable business model frameworks**

In summary, digital and technology disruptions are affecting fundamental changes across the real estate value chain and real estate sector proponents need to keep up with the changing landscape. Real estate businesses across segments need to adopt a dynamic mindset towards approaching and adopting emerging digital and technology disruptions as these deliver higher efficiency, improved margins, sustainability, automation and cost saving for real estate developers. Businesses must act now to adapt and adopt emerging technology enabled disruptions for staying future relevant and for driving profitable survival.

Shared real estate models

CO WORKING REAL ESTATE MODELS: THE FUTURE OF WORKPLACES

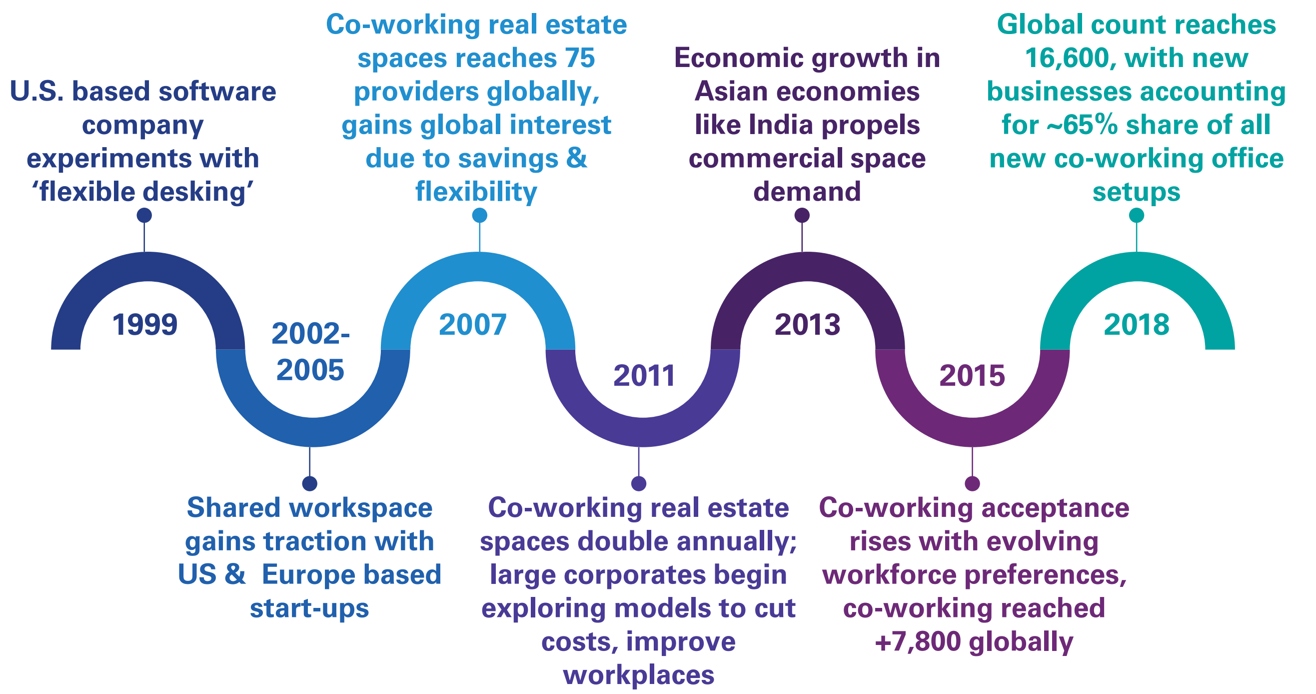
Co-working spaces are witnessing demand due to popularity with start-ups and SMEs as well as large corporates

The co-working real estate ecosystem features real estate space, used by individuals and corporate end users looking to share ownership, operations, equipment, ideas and knowledge. It offers users a fully-functional and furnished shared workspace with added advantages of use convenience, mobility and flexibility of scaling up or down.[47]

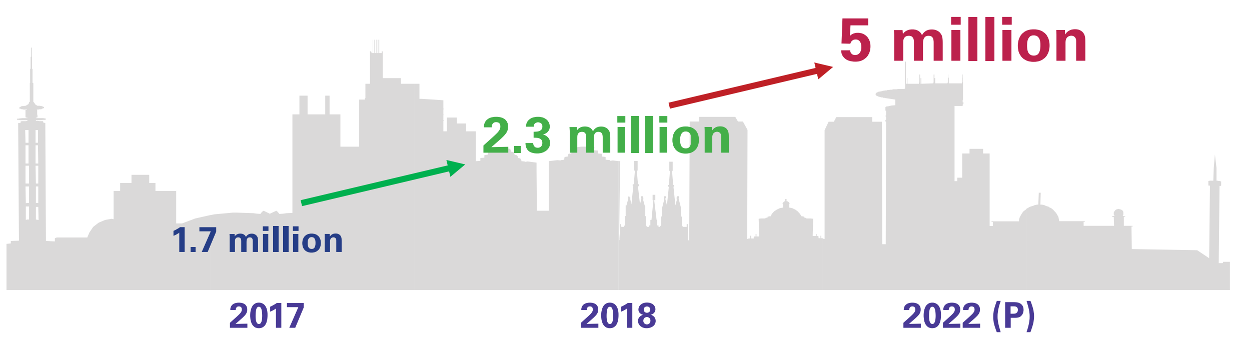
Unlike traditional commercial real estate models of ownership, co-working real estate provides a 'community' platform delivering significant cost savings and 'plug and play' operational convenience for real estate end users. Based on a shared economy concept, such workspaces offer shared amenities such as gymnasiums, spas, food courts, gaming zones, sleeping pods and crèche services in sync with changing workforce lifestyle requirements without the upfront large investment commitments typically associated with conventional commercial real estate business models. Moving away from ownership based real estate commitments, co-working real estate has created an altogether new real segment — *workspace as a service*.

The demand for co-working spaces is growing exponentially across large, medium, and small companies, driven by collaborative working approaches, one roof knowledge sharing ecosystems, modular smart workspaces used by start-ups and agility seeking corporate users.

Evolution of co-working real estate[48]



Co-working Real Estate Users Globally



47. A new era of co-working, JLL, 2016

48. A new era of co-working, JLL, 2016

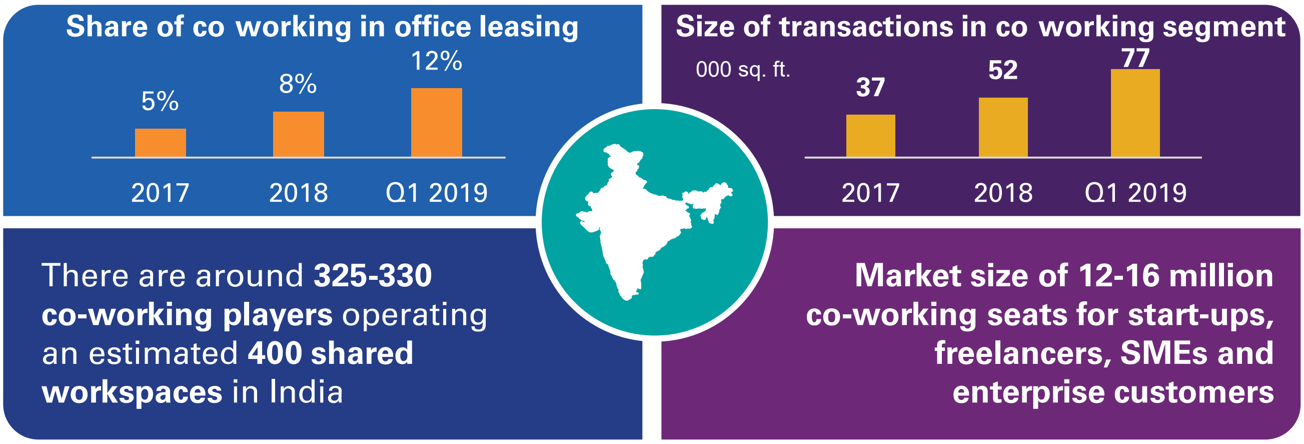
Emergence of co-working real estate in India began in 2013 and adoption of co-working spaces is fairly recent compared to global trends. The proliferation of global co-working operators led to expansion of the segment in India leading to the concept of co-working spaces gathering significant momentum.[49]

India's office space demand exhibits fastest growth rates globally with annual absorption averaging 33 million square feet. This demand for co-working in India is driven by growing no. of start-ups (>50,000) and SME's looking to exploit sharing economies and benefits of managed workspaces. The proliferation is augmented by strong economic fundamentals and positive investor interest in funding start-ups[50].

