Innovation
Led Opportunities

Changing India's Real Estate Landscape

August 2019

Preface

In an ecosystem with finite resources, innovation ensures optimal utilisation and helps reduce the scarcity gap. The concept of a 'shared economy' is one such innovation to utilise resources to their full potential in a sustainable manner. Sharing in itself is not a novel concept, however, it has become a part of consumer behavior over the years. With technology and digitalisation, the concept has flourished and percolated across various aspects of our daily lives. Today, it shapes the way we live, work and play. Shared economy has created a world of disruption, increased ambiguity and at the same time presented unprecedented opportunities.

Co-living and co-working are an offshoot of this trend of a shared-economy. Importance given to experience over ownership is leading to the growth of shared living and working spaces. Some interesting numbers in the report show the quick growth of these new assets. The share of co-working in total office leasing spiked up to 15% in H1 2019 from 8% in 2018 and 5% in 2017. The cumulative space take-up by this segment from January 2017 to June 2019 is at a whopping 10.1 mn sq ft. The co-living market in the country is expected to grow at a CAGR of 17% over the next five years to touch nearly INR 1 trillion.

Other than the emergence of new asset classes, technology has changed the way in which real estate is being transacted and experienced. In earlier days, technology helped only as a back-end tool, as it facilitated maintaining records. Post the dot com boom, technology provided an aggregator model for residential markets and a number of online platforms for purchase of homes came up. Now, technology has spread across every sphere of the real estate lifecycle. From innovative construction technology which helps create more affordable housing, to technology led workspaces where space usage is measured by sensors, technology has made its way.

Of late, data has become all pervasive. Every time one looks for information, transacts, shares experiences or connects socially, data is being captured and stored for analysis. On the back of this, data centres have slowly evolved from an in-house activity to a specialised industry which provides services for data storage and other value added options. India's data centre capacity is estimated to be close to 480 MVA with revenues of INR 83 bn in FY 2018-19. We expect the size of this industry to double in India by 2021 driven by data localisation legislations, rising internet usage, increasing usage of internet-connected devices and decreasing cost of data.

As we adopt tech savvy ways of conducting business and move ahead in our constant quest for growth, it is important to stop and assess how technology can play a role in helping the sector reduce its carbon footprint. We delve into the most sought after Wellness Certifications and what they imply for sustainable work spaces in India. Given the innovation this sector has witnessed in the recent past, this report analyzes if innovation is the cause of change or is it the result of changing market needs? The answer seems to be both. While innovation has driven the rise of new asset classes and investment tools like REITs, it has also led to further innovation within asset classes.

While a lot has been achieved, there is enormous scope for expansion in an India context, and we hope to see this sector grow by way of innovation.

Happy reading!

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Indian real estate in a nutshell

Residential

Co-living market

INR **1** trillion opportunity by 2023

480 MVA* with revenues of INR **83** bn in FY 2018-19, to double by 2021-22

Data centre industry in India

Commercial

Share of co-working in total office leasing

5% 2017

8% 2018

15% H1 2019

Well certified buildings in 2019

41 projects

>**28** mn sq ft

*MVA - Mega Volt Amp

Retail

Size of Family Entertainment Centres market

INR **10** trillion in 2018

Expected to grow at

13% CAGR from 2019-2021

Investments witness a record flow

INR **1,400** billion from 2014-18

Capital markets

Dedicated investment platform funds

INR **13** billion in 2012

INR **173** billion in 2017

REIT-worthy assets:

294 mn sq. ft.

Potential investment:

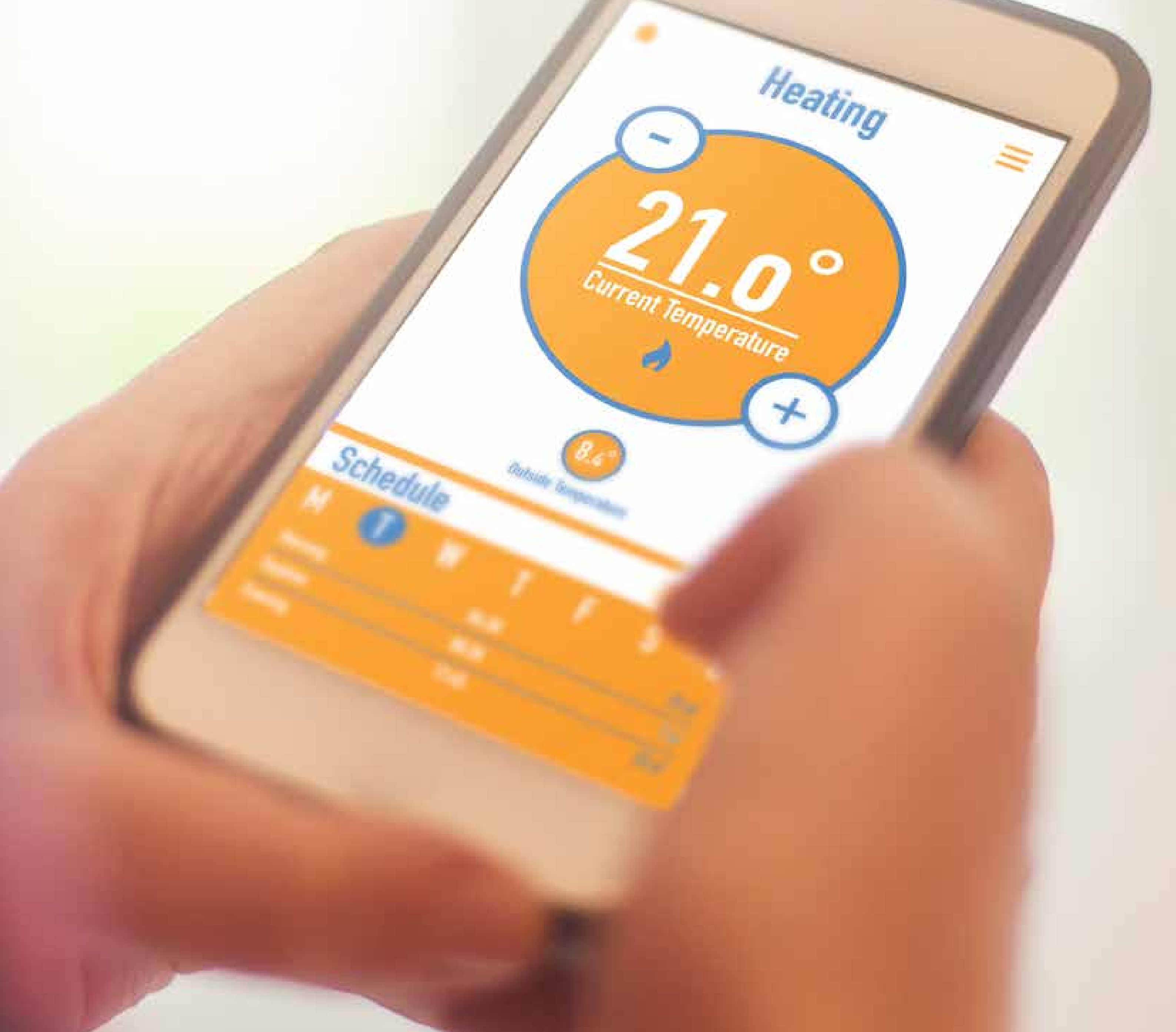
INR **2,400** billion

‘Necessity’ is the mother of innovation

The gap between unlimited human wants and limited resources is a common phenomenon today. The tussle to bridge this gap has resulted in various innovations. These innovations are aimed at ensuring that optimal utilisation of resources is made while narrowing the scarcity gap. With technological innovation and digitalisation, these innovative concepts have flourished and percolated all aspects of our daily lives. It is shaping the way we work, live and play. It has created a world of unprecedented disruption, which presents immense opportunities, though it throws up ambiguities as well.

Innovations are bridging the gap between unlimited human wants and limited resources

The concept of a ‘shared economy’ is one such innovation. It tries to utilise resources to their full potential in a sustainable manner. From sharing rides and high-end equipment to sharing workplaces and even living spaces - this is truly an age of owning experiences over assets.



Technological upgradation and innovative strategies driving real estate

Technology and innovation have transformed our lives entirely. From how we connect with each other to how we buy things, the way we work and how we undertake real estate transactions-all of this has changed. Additionally, rapid urbanisation is resulting in growing demand for real estate in the country. The level of urbanisation is expected to increase with the share of India's urban population set to increase from 31% of the total population in 2011 to 40% by 2030. Looking at the scale of development that is needed, it is imperative to switch to innovative and tech-savvy ways in the real estate industry.

'Sharing' has become the new buzzword in the real estate sector and the idea is manifesting itself in various ways, with 'co-working' and 'co-living' being two primary examples.