India market landscape: Second largest co-working market in APAC region[51]

Co-working in the top seven cities of India

(Delhi-NCR, Mumbai, Kolkata, Bengaluru, Hyderabad, Chennai and Pune)



Increasing penetration of co-working in tier I cities in India

Key Cities	Share of co working space (%) in total office leasing		Hotspots	Players
	2017	2018		
Delhi NCR	4%	9%	Hauz Khas, Gurugram	Innov8, UnBoxed, 91springboard
Mumbai	11%	14%	BKC, Andheri, Navi Mumbai	WeWork, The Hive
Pune	10%	1%	Aundh, Baner	Regus, The Mesh, IndiQube
Benguluru	3%	10%	Bellandur	WeWork, Awfis, BHIVE, Innov8
Chennai	2%	10%	Teynampet	Karya Space, The Works, Ikeva
Hyderabad	4%	5%	Begumpet, Banjara Hills	Collab House, 91springboard

Share of co-working space (%) in total office leasing

1% — 14%

49. Let's co-work India!, HDFC Realty, 2018

50. Co-working: Reshaping the Indian workplaces, JLL, 2019

51. Co-working: Reshaping the Indian workplaces, JLL, 2019

At present, the concentration of demand for co-working spaces is limited to metros and tier I cities though tier II cities also exhibit potential for expansion. Across top-tier cities in India, Mumbai accounted for the largest share of total office leasing in the co-working segment. Chennai recorded the highest rise in co-working spaces, while Delhi-NCR witnessed some of the largest co-working real estate transactions. Large corporate enterprises account for 60–70 per cent of the co-working real estate space clientele in top-tier cities, especially in Mumbai and Delhi. In contrast, the major co-working real estate users in Bengaluru, Chennai, Hyderabad and Pune comprise start-ups, SMEs and freelancers[52]

Occupier profiles and business models in use

As the co-working presence increases, stakeholders across the real estate landscape such as established real estate developers, start-ups, PE-funded retail developers and hospitality companies are exploring establishing their presence in the co-working segment. Several tend to adopt one of three typical operating models for using co-working spaces – i.e. sub leasing, revenue sharing and own and operate models, with each delivering its own unique advantages.

Typical co-working business models[53]

Sub lease	• The co working space provider signs a long-term lease with the property owner and then sub leases the real estate to end users. A commonly adopted model in India, this creates low risk for property owners due to direct rental incomes received from operator
Revenue sharing	• The property owner and a third party operator tie-up to develop a co-working space. Property owner provides initial investments and the operator manages the real estate spaces leased to end users • Lease revenue generated are divided by owner and operator as per agreed revenue sharing arrangement
Own and operate	• The real estate property owner creates and operates the co-working spaces • Least prevalent model considering property owners at large lack management expertise or are unwilling to diversify from traditional office real estate model

However, as the co-working segment is moving towards large presence of multiple companies, captive and consolidated sub segments are gradually emerging looking to scale-up using innovative and diverse business models.

Newer operating models for the Indian co-working ecosystem[54]

- JV between local real estate developer and international co-working operator
- Indian real estate developers setting up their own co-working SBUs
- Co-working operators acquiring other co-working start-ups
- PE-funded retail developers establishing co-working spaces
- Hospitality companies entering in the co-working segment

Cost savings, scalability, flexibility and ease of transaction are key drivers for corporates preferring co-working spaces

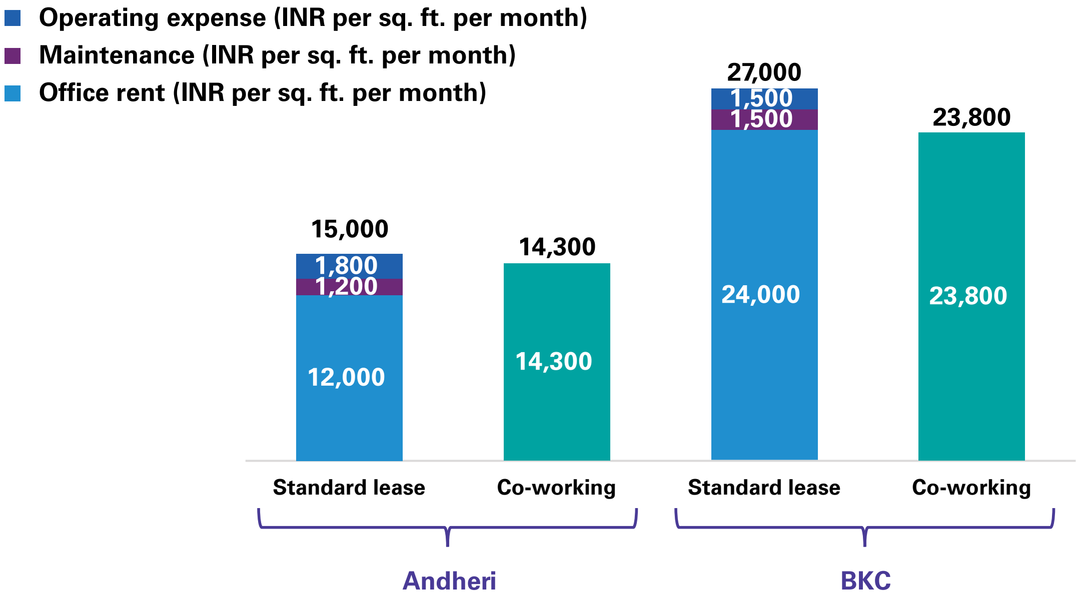
Traditional transaction for commercial office real estate involved leasing of bare shell structure to tenants on a medium to long-term basis. However, apart from leasing, other costs were also involved including payment of advance deposits, costs of interiors furbishment, payment of recurring maintenance and utility charges. With scarcity of quality commercial spaces in prime locations driving up leasing and associated costs, traditional commercial leasing transactions became expensive; not only for SMEs and freelance professionals, but also for corporate entities; considering leasing decisions often depend on business growth and revenue visibility. Real estate expenses contribute to around 9 to 12 per cent of the total operating cost for a large scale enterprise. Combined with working capital overheads, such costs are relatively higher for a small enterprises such as a start-up.

52. Over 13 mn People Will Operate Out Of Co-working Spaces By 2020, JLL, 31 May 2018

53. Let's co-work India!, HDFC Realty, 2018

54. Co-working: Reshaping the Indian workplaces, JLL, 2019

Co-working models: Cost benefit analysis (Monthly occupancy cost per seat (INR))[55]



Note: A single seat is assumed to occupy 100 sq. ft. in a standard lease

Due to cost savings, co-working real estate has emerged as a disruption compared to traditional leasing formats. Co-working operators offer flexible use and space options in line with tenant requirements wherein working desks can be booked even for a day or a week. Without committed long-term investments in commercial space leased in a particular location, the flexibility of switching offered by co-working models further helps with cost savings of 5–15 per cent per seat.[56] In top-tier cities, co-working spaces tend to typically deliver a 15–25 per cent reduction in fixed overheads as compared to traditional office spaces.[57]

Millennial and young workforce desire collaborative, vibrant workplace environments

In addition to the cost benefits delivered, flexible work spaces create a collaborative environment with shared amenities such as meeting rooms, food court, vending machines, break out areas, contemporary interiors; further attracting the young working population within corporates to co-working spaces. Considering the age of the Indian workforce; changing work lifestyles; need for vibrant flexible work environments and growing proportion of millennials in the workforce pyramid (46 per cent of India's workforce[58]); co-working real estate emerges as a preferred office space option creating an open vibrant work culture, promoting individuality and a sense of community. Catering to the evolving needs of the young working population, millennial generation working within start-ups, technology firms and creative companies; co-working real estate format checks all the right boxes. Considering India has one of the highest numbers of young entrepreneurs (72 per cent of start-up founders are below the age of 35 years[59]), co-working spaces tend to be an attractive option for office set ups.

Co-working operators in India are expanding, customising and innovating

The top five co-working real estate providers in India together account for 8.5 million square feet of operational space and plan to add additional seven million square feet by 2020 in tier I cities.[60]

55. Co-working: The office of the future, Knight Frank, 2018
56. Co-working: The office of the future, Knight Frank, 2018
57. Co-working: Reshaping the Indian workplaces, JLL, 2019
58. Co-working sector is hot, but what's fuelling the demand for "cool" offices?, Economictimes.com, 12 July 2019
59. India is youngest start-up nation with 72% founders below 35 years: Sitharaman, Daily Pioneer, 23 July 2016
60. Co-working: The office of the future, Knight Frank, 2018

Co-working real estate providers are also exploring alternative sources of revenue by converting open areas into event spaces to be used for yoga sessions, film shooting and skill development workshops, among others. The concept of virtual offices are being adopted for location free mobility of working professionals; allowing users to move and transition smoothly across work centres in different geographical locations. The use of data analytics by co-working spaces providers is being used to deliver insights to end users for improving workspace use efficiency and productivity.