Co-working transforming modern office spaces

While demand for office space is steadily increasing in most cities in India, co-working has revolutionised the commercial real estate market. Although lower costs and higher flexibility were the initial drivers, co-working spaces have also helped build professional communities by enabling like-minded individuals from diverse backgrounds connect with each other. It is no longer a new age workplace suitable only for start-ups and SMEs. The advantages associated with co-working have also sparked interest within more established and mainstream corporate entities from different sectors.

Co-working, the biggest innovation in commercial markets, has contributed 15% to total leasing in H1 2019

The share of co-working in total office leasing spiked up to 15% in H1 2019 from 8% in 2018 and 5% in 2017. The total space take-up by the co-working segment has doubled to 3.9 mn sq. ft. in 2018 compared with 2017. It is pertinent to note the cumulative space take-up by this segment from 2017 to H1 2019 is at a whopping 10.1 mn sq. ft.

Co-living reshaping the rental housing market in India

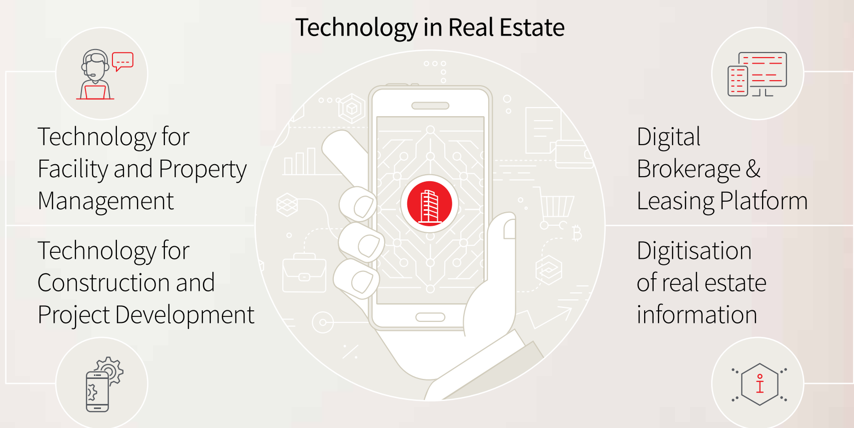
Co-living is the big innovation in rental housing market

On the residential front, innovation has taken a different leap with the introduction of new asset classes such as student housing and co-living which were untapped until now. The 'co-living' concept is now an emerging asset class within the ambit of alternative real estate, offering a sustainable solution to the urban space crunch. It combines private living spaces with shared communal facilities. Recognising the demand and the existing gap, many start-ups and established developers are now foraying in this niche segment in an organised way. While education hubs in the country drive student housing, co-living is an upcoming market in the nation's urban centres. The rise of these asset classes is gaining prominence in the eyes of both domestic and overseas investment firms.

India has become the torchbearer in the 'co-living' space with several players looking to grab a share of this burgeoning opportunity. The 'co-living' market in the country is expected to grow at a CAGR of 17% over the next five years to touch nearly INR 1-trillion by 2023. India, therefore, provides a huge opportunity for developers, investors and even start-ups in the 'co-living' spaces. We expect co-living players to expand rapidly in the near future. Co-living penetration is expected to go up from the current 2.6% to nearly 8.3% by 2023.

Next wave of growth in building sustainable office spaces

Client needs are changing due to increased use of technology and enhanced environment consciousness. Businesses are striving to operate efficiently and at the same time reduce the impact their firms have on the environment. This is bringing about a change in the nature of demand for commercial real estate. Concepts like sustainability, going green and WELL certification are slowly inching their way into the world of commercial real estate.



PropTech (a blend of the words property and technology) is an emerging concept in India, with ample opportunity for growth. It refers to the application of technology to provide solutions and deliverables in the real estate sector. More precisely, technology is used to offer services in real estate to buy, sell, rent, develop, market and manage property in a more efficient and effective way.

Adoption of technology in real estate is seen in the following four key areas:

1

Construction Technology

Post RERA developers are focussing on speeding up the construction of their projects to meet timelines committed by them. In a bid to reduce the time of construction and bring in efficiency, developers are increasingly adopting new and advanced construction methods. One such technology is shuttering with aluminium formwork, which is not only cost efficient and accelerates the speed of construction, but also gives superior quality and strength to buildings.