CoWrks — Co-working pioneer adopting smart technologies to drive efficiencies[61]

Tenant profile: 80% corporates + 20% start-ups and SMEs

16 centres present across six cities

A major real estate developer, RMZ Group, launched CoWrks in 2016

A design-build-run strategy

25 per cent of space is managed offices i.e., customised tailor-made options for tenants

Equipped with intelligent technologies such as facial recognition, behavioural pattern and social interaction analysis

Expansion plans

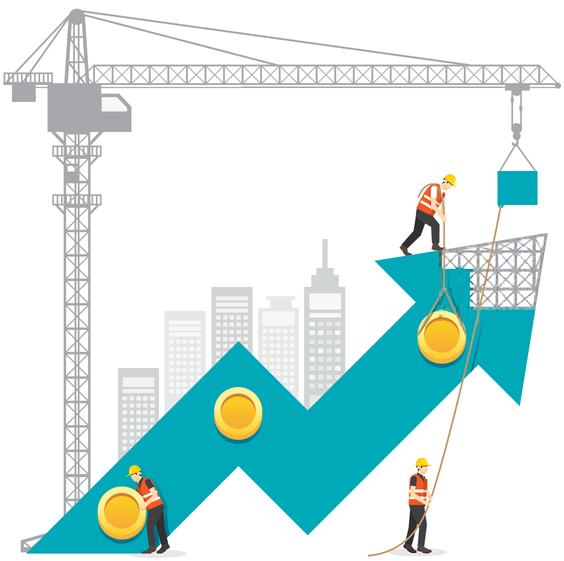
Foray into tier II cities such as Pune, Ahmedabad and Chandigarh

2 million square feet across 8 cities by end of 2019

Plans to open 100 more centres; 75 in India and 20 -25 in international markets

Leading co-working space providers are now introducing 'managed offices' or customised office space solutions for tenants to create value differentiation to counter growing competition. Co-working spaces are being built to meet specific real estate requirements of tenants regarding seating, cafeterias, conference rooms, internet, security, reception and power back-up. Utilising PropTech solutions, such companies are able to create a lucrative situation for self/space provider and the end users through occupancy optimisation, energy cost savings; addressing security issues and improving overall productivity.

Growing prominence of co-working businesses in India fuelled domestic and foreign investments and opportunities for co-working real estate operators to expand geographically, integrate new technologies, acquire competing businesses and target new clients.



61. WeWork versus CoWrks: How two real estate scions are betting big on the co-working space, Your Story, 12 June 2017

Funding inflow for co-working start-ups in India[62,63,64,65,66,67,68,69,70,71,72,73]

Year	Co-working operator	Investor	Investment inflow
2019	**Innov8**	OYO Hotel & Homes (Acquisition)	USD29.3 million (INR200 crore)
2019	**Incuspaze**	Small Industries Development Bank of India (SIDBI) (Collaboration for subsidised office space to MSMEs and start-ups)	NA
2019	**Workspace**	SmartOwner Capital Growth Fund	USD4.4 million (INR30 crore)
2018	**91Springboard**	FreakOut	USD10.2 million
2018	**IndiQube**	WestBridge Capital Partners	USD14.6 million (INR100 crore)
2018	**Corporatedge**	SIDBI India Opportunities Fund	NA
2017	**Awfis Space Solutions**	Sequoia India, Innoven Capital and The Three Sisters: Institutional Office	USD20 million
2017	**WeWork India**	Embassy Group (JV)	USD15.6 million
2017	**BHIVE**	Blume Ventures	USD1 million
2017	**Innov8**	LetsVenture & Venture Catalysts	NA
2017	**91Springboard**	Sandway Investment Ltd., Pearl Brook Holdings, AMA Holdings, Silo Holdings and Al Nour	USD20 million
2017	**InstaOffice**	Globevestor	NA

Co-working format is slated to emerge as preferred office set-up model in the future

With 42 per cent of the Indian population expected to work in urban areas by 2025 and cost economics becoming a critical factor for commercial office real estate investment, the demand for co-working spaces is expected to grow exponentially. With changing workforce styles and preferences for workspaces, organisations aspiring to draw talent, build an entrepreneurial culture and seek agility are bound to move with the co-working trend. The future of co-working in India looks promising with the segment anticipated to grow 40–50 per cent by 2020 with total leased co-working real estate reaching approximately 10 million square feet[74]; occupying 20 - 40 per cent of the total office space market in the next 5–10 years[75]. With increased competition in tier I cities, expansion is likely to continue in tier II cities for the coming two–three years, with eventual consolidation via buyout, mergers & acquisition modes. Many real estate developers are also stepping into the co-working space to cash in on the booming market.

62. News articles All sources need to follow the given format. Kindly makes changes across the paper
63. OYO Acquires Innov8 For INR 220 Cr In An All Cash Deal, Inc42, 15 March 2019
64. Incuspaze looking to raise USD 10 mn to add 10,000 co-working seats in FY'20, Business Standard, 03 June 2019
65. SmartOwner invests Rs 30 crore in co-working firm Workspace, The Economic Times, 25 April 2019
66. 91springboard plans capacity expansion, The Economic Times, 10 December 2018
67. IndiQube raises Rs 100 crore from WestBridge Capital, The Economic Times, 19 June 2018
68. Corporatedge starts new serviced office centre in Delhi with Rs 10 cr investment, Business Standard, 07 June 2019
69. Sequoia-backed Awfis gets $20 mn in equity funding, venture debt, VCCircle, 25 July 2018
70. Awfis FY19 revenue jumps nearly 3 fold to Rs 158 crore on rising demand for co-working space, Awfis Website, 07 May 2019
71. Embassy Group infusing $15.6 mn into WeWork India, VCCircle, 11 January 2018
72. Blume Ventures invests more in BHIVE Workspace, VCCircle, 06 June 2017
73. 91springboard Raises $20 Million Funding from Sandway Investment, Others, TechStory, 21 September 2017
74. What is driving the growth of co-working space in India?, Financial Express, 06 March 2019
75. Let's co-work India!, HDFC Realty, 2018

Future of co-working: Opportunities and challenges[76]

	Strengths	Weaknesses	Opportunities	Threats
Tenants/ End User	• Flexibility to scale up or down quickly • Ease of transactions dealing with single entity paying fixed fee for managed spaces • Better affordability and inter location mobility	• Security issues • Higher chances of interruptions • Privacy concerns • Limited customization • Dilution of corporate identity	• Greater responsiveness and agility to change • Collaboration opportunities • Expansion in tier II and III cities • Investment inflow	• Exposure to cost inflation, in terms of space, utilities and amenities
Property owners	• Optimized occupancies and utilization management • Low risk profile through tenant diversification • Use of technology analytics for efficient use of assets	• Occupancy churn • Irregular income streams due to lease closures	• Partnership and tie-up opportunities • Alternative revenue streams • Virtual offices and BTS managed spaces	• Possibility of operator failure • Competition from real estate developers adopting 'own-and-operate' models

However, the co-working segment still needs to sort out challenges that arise from its one-model-fits-all and shared space concept. With the rising number of new entrants in the market, it has become essential for operators to find a sustainable and scalable business model to remain competitive.

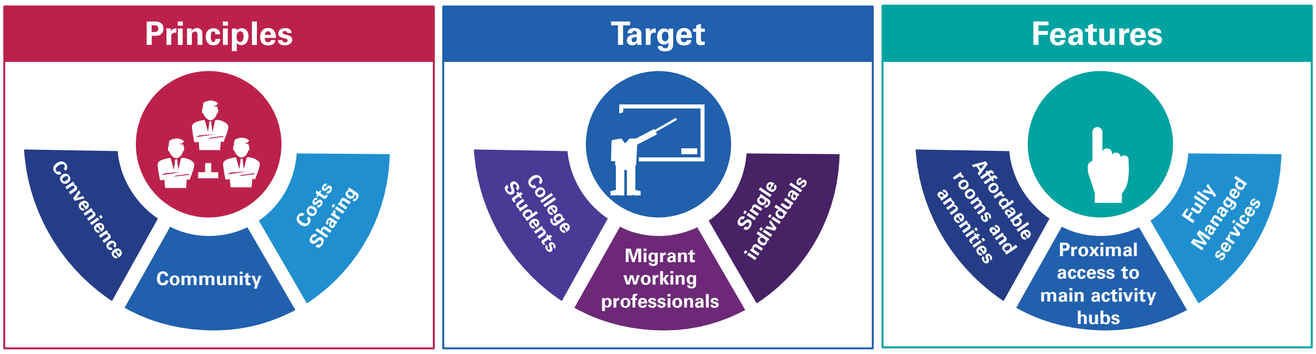
Co-working is fast emerging as a cost-efficient business model disrupting conventional commercial real estate business models. A dynamic business environment warrants flexible corporate work spaces, cost-efficient ownership and agile operations while the vibrant workforce requires substantial intangible work culture benefits from employers. With space scarcity pushing entities towards sharing economy concepts, co-working in India is expected to follow a similar path as other western and Asian markets. The future of co-working may see emergence of shared workspace specialists, growing presence of conventional real estate developers through own and operate models and service differentiation driven by customised end user experiences, virtual office set-ups, use of technology *(AI, Big Data, Analytics)* and effective workplace management solutions.

CO-LIVING: FACILITATING CONVENIENCE, COMMUNITY AND COLLABORATION

Similar to co-working in the commercial real estate sector, the rental accommodation real estate has witnessed a major industry disruption due to emergence of co-living real estate business models. Conventional rental accommodation arrangements involved property rental and paying guest models involving intermediaries, annualised rental commitments, security deposits, limited services offerings and community social interactions. In contrast, co-living spaces offer fully furnished shared living spaces, on a rental basis with multiple choices, managed services and reduced costs. An asset light model – co-living is characterised by flexibility, user convenience and community living concept. Co-living is proving to be viable solution for renting accommodation in a densely populated urban centres and around major educational hubs owing to shared economies and cost savings. Co-living models have brought about a paradigm shift in rental accommodation; offering a cost-effective and benefits driven alternative.

76. KPMG in India analysis

Features of a co-living lifestyle[77]

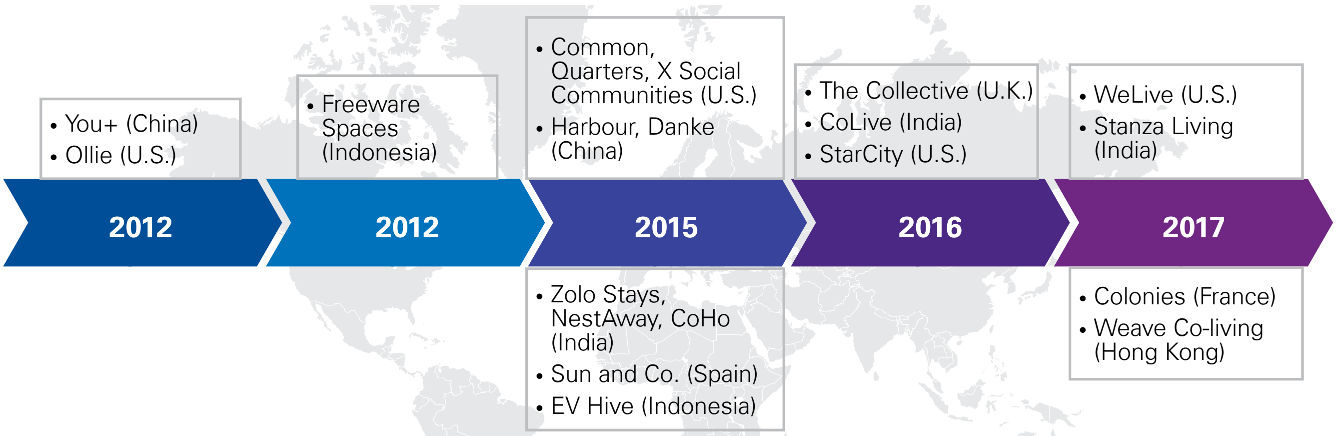


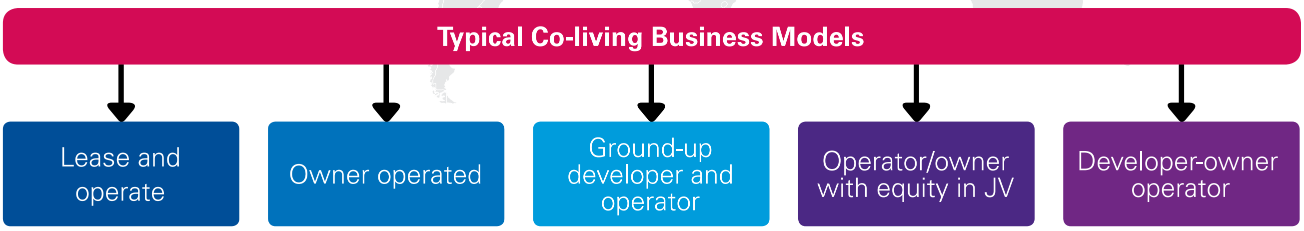
Co-living models can potentially replace paying guest accommodation, hostels, and rental apartments. Compared to traditional renting, co-living models create disruptions by offering easy access to quality rental accommodation, wider choices, convenience of use through managed services, social connects and shared cost savings without requiring long-term commitment from users. The tenants have to deal with only a single operator eliminating the requirement of intermediaries and pay only a single fee instead of paying separately for deposits, agent fees, utilities and other amenities.[78]

Increasing urbanisation, rising costs of urban housing, young millennial student population, young workforce lifestyle and limitations with traditional rental arrangements such as upfront security deposits, lock-in period, limited mobility, etc. have driven demand for co-living spaces. Individuals looking for cost-effective and convenient residential options for short to medium term timeframes within major urban centres are greatly inclined to opt for co-living solutions, especially in established commercial districts and educational hubs.

Catching on changing trends early on, co-living industry pioneers such as The Collective, Common, Ollie and You+ have already achieved occupancy levels exceeding 75 per cent[79]. Most such operators follow a lean asset-light model based on 'lease and operate' framework; partnering with real estate owners to lease properties and then operate and manage the properties against fixed lease payments, revenue shares or a mix of both.

Global evolution of co-living[80]





77. Co-living: Rent a lifestyle, Knight Frank, 2018

78. India a leader in co-living spaces in Asia-Pacific: Report, Housin.com, 17 April 2019

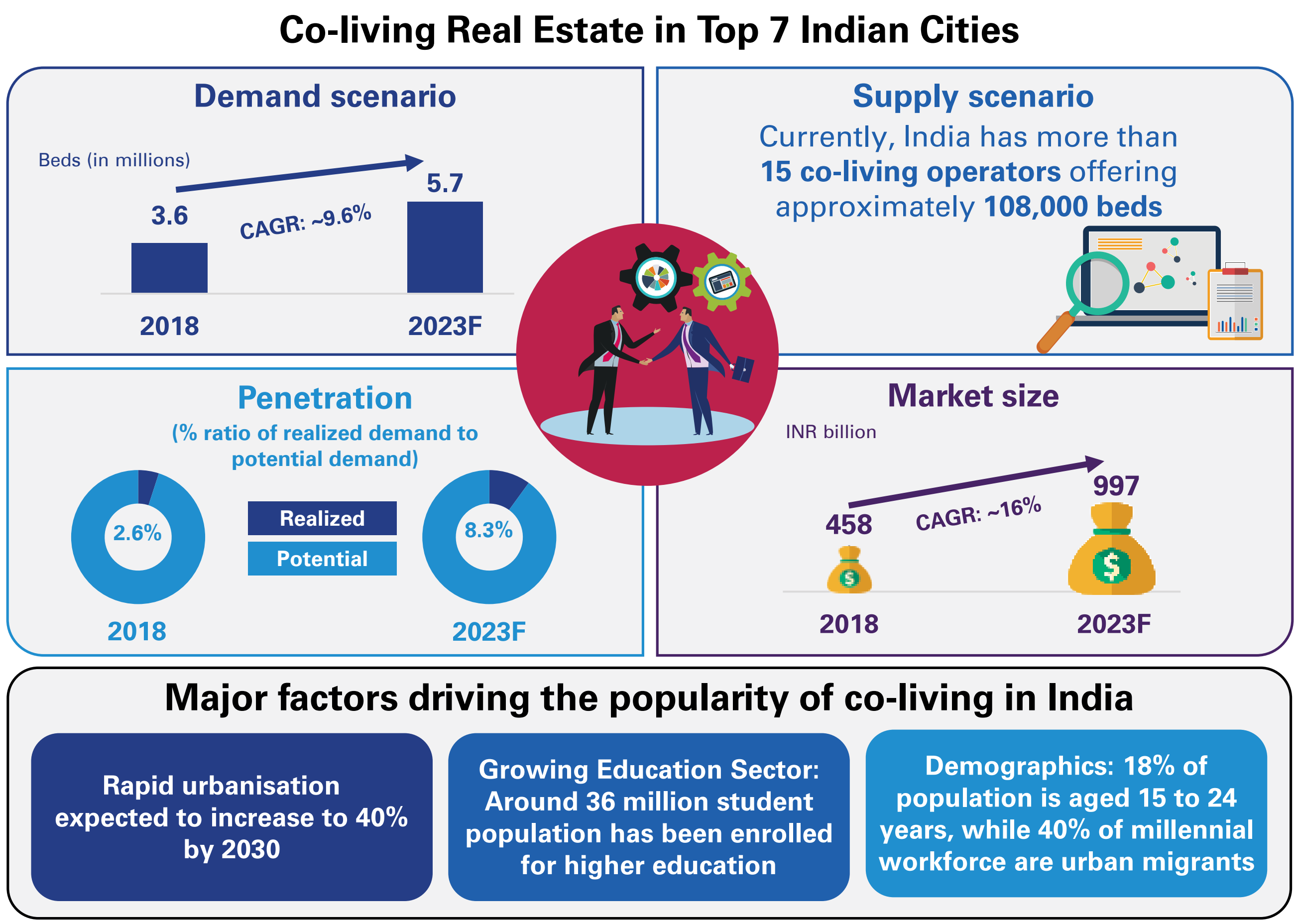
79. Co-living: Rent a lifestyle, Knight Frank, 2018

80. Co-living is winning tenants and landlords over from traditional leasing model, says JLL report, JLL, 11 April 2019

With co-living evolving as stable returns generating asset class globally, existing co-living operators are expected to increase their capacities by entering new geographies forging new partnerships while new operators also emerge to tap into the co-living real estate market opportunity.

The market for co-living real estate in India has recently emerged. In light of the inventory overhang in the Indian residential real estate sector resulting from increasing cost of property and the slowdown of residential sales (sales of houses in India in the first quarter of 2019 were at least 10-25 per cent lesser than the peak achieved in 2012-2015[81]), the co-living business models have the potential to offset the problem and create an advantageous arrangement for both partners – property owners/developers and co-living operators.