> Innovations in construction technology will aid affordable housing

Further, the mission towards creation of more and more affordable homes requires the adoption of durable, environment-friendly, strong, ecologically appropriate, energy efficient and yet cost-effective materials and appropriate technology in the field of construction. The use of precast technology, where precast reinforced concrete (RC) planks supported over partially precast joists, has been adopted in several affordable housing projects. The use of prefab technology has also been seen in several affordable housing projects. The manufacture of construction material utilising alternative products that are available locally has helped bring down high costs associated with standard building materials. Going forward, the success of affordable housing will largely depend upon innovations in alternative technology, which will help achieve cost-efficient mass production at a faster pace.

2

Project and Facility Management

Technology is being adopted in the management of all asset classes including residential, commercial and retail. In office spaces-from mobile apps for parking and pantry services, to improved video conferencing and desk management tools- various tools are improving employee experience.

Similarly, shopping malls are no longer limited to shops for purchase of items. They have now distinguished themselves by offering different experiences and unique community spaces. Technology has reshaped the purpose of brick-and-mortar stores and shopping malls. Increasingly, malls are incorporating sensors, video walls, digital directories and digital kiosks to attract more footfalls. Mall developers are also using technology aided heat maps to decode consumers' behaviour. They help understand consumer spending patterns and malls can tweak their offerings accordingly. For instance, DLF Shopping Malls launched 'Lukout', a mobile application which has features like one-touch parking payment, real time location-based offers, one touch concierge etc. It helps retailers to enable channel-based consumer targeting.

Use of technology across various asset classes

Office

- Internet of Things (IoT) devices are installed at workplaces to replace manual operations and give real-time alerts
- Smart sensors that track motion: can track when desks, meeting rooms or communal areas are occupied, helping employers implement hot-desking and activity-based flexible work areas
- Automation in meeting rooms
- App based service booking
- Smart visitor management system

Shopping Malls

- Video Walls
- Digital Directories
- Digital Kiosks
- Sensors to generate heat maps to decode consumer behaviour
- Mobile app which has features like one-touch parking payment, real time location-based offers, one touch concierge.

Residential

- Provision of a resident app
- Lighting and temperature control
- Kitchen devices syndicated to the resident mobile app
- Locking system aligned with the mobile app
- Hazardous Monitor: Hazardous gases and gas leakage monitoring
- Sunrise timers: Timers to wake up in the morning by opening curtains at a set time

3

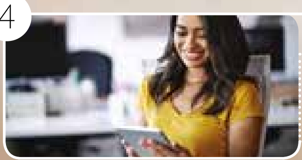
Digital Brokerage and leasing platforms

With increasing use of technology and expanding smartphone adoption rates, the internet is serving as the starting point of property searches for more and more homebuyers. As a result, there are many list and search platforms that act as aggregators for listed properties and showcase them on their websites. Dedicated on-line residential, commercial, co-working and co-living marketplaces have emerged over time.

> Tech-enabled brokerage platforms will grow

We envision the tech-enabled brokerage platform will grow enormously in the future. This is because these platforms have started providing a comprehensive offering to buyers. They also ensure the quality of properties listed by physically verifying them. To increase the attractiveness of their platforms, they have begun to offer additional value-added services such as intelligence on market trends and 3D viewing. The recently emerged 'Commercial Property Intelligence Platforms' provide tools for improved decision-making and business processes. These platforms employ more advanced technology such as Virtual Reality (VR), while offering a pay-to-use software as a service business model to brokerage firms and real estate developers. Their business model is B2B oriented and provides a large pool of data and information to these firms.

4



Digitisation of real estate data

With RERA in place, technology is already being actively used in the dissemination of residential data in the public domain. This has led to an increase in transparency and creation of a database which provides details such as property location, size, expected timeline of delivery, floor plans and the master plan.

Technology for construction and project development

- **Adoption of sustainable processes and material for developing WELL certified buildings.**
- **Adoption of Aluminum Formwork system known as MIVAN technology.** This is a modernised construction system that helps in forming a cast with the help of panels for a concrete structure of the building. The metal is used in place of traditional shuttering while making the framework of the building

Technology for facility management and project management

- Lease Management of office spaces: **Cloud computing and Internet of Things (IoT)** devices are used to keep record of tenants, space utilisation and track tenants
- Workspace Management: Technologies such as Artificial Intelligence, IoT, Robotics and analaytics are used for workspace management
- Home Automation: combine intelligent automation, advanced analytics & data visualisation with the contemporary user experience of home and mobile electronics

Digital marketplaces that serve as a channel between brokers, property owners and buyers

Example:

- Residential Listing platforms
- Office/Commercial Listing platforms
- Commercial Property Intelligence platform provides tools for analysis and decision making
- Co-working and Co-living listing platforms

Access and digitisation of real estate data on government websites

- Government portals are organising and delivering various data points in areas like infrastructure, water resources, housing, economy, labour and employment, finance, etc., in easy to consume formats. Such initiatives, in turn, provide valuable insights when combined with other industry-specific data points

This is just the beginning of the PropTech story in India. We look forward to seeing it expand and rise exponentially in the coming years.