Co-living real estate landscape in India[82,83]



Unmet demand for student accommodation and increasing migrant workforce in urban commercial centres are the two core segments driving demand for co-living asset class in India

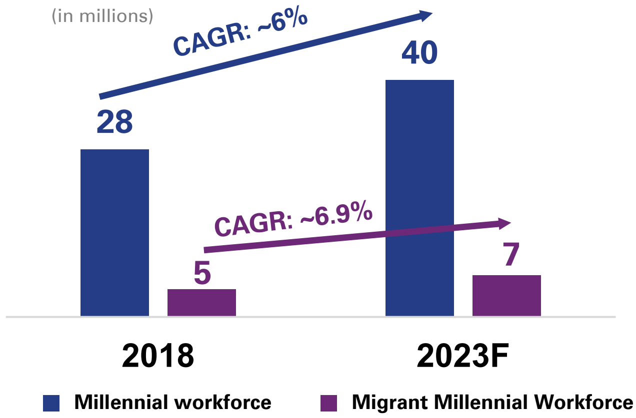
High proportion of young and millennial population, increased workforce migration to commercial centres coupled with fast paced urbanisation and rising rental prices for real estate are driving demand for co-living spaces amongst working professionals. As professionals become globally mobile and travel for work extensively, co-living models are preferred as these provide ease of switching/mobility without substantial investment commitment for renting accommodation. Restrictive cultural norms and societal challenges pertaining to renting accommodation to single individuals is also circumvented by co-living spaces, where the tenant is empowered with choice. As the migrant millennial workforce continues to grow, urban areas will continue to face housing shortage and rising costs of housing. In contrast, co-living spaces offer benefits of lower cost of renting, flexibility of mobility, community living experience, managed services and better overall quality of living spaces, thus continuing to attract working population even in the future.

81. Data hints at revival of home sales after 3 years of slowdown, The Times of India, 05 April 2019

82. Co-living: Reshaping rental housing in India, JLL-FICCI, June 2019

83. Indian Education industry receives impetus from international investors, India Blooms, 13 October 2018

Growth of migrant and millennial workforce in India[84]



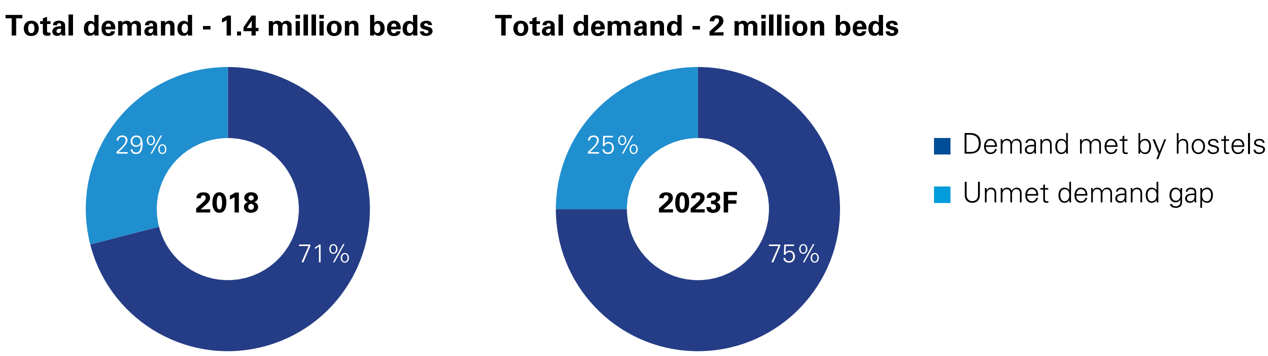
The growth of the education sector and strive for quality education had created large scale migration of students to established educational institutions typically located in major urban centres within tier 1 cities. However, the infrastructure growth and new developments around major education hubs, including Pune, Delhi, Chennai, Bengaluru, Kota, and Hyderabad, have been unable to keep pace with the increasing rate of enrolments.[85]

Students enrolment and educational institutions growth[86]

Students enrolled in higher education		Number of colleges providing higher education	
29 million	**37 million**	**34,852**	**39,050**
FY12	FY18	FY12	FY18

Student preferences for accommodation is also changing with times as students increasing demand for high quality vibrant living spaces with technological and recreational amenities. Enrolments tend to supersede capacity to accommodate the enrolled students within captive hostels, thus creating demand for rental student accommodation.

Widening gap between in-house hostel bed capacity and total demand for beds for student accommodation[87]



84. Co-living: Reshaping rental housing in India, JLL-FICCI, June 2019
85. Why student housing is gaining ground in India, Livemint, 10 June 2019
86. Education and Training Industry in India, IBEF, March 2019
87. Education and Training Industry in India, IBEF, March 2019

On-campus hostels have the capacity to absorb only 25 to 30 per cent of the total student population, leaving a significant demand gap for quality affordable student accommodation for pursuing education around colleges and universities. Most of this unmet demand is generated from tier 1 cities such as Delhi, Mumbai and Hyderabad.[88]

With increased spending capacities; student preferences are changing; altering the dimensions of student living spaces. Students now prefer well-designed service apartments with all modern amenities under one roof[89]. The new generation of student housing or co-living spaces is designed with the gen Y or the millennial generation in mind. Targeted at students, co-living spaces offer fully furnished, affordable and standardised accommodation solutions, comfortable study areas, modern amenities, entertainment spaces and managed services.[90] The lure of well-done contemporary interior designs, convenience of managed services and community based social interactions offered by co-living spaces trumps the proposition on offer from traditional hostels and paying guest accommodation. To address the growing demand from student and working population, a number of business models have emerged. Start-ups and hospitality players are entering the co-living space to cater to the growing demand for co-living.

Typical co-living business models[91]

Lease and operate

- Owner/developer provides space, while third party acts as an operator
- Works on a revenue sharing agreement between the two parties

Hybrid

- A combination of lease and operate and management contract models

Management contract

- Operators act as service providers and sign long-term agreements with property owners/ developers to manage and run the space as a co-living facility

Franchise

- The co-living operator provides its brand name, platform, training, and marketing capabilities to the property owner

Lease-and-operate has emerged as one of the most prevalent co-living model in India. Usually, if the owner redesigns and furnishes the space, a 50:50 revenue sharing arrangement is followed. Wherein co-living operator invests in redesigning and furnishings, the ratio changes to 70:30; favouring the operator.[92] Co-living operators focusing on just one target segment (either students or working professionals) usually opt for the lease and operate model. On the other hand, co-living operators that target both students and working professionals adopt a hybrid model, combining the lease and operate and management contract. This gives owners the flexibility of different options to choose from depending upon the location, risk appetite and expectations of returns.

The co-living business model offers operators an operating profit margin of 10 to 20 per cent, while the property owners get 6 to 8 per cent rental yields (two to four times more) at relatively lower risk compared to other residential assets. The model also offers cost convenience to its tenants by being in sync with the purchasing capacity and willingness of Indian millennials.

88. Indian Education industry receives impetus from international investors, India Blooms, 13 October 2018
89. From PGs to co-living spaces: How student accommodation is changing in India, Business Insider, 31 July 2018
90. The evolution of the student housing sector, Savills, 27 May 2014
91. Co-living: Reshaping rental housing in India, JLL-FICCI, June 2019
92. Co-living: Rent a lifestyle, Knight Frank, 2018

Co-living success stories[93]

CoHo

- Evolved from a listing platform to a **hybrid co-living operator**
- **IoT sensors** to monitor water levels, electricity usage and appliance health monitoring
- **An exclusive app for online concierge services and partnering with brands** in F&B, optics, transport, movie, and health segments
- **Tailor-made dorms for college students** with study labs, recreation areas and commuting options to colleges

Zolo Stays

- Adopts all four business models based on requirements
- Focusses on community aspects via online (gamification) and offline (events) initiatives
- **Two different offerings: Zolo Standard (economy) and Zolo Select (premium)**
- **An internal procurement system to facilitate décor, appliances, etc., at a reduced rate**
- Charges 50 per cent more as a brand premium, than market rentals, thereby benefiting property owners

Rent yielding asset classes on the investment radar

Major institutional investors and venture capital firms are actively showing interest in the co-living segment as companies such as Sequoia, Warburg Pincus and Goldman Sachs are investing in setting up presence in India.

Key transactions in co-living real estate[94]

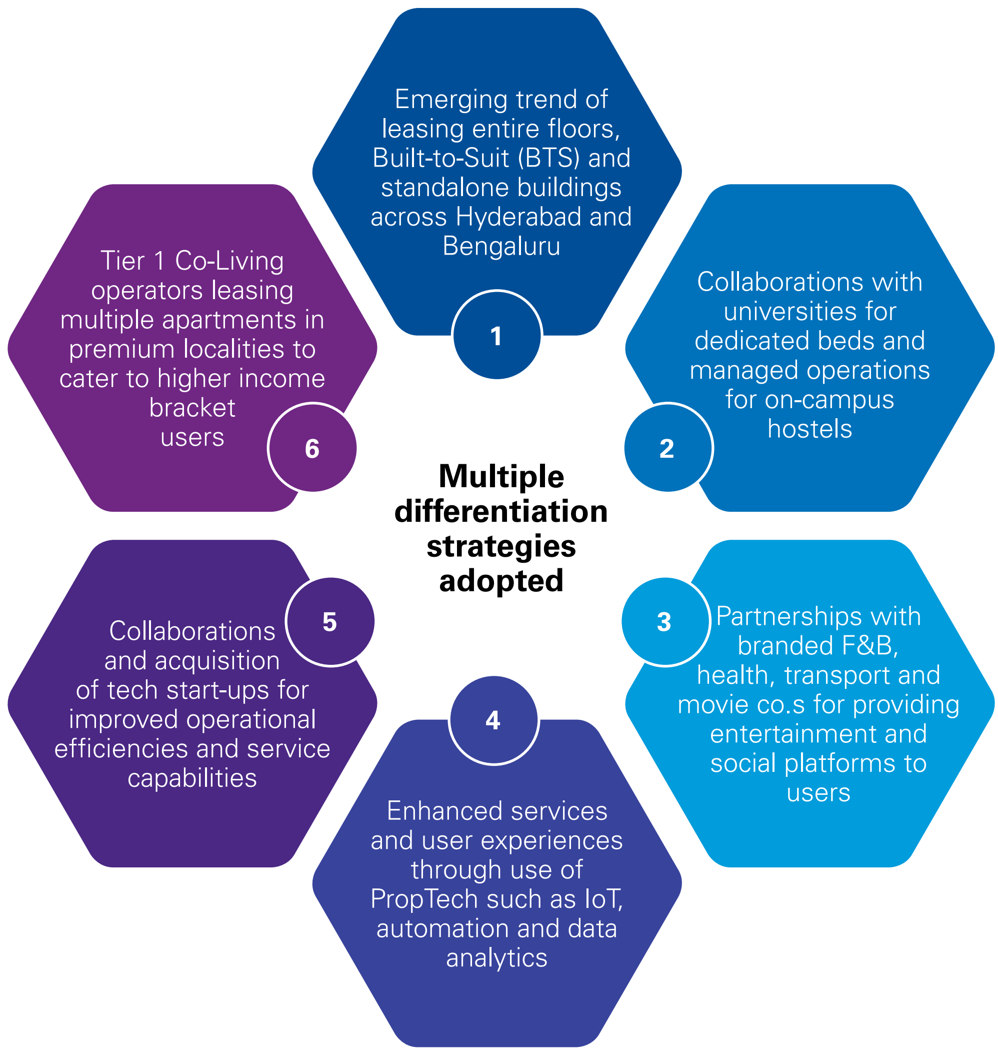
Year	Co-living operator	Investor	Investment inflow (USD million)
2019	**Housr Technologies**	Abhishek Lodha, Pirojsha Godrej and Harsh Patodia	**30**
2019	**OxfordCaps**	Times Internet	**8**
2019	**Grexter**	Venture Catalyts	**2**
2019	**Zolo Stays**	IDFC Alternatives, Mirae Asset and Nexus Venture Partners	**30**
2018	**Lemon Tree Hotels**	Warburg Pincus	**570**
2018	**Stanza Living**	Sequoia Capital	**4**
2018	**NewDoor**	Housing Development Finance Corporation	**10**
2018	**NestAway**	Goldman Sachs and UC-RNT Fund	**51**
2017	**Placio**	Prestellar Ventures	**2**
2017	**NewDoor**	Goldman Sachs	**28**
2016	**Zolo Stays**	Nexus Venture Partners and Innoven Capital	**5**
2016	**NestAway**	Tiger Global, IDG Ventures India and Yuri Milner	**30**
2015	**NestAway**	Flipkart, Tiger Global	**12**

93. RIP hostels and PGs, the 'beauty with brains' of rental living is here, Your Story, 23 May 2016

94. Co-living: Reshaping rental housing in India, JLL-FICCI, June 2019

To gain a competitive edge and attract investment, co-working operators are differentiating through premium offerings, partnerships, technology and personalisation.

Emerging differentiation models in co-living[95]



To continue on the exponential growth curve, the co-working operators will have to overcome challenges[96] related to streamlining supply with demand, counter unorganised segment competition, create value proposition to compete with build to-sell models and explore sustainable business models to achieve economies of scale.

95. KPMG In India Analysis
96. From dharamshalas to online portals: India's co-living sector's tech makeover, QZ.com, 29 January 2019

Co-living: SWOT analysis[97]

Strength	Weakness	Opportunities	Threats
• Stable demand growth • Low risk profile • Large investment inflow • High occupancy	• Competition from unorganised segments • Limited alternative use of space • High turnover of tenants due to short-term agreements	• Expansion into tier II and III cities • Integration of digital technology • Inflow of international students • Partnership with universities	• Increased competition • Slower rental rate growth

As co-living evolves in India, the segment is expected to become a USD93 billion market by 2023[98]

Considering the quantum of conventional home rental and paying guest, real estate being currently used to cater to growing student and working population rental accommodation market and the inventory overhang faced by the residential estate sector in India; co-living concept is expected to emerge as a major business disruption. As the rental accommodation market transitions to organised formats, the co-living segment is expected to replace the conventional rental housing model and expand beyond tier I cities and major educational hubs across India.

Future trends in co-living in India[99]

Real estate developers to construct built-to-suit spaces and apartment complexes that will cater exclusively to co-living requirements, primarily around Tier I cities and IT hubs	Unorganised and conventional rental players partner with incumbent co-living operators
Existing co-living operators expand to tier II and III cities by appropriately customising the change in requirements	Global co-living players enter the Indian market, either through franchise model or tie-ups with local operators

With co-living operators customising service offerings to the millennial generation with 'rent a lifestyle' experience, higher investment inflows are expected to continue, driving the growth of this segment in future years. Targeting stabilised occupancies and renewal rates seem critical to creating sustainable profitable business models for co-living operators. In the next growth cycle, co-living segment is expected to witness increased traction with entry of international operators, newer operating model alliances, and expansion across untapped geographical markets.

97. Co-living: Reshaping rental housing in India, JLL-FICCI, June 2019

98. The rise in co-living, The Hindu, 24 May 2019

99. Co-living presents the next multi-billion dollar opportunity for start-ups, The Hindu Business Line, 17 April 2019

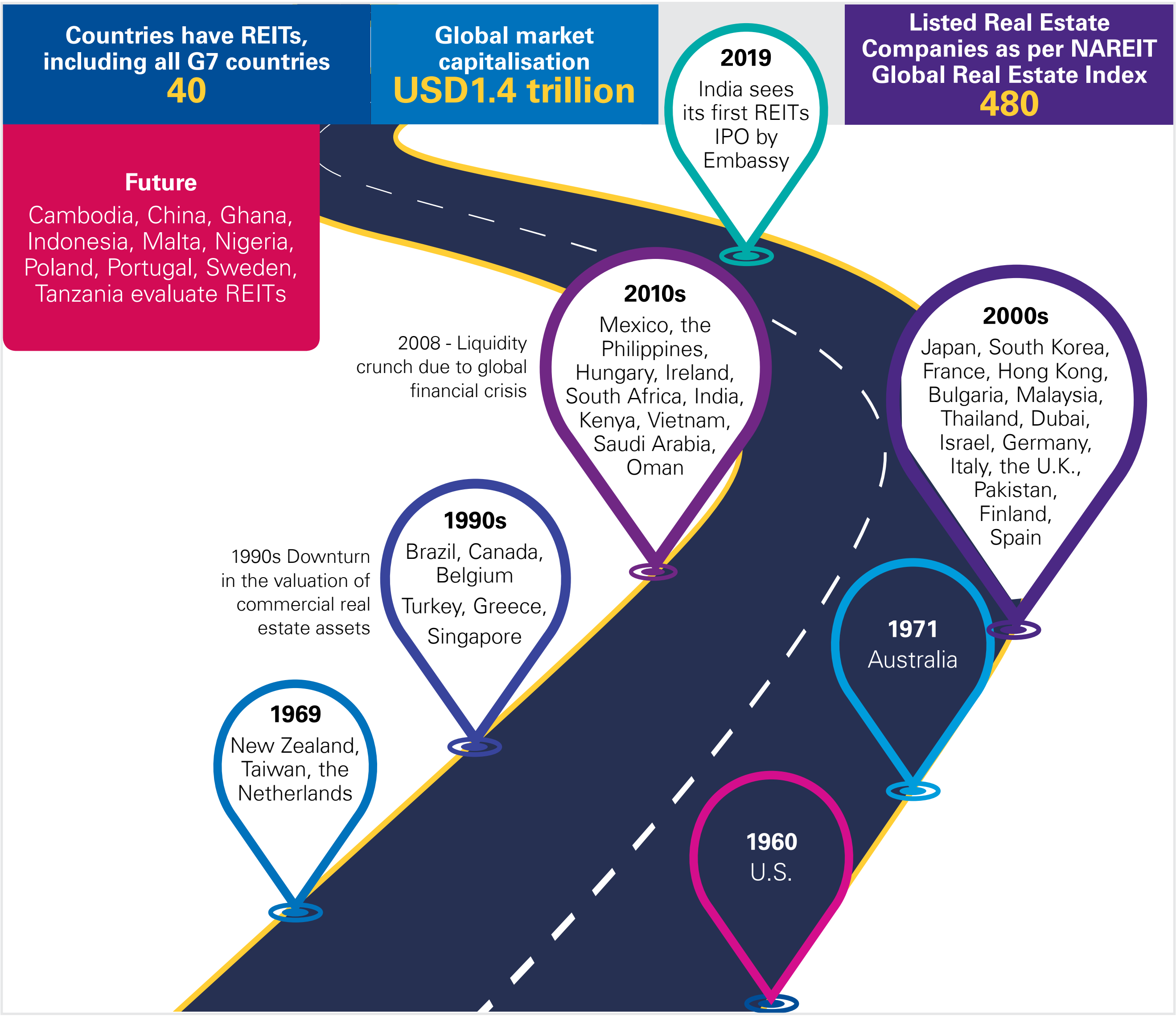
REITs: Alternate financing substitute to real estate