PropTech in India is currently dominated by brokerage and leasing (list & search, tech-enabled brokerage), while the companies which provide end to end services through technology and analytics are limited. It is seen that the adoption of technology across the entire lifecycle of a real estate transaction would take time, as most Indians still prefer direct interactions to settle property transactions. There are however, active project development and property management companies that optimally use technology to develop and manage assets.

Going ahead, technology led innovations are further expected to influence the current functioning of businesses - whether it is a real estate agent looking to sell homes, a landlord looking for tenants, or a prospective homeowner looking for his first house. However, the synergy between technology and physical interface will continue in future as well.

Residential - Transition from owning to sharing

Indian residential market witnesses a revival

The Indian residential real estate sector remained sluggish with high unsold inventory levels and declining sales in key markets during the last few years. As the market was gradually stabilising from the impact of demonetisation in the first quarter of 2017, the implementation of RERA and GST in the same year, acted as a dampener, deterring developers from launching and marketing new projects.

> GST rate cut has proved beneficial for residential markets

Albeit some teething issues the industry witnessed during the initial phases of their implementation, RERA, GST and the Insolvency & Bankruptcy Code collectively, have had a significant positive impact on the real estate sector. Further, continuity and stability of the reform process is expected with the NDA government coming back to power.

After a turbulent two-year period, 2018 witnessed the markets moving towards a revival, setting the stage for a strong growth path in 2019. During the first quarter of this year (2019), government policy on GST has aided growth. GST rates were lowered on affordable homes to 1% from the earlier 8%, without input tax credit (ITC). The GST on projects under construction, which are not under the affordable housing segment, was reduced to 5% from 12%. The rate revision augurs well for homebuyers especially those looking at affordable homes.

Additionally, JLL's Research studies have tracked the following interesting trends, which have had a positive impact on residential markets in the last few years.

Home loan data shows that peripheral areas of cities grew at a much faster rate than the core city

JLL's study of the outstanding home loan data for the period 2012-13 to 2017-18 demystifies the common perception that the top four metro cities drive residential real estate growth. It revealed that the metro cities of Delhi, Mumbai, Kolkata and Chennai grew between 8% and 12% in the last 5 years. On the other hand, neighbouring peripheral areas which typically form part of the overall development area of the respective cities grew at a higher pace. For instance, Thane district grew by 22% as against 9% growth observed in Mumbai due to the shift of offices to peripheral locations and affordable housing options. Similar trends were observed in other large cities viz. Chennai, Bengaluru and Pune.

Favourable home loan rates backed by stable prices has resulted in improved affordability across cities since 2014

As per JLL Home Purchase Affordability Index (HPAI) 2019 study, home affordability increased significantly in the last five years (2014-2018) on the back of rising incomes and stable real estate prices. The Index indicates whether a household earning an average annual income (at an overall city level), is eligible for a housing loan to buy a 1,000 sq ft residential property in the city, at the prevailing market price and home loan interest rate. The key insights from this study can be summarised as below:

- Affordability improved across India's key markets from 2014 to 2018 led by favourable home loan rates
- Most affordable residential market in 2018 was Hyderabad, followed by Kolkata and Pune
- Mumbai has rapidly climbed the affordability ladder but has yet to cross the affordability threshold
- Kolkata is likely to overtake Hyderabad and become the most affordable residential market in 2020

Apart from the above specific studies conducted by JLL, on-going data analysis has also highlighted certain key positive trends.