REITs are fractional real estate ownership mechanism, modelled on mutual funds concept where the underlying income generation is linked to real estate asset revenue yield. Liquidity, fractional real estate ownership, asset portfolio diversification and long-term capital appreciation are key benefits offered by REITs. REITs are resilient to the continuously changing market dynamics and have delivered attractive returns averaging 9 per cent even in low interest rate global environment[100]. REITs are tax efficient investment instruments with easy exit options from a real estate asset ownership perspective. Conventional real estate financing is edging to life cycle maturity, as equity, debt, mutual funds and NBFC financing is gradually becoming ineffective to fund real estate growth. In view of the real estate sector in India grappling with liquidity pressures; REITs offer promising potential to substitute conventional financing mechanisms; in effect disrupting the real estate funding landscape.

REITs/InvITs evolved from a need for alternative investment instruments in the real estate sector[101]

Real Estate Investment Trusts (REITs) were first conceptualised in the U.S. in 1960; to facilitate investments into diversified real estate asset portfolios while providing an alternative investment avenue for fractional real estate ownership for its investors. Starting out with logistics real estate, the REITs market has matured encompassing a wide variety of real estate types such as retail, residential, hospitality, office, industrial, healthcare, and real estate mortgages.[102] Since inception, REITs have expanded in size, impact and market acceptance globally, panning 40 countries and reaching market capitalisation of USD1.4 trillion.[103]

Global evolution of REITs[104]



100. REITs: Think Local, Invest Global, Cohen & Steers, 2017
101. NAREIT website, Accessed on 16 July 2019
102. Blueprint of a successful REIT, Wolters Kluver, 2018
103. NAREIT website, Accessed on 16 July 2019
104. NAREIT website, Accessed on 16 July 2019

Typical underlying real estate asset classes for REITs have been commercial, retail, residential, hospitality and industrial real estate. Many countries have replicated the U.S. REIT model with a few customised legislative frameworks to ensure smooth functioning in their own country. Developed economies have expanded asset classes and indicate higher share of diversified REITs compared to developing economies. Over the course of REITs adoption, varying unique asset classes and mechanism emerged across different economies accelerating REITs uptake[105]:

- ***REITs in U.S.:*** no minimum capital requirement, no mandatory listing requirement, no restriction on foreign ownership and unique underlying asset classes such as data centres, mortgage-based and hybrid/ exchange traded REITs
- ***REITs in Australia:*** stapled securities comprising one security with varied combined or 'stapled' assets. Unique asset classes such as retirement homes, rural properties, education and storage real estate
- ***REITs in Singapore:*** started with one asset class in the country, expanded outside Singapore diversifying into high quality underlying asset classes due to tax reforms. Unique underlying asset classes such as ports and storage facilities
- ***REITs in South Africa:*** Stringent asset-related regulations introduced to avoid REIT structures straying away from real estate investment, no taxes levied on property-related incomes encouraging investors to take the REIT route.[106] Unique underlying asset classes such as factories and industrial warehouses
- ***REITs in the Middle East:*** Provide investors secured cash flow by restricting property under development to less than 30 per cent of the net asset value (NAV), limited gearing to 50 per cent of the gross asset value to avoiding excess leverage.

Emergence of REITs in India

Before 2005, the restrictive regulations in the real estate sector limited the sourcing of funding to banks and private investors. The sector opened up for foreign investors in 2005 bringing new investments avenues and investment inflows. The capital inflow in the sector skyrocketed and reached USD14 billion in 2008.[107]

Primary sources of funding to the real estate sector

Till 2005 (Pre-FDI regime)	2005-2008 (Post FDI regulation)	Till 2005 (Pre-FDI regime)	2005-2008 (Post FDI regulation)
• Private lending • Bank lending	• Private lending • Bank lending • Foreign institutional financing • Mutual funds • PE funds • NBFCs	• Private lending • Bank lending • PE funds • NBFCs	• Private lending • PE funds • NBFCs

Due to the 2008 global meltdown impact, financing in the Indian real estate sector regressed as both global and domestic investors withdrew funding; drying investment inflows from capital markets and banking institutions. High risk credit exposure to the real estate sector due to rising non-performance assets (NPAs), higher risk provisioning and increasing losses worsened the situation. Private Equity (PE) funds, pension funds and Non-Banking Finance Companies (NBFCs) injected much-needed liquidity to the sector. Compared to in 2010 where one-fourth of total funding to real estate came from these sources, nearly 75 per cent funding today is attributed to these sources[108]. The advent of demonetisation, GST reforms and RERA implementation together brought about significant liquidity shrinkage impacting conventional financing means. With limited avenues to boost liquidity, financing instruments such as REITs offer potential for raising real estate financing. REITs is an alternate financing catalyst for addressing shrinking liquidity and recessive investment cycles plaguing the Indian real estate sector.

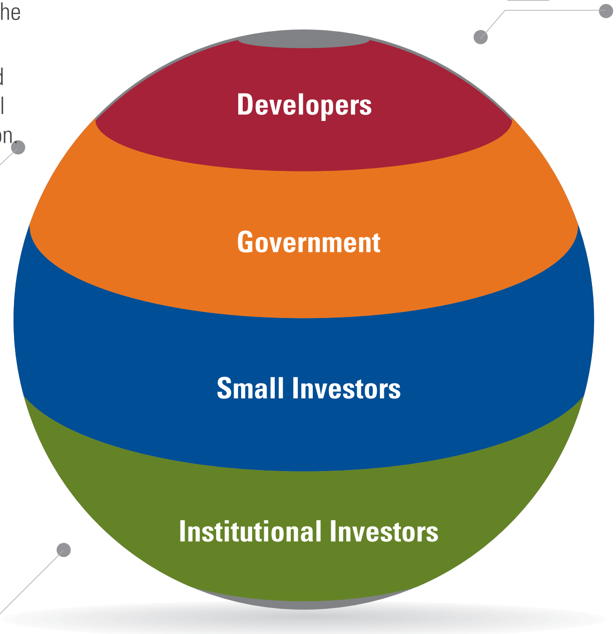
105. NAREIT website, Accessed on 16 July 2019
106. The Key Success Factors in the Development of the South African REIT Market, Java Capital, September 2018
107. Realty saw major change during 2005-14: Report, Business Today, 05 September 2014
108. Indian real estate and construction: consolidating for growth, KPMG, September 2018

These alternative sources of funding have the potential to disrupt the real estate financing market, solve the liquidity issues and help the sector realise the long-term benefits of the regulatory and fiscal reforms.

REITs: A real estate financing market disruptor[109]

- Increasing the revenue for the government
- Funding through REITs could help facilitate other key real estate policy implementation

- Exit opportunity for existing PE players, developers and financial institutions
- Alternate financing mechanism
- REITs would play a great role in attracting large institutional long-term investors such as pension and insurance funds



- Improves liquidity in the real estate sector
- Easy funding mechanism available for mid-tier developers with low credibility in the market

- As real estate is capital intensive, REITs allow investment at lower ticket size thereby available for the masses.
- Transparent investment climate with oversight from professionally trained management
- Easy of entry and exit in the real estate sector

REITs is an alternate financing catalyst for cash-strapped developers to address shrinking liquidity and recessive investment cycles in Indian real estate sector

REITs Benefits for Real Estate

Attractive investment option

- Structured financing option for retail investors
- Stable income stream for long-term funds, such as pension funds and insurance companies
- Less risky and more liquid

Increased transparency

- Better corporate governance due to disclosures and reporting standards laid down by the regulator
- Higher professionalism due to tax and operational transparency practices

Addresses NPA problems

- As a vehicle for sale of non-performing assets (NPAs), helps realise the true value of assets and increasing profitability of financial institutions

Organised asset ownership

- Provide organised ownership in real estate projects
- Creation of an integrated property business model

Alternate Capital Source

- REITs provide better capital access: debt and equity, public and private, domestic and foreign
- Lower costs associated with raising capital

109. Challenging the tides: Indian Real Estate, KPMG Publication, 2015, KPMG in India Analysis

2019 witnessed India's first REIT listing Embassy Group; an Indian real estate developer; partnered with a U.S.-based company to monetise its rent-yielding commercial office real estate assets.