Rationalisation of launches across most cities

	2016	2017	2018	2018 Growth (Y-o-Y)	H1 2019	H1 2019 Growth (Y-o-Y)
Mumbai	23,488	32,842	39,970	22%	28,723	58%
Bengaluru	28,112	20,657	37,286	81%	18,273	11%
Delhi NCR	11,768	8,247	17,660	114%	8,073	-33%
Pune	25,406	17,952	20,684	15%	6,776	-35%
Hyderabad	14,607	10,607	15,655	48%	4,363	-51%
Chennai	14,908	9,072	13,924	53%	4,189	-51%
Kolkata	10,044	4,898	14,273	191%	2,652	-66%
Overall	**128,333**	**104,275**	**159,452**	**53%**	**73,049**	**-11%**

Source: JLL REIS

The dust over policy changes has now settled and developers have begun focusing on delivery of existing projects. With a gradual recovery process set in the early part of 2018, overall new launches increased by 53% Y-o-Y across the top seven cities (Delhi NCR, Bengaluru, Mumbai, Kolkata, Chennai, Hyderabad and Pune) and touched nearly 160,000 units during 2018. However, our analysis of the past 5 years show that launches continued to be lower than what was witnessed in 2014, recording an average annual decline of 8% during this period. During H1 2019, due to the General Elections, developers adopted a wait and watch approach and focused on clearing their unsold inventory. Overall new launches of residential units decreased by 11% on a Y-o-Y basis across the top seven cities. With the exception of Mumbai and Bengaluru, all other cities saw a dip in new launches during H1 2019. Mumbai, Delhi NCR and Bengaluru continued to dominate launches and formed three-fourth of the overall launches during this period.

Going ahead, new unit launches are expected to remain modest as developers realign their product mix to suit market demand in the post reform regime.

Lower ticket size continues to be the flavour of the market

Share of affordable and mid segments[1] (H1 2019)	50%	75%	33%	91%
Cities	Mumbai	Bengaluru	Delhi NCR	Pune

[1]Affordable and mid segments refer to launches in the ticket size of up to INR 10 million in Mumbai and up to INR 7.5 million in the other six cities

Developers continued to capitalise on the demand and supply side incentives of the Government, to cater to the unmet demand in the lower and mid income groups. A closer analysis of launches in the recent past showed a sizeable proportion of new supply in the lower ticket size bracket of up to INR 10 million in Mumbai and INR 7.5 million across other cities. In 2018, the share of launches in these ticket size brackets stood at a 67% across the key seven cities. This trend continued in the first half of 2019 as well and the period witnessed majority proportion of new supply in the affordable and mid-price segments at a significant 58%. These launches were mainly concentrated in the peripheral areas of the cities, which enjoy the advantages of lower land cost and availability of larger land parcels.

With the focus on affordable and mid-price segments, developers were seen focusing on 'relevant' supply-a trend which indicates growing maturity in residential markets.

Sales set on a higher note

	2016	2017	2018	2018 Growth (Y-o-Y)	H1 2019	H1 2019 Growth (Y-o-Y)
Mumbai	25,973	24,383	26,858	10%	17,037	25%
Bengaluru	32,459	24,980	29,140	17%	14,978	12%
Delhi NCR	34,307	14,440	24,725	71%	14,789	42%
Pune	18,860	17,621	21,494	22%	10,824	8%
Hyderabad	8,876	3,492	13,202	278%	9,036	65%
Chennai	17,263	9,140	14,423	58%	7,660	-7%
Kolkata	10,097	2,302	6,676	190%	3,923	33%
Overall	**147,835**	**96,358**	**136,518**	**42%**	**78,247**	**22%**