First REIT Listing in India[110,111,112]

01 – October 2013
SEBI introduces draft REIT regulations

02 – July 2014
Tax amendments related to REITs announced in the Budget

03 – August 2014
Final regulations released by SEBI

04 – March 2017
Embassy REIT was settled as an irrevocable trust under the provisions of the Indian Trusts Act

05 – August 2017
Embassy REIT was registered with SEBI as a real estate investment trust

06 – December 2017
Amendment of SEBI (REITs) Regulations 2014

07 – March 2019
Embassy Office Park REIT IPO kicks off

Market cap
INR231.5 billion

Underlying assets
Office | Retail | Hotel

Area covered
33 million sq. ft.

Pricing
INR300 per unit

Key objectives
- To repay existing debt
- Acquire Embassy One assets

Success achieved
- Largest REIT in Asia in terms of area
- Transaction oversubscribed by 2.6 times

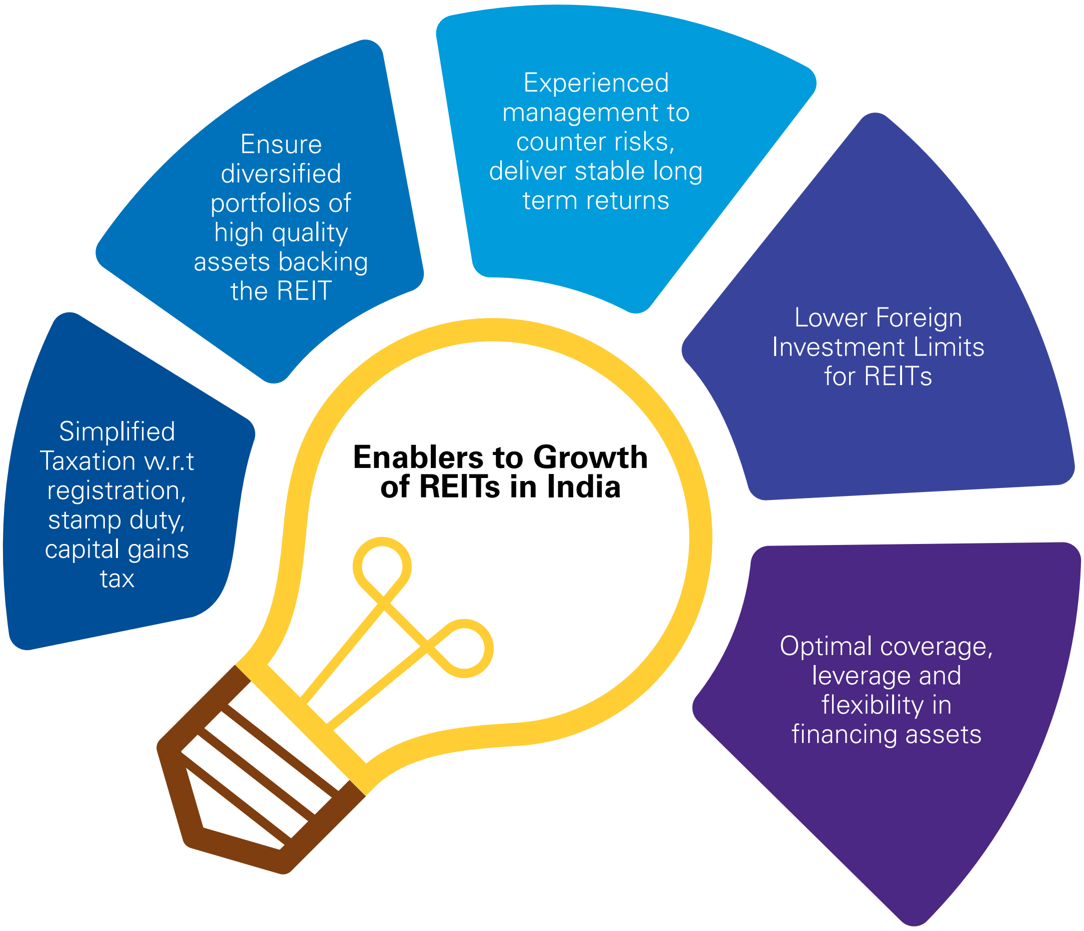
The success of the Embassy REIT is expected to bring about a new era in real estate financing in India. As more real estate developers explore the REIT based financing avenues using diversified asset classes, the instances of REIT listing is expected to rise across the real estate sector. However, at the moment, with only one listed REIT, India's REIT market has much ground to cover compared to global counterparts. Focused promotion of REITs by the Indian government, and new formats evolved by financial agencies and financial markets will be needed to push REIT presence. Lessons can be drawn from REITs from other developed and developing countries to evolve and introduce REITs in India as a mainstream asset based financial instrument; thus creating a significant funding corpus and alternate financing market for the real estate sector.

110. Embassy Office Parks REIT, Morgan Stanley 21st Annual India Summit, 13 June 2019

111. Destination India – Are we ready for REITs?, KPMG, September 2014

112. Embassy Office Parks REIT - Offer Document, SEBI, 11 March 2019

Enablers to REIT adoption in India[113]



India being a developing economy with a large population inclined positively towards real estate investments; the fractional real estate ownership enabled by REITs provides significant potential for creation of a large REITs based real estate financing market in the future. Lately, there is increasing impetus from the Indian government to push REITs adoption evidenced by the Union Budget 2019 encouraging REIT investments; allowing foreign portfolio investors to subscribe to listed debt securities issued by REITs and InvITs. On the other hand, private sector is also aggressively evaluating the REITs opportunity. Following the success of the Embassy REIT, other major real estate players and private funds are known to be keenly evaluating REITs listings; with underlying asset classes comprising varied real estate segments. Additional REITs offerings are anticipated to debut by FY2021 with value of investment raised expected to cross USD10 billion. Contrary to funding raised by mortgaging real estate assets to limited set of investors (private equity, NBFCs, banks, etc.), REITs provide real estate developers a mass funding platform for raising public investments on a relatively larger scale. Utilising financed capital for working capital improvements and asset portfolio expansion, real estate cycles can be revived leading to resurgence of real estate sector activity. The next phase of REITs evolution shall be ushered through diversification and inclusion of new asset classes underlying the REIT portfolio. High growth segment real estate asset classes such as hospitality, logistics, warehousing, healthcare, and housing seem promising to be brought under the REITs framework.

113. Best practice for Asian REITs, IPE Real Assets, 2014

Future of REITs in India: Diversified asset portfolio for growth[114,115,116]

Asset class	Growth Drivers	REITs Share in Developed Economies
Office	• Approximately 294 million square feet of office stock eligible for REIT in the near future • USD35 billion investment required to unlock potential • Emerging co-working models witnessing phenomenal expansion	3-17%
Logistics and warehousing (industrial)	• Sector to attract USD10 billion investment in the next five years • 200 million square feet space to be added and supply to double by 2022 • High traction expected in tier I (Mumbai, Delhi NCR, Pune, Bengaluru and Chennai) and II cities	4-26%
Retail	• As India sets out to become the third-largest consumer economy by 2025, more than 10 million square-feet of additional retail space to be added in 2019 – nearly 3x that of 2018	5-23%
Hospitality	• Additional requirement of 32,400 hotel rooms across the top seven cities in India by 2022 • Anticipated to receive USD2.8 billion investment till 2022	2-10%
Healthcare	• Increased healthcare demand, driven by improved health awareness, rise in lifestyle diseases and increasing health insurance coverage via National Health Mission (NHM) programme • Additional 0.64 million beds required over the next 10 years	1-7%

Emerging Asset Classes for REITs

Asset class	Growth Drivers
Residential	• Government's target to build 10 million urban houses by 2022 • Co-living and student housing real estate on the rise
Infrastructure	• Proposed investments of INR100 trillion over the next five years in infrastructure sector • Growth of Transit Oriented Real Estate (TOD) across metro rail, railways, airports and ports for value capture

REITs can ensure a mutually advantageous situation for both real estate asset developers and owner investors; by creating an alternative financial market for raising large capital and unlocking the value potential of real estate assets in logistics, warehousing, residential and hospitality segments. It would be interesting to witness the disruptive impact of REITs as India gets ready to become a USD5 trillion economy.

114. Warehousing may pull in $10 billion in next 4-5 years, The Economic Times, 18 February 2019

115. Indian retail to see 10 million square-feet added in 2019, JLL, 15 February 2019

116. Government to open private hospitals in small towns, The New Indian Express, 04 November 2018

Summary

Disruptions are here to stay and will continue to evolve and transform the industry. The five prominent disruptions enumerated are expected to deliver a game changing impact, transforming the entire value chain and impacting all the stakeholders operating within the real estate industry in India. The combined impacts of digital business platforms, innovative construction and property management technologies and dynamic shared real estate models shall affect a paradigm shift in the evolving real estate sector. Real estate industry proponents will need to imbibe an agile and flexible approach to business; continuously adopting emerging disruptions to harness optimised asset utilization efficiencies, greater cost savings, improved sustainability, automation and overall higher profitability throughout the real estate lifecycle. Businesses must act now to adapt and adopt to disruptions to be ready for the future. Reshaping businesses digitally and reforming business and operating models is the need of the hour for capitalising emerging opportunities and unlocking value from real estate assets.

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