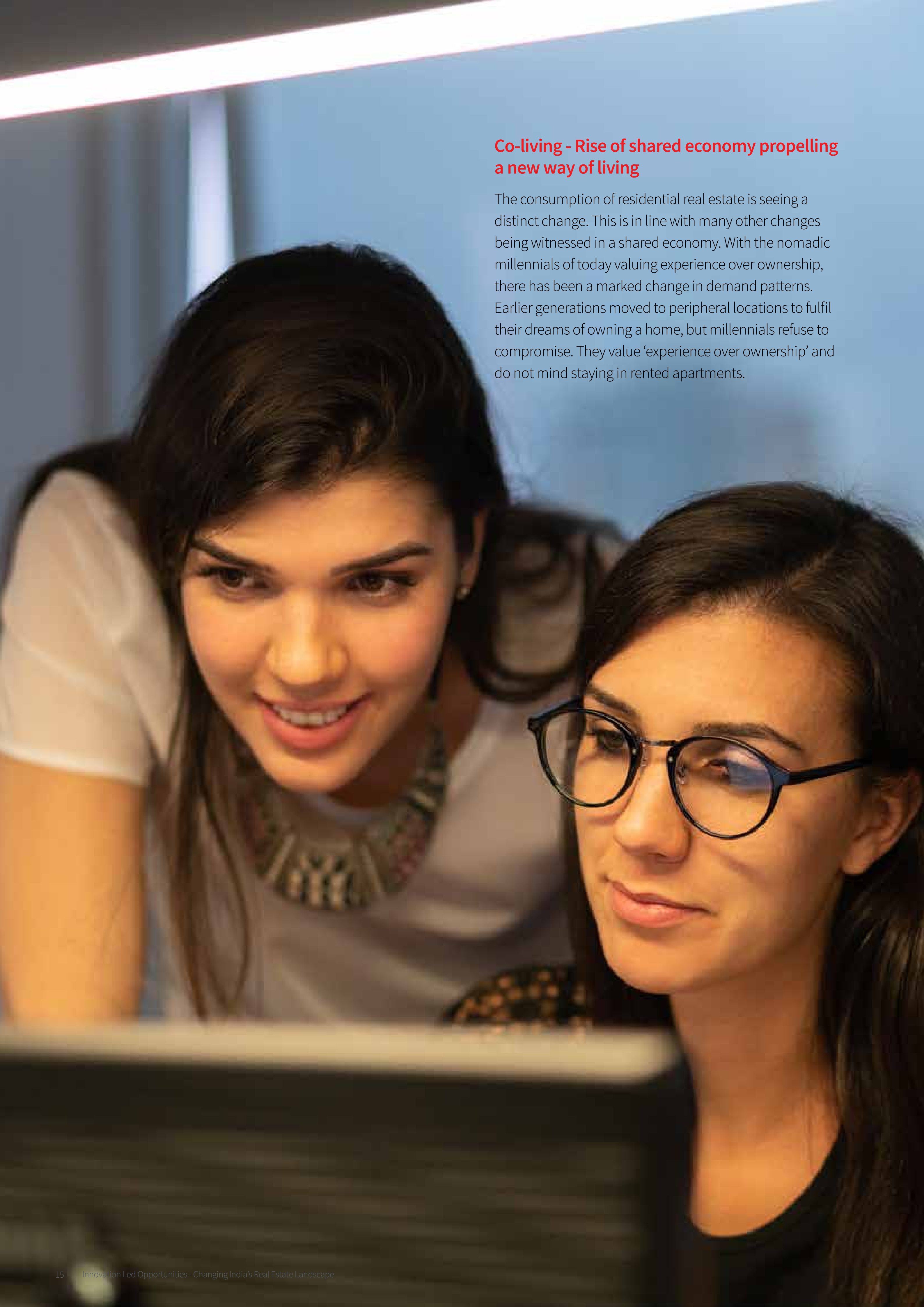
Source: JLL REIS

With regulatory changes enhancing transparency and ensuring accountability from developers, a gradual revival in homebuyers' confidence was observed. Added to this, improved affordability also helped markets witness a resurgence in sales in 2018. Nearly 136,500 residential units were sold during 2018, compared to less than a lakh units sold in 2017, registering a 42% Y-o-Y growth. The resurgence continued in H1 2019 with sales of residential units in the top 7 cities increasing by 22% compared to the corresponding period in 2018. The three key markets of Mumbai, Bengaluru and Delhi NCR continued to account for more than 60% of the total sales. Hyderabad recorded the highest growth in sales followed by Delhi NCR. A rapidly growing commercial office (annual average net absorption of nearly 4.5 mn sq ft in the last 3 years) combined with alignment of demand and supply kept the momentum strong in Hyderabad. Going ahead, sales are likely to receive a further fillip as progressive government policies (strict monitoring of NBFC lending, lower lending rates by banks) are expected to continue. Stable prices combined with higher supply in the affordable and mid segments in a buyer-friendly market environment, are expected to augur well for buyers in the coming quarters. Thus, fence sitters are well placed to strike a lucrative deal

Opportune time for buyers and investors

Innovation in residential markets is being witnessed through emergence of alternative asset classes like co-living

The continuity of the previous political regime at the centre is expected to ensure continuity of reforms for the next five years with positive outcomes for the economy and the real estate sector. Continuity of reforms and their stringent implementation under the second term of the current government will keep up homebuyers' sentiment translating into higher sales. The need of the hour is to pass on the benefits of the reduced repo rates by Reserve Bank of India (RBI) to the end consumers, thereby, improving affordability and boosting housing demand. Given the on-going phase of market transformation, largely driven by the actions of a proactive central government, corporates and investors are both carefully evaluating and strategising their plans according to expected policy changes. It is during these times that harnessing innovation is of utmost importance. And one such innovation is to deep-dive within the world of alternative asset classes. Given that they have been largely unexplored within the Indian realty construct, the time has come to examine in detail the potential these classes offer. One such alternative asset class is Co-living, catering to the housing needs of both students and a millennial workforce. This asset class holds significant potential for all stakeholders. For developers, it provides a window to diversify from the currently turbulent sectors of mainstream real estate. For asset management entities and funds, it is an emerging segment with the potential to offer returns much higher than what the established asset classes of office and retail offer.



Co-living - Rise of shared economy propelling a new way of living

The consumption of residential real estate is seeing a distinct change. This is in line with many other changes being witnessed in a shared economy. With the nomadic millennials of today valuing experience over ownership, there has been a marked change in demand patterns. Earlier generations moved to peripheral locations to fulfil their dreams of owning a home, but millennials refuse to compromise. They value 'experience over ownership' and do not mind staying in rented apartments.

Owning vs renting a house

Home ownership has been long considered as a basis to measure financial and social security in India. However, there has been a discernible change in the mind-set and behaviour of the recent generations. This is attributable to the following:

- High cost of housing in most gateway cities and lower returns from buying a house (EMI to rent ratio is typically 2-3 times in most cities)
- Change in the nature of work - short term nature of assignments warranting higher mobility and flexibility
- Delayed marriage and child rearing, less inclination to block funds in immovable assets and greater desire to spend on travel, food and leisure (considered to be discretionary in the past)

According to a JLL research conducted recently, 93% of the migrant respondents who were single stayed in rented accommodation across the top seven cities.[2]

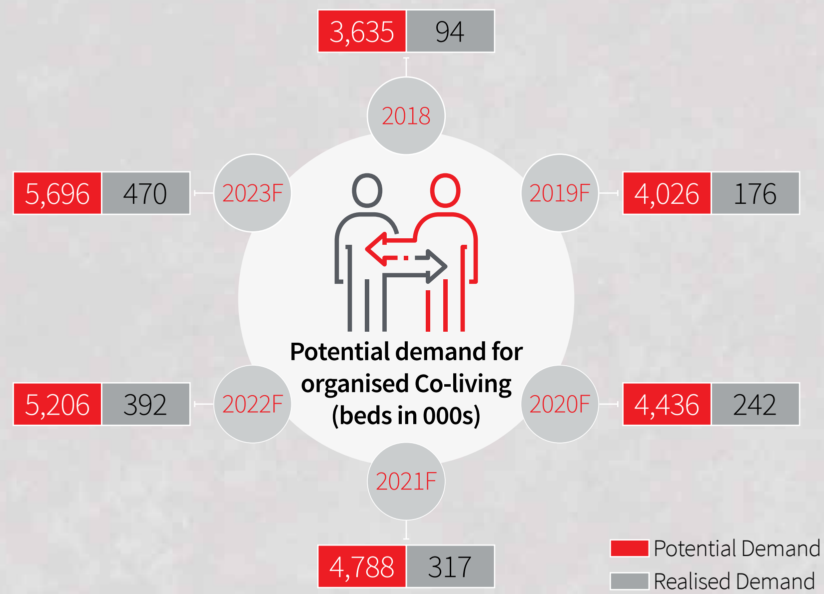
Additionally, the enhanced affordability a co-living space offers is driving demand for shared living across India's major cities. Our analysis indicates:

An estimated 4.1 million working millennials were staying in rented accommodation while more than 2.6 million stayed in a shared rented space as of 2018.

From dharamshalas to paying guests, shared rental housing has always existed in India in various forms. Co-living has emerged as a new business model providing a fresh lease of life to India's shared rental market.

Opportunities galore for Co-living in India

As of 2018, the realised demand[3] for co-living in the top seven cities stood at about 94,000 beds. While the market has witnessed rapid strides in the last two years, realised demand continues to be miniscule, given the size of the overall opportunity. We expect co-living players to expand rapidly in the near future and, hence, the gap between potential and realized demand is expected to shrink. This is evident from the expected growth in co-living penetration from the current levels of 2.6% (2018) to nearly 8.3% by 2023.



Note: The figures in the above chart are in 000s Source: JLL Research

The growth forecast is based on expected supply burgeoning in the future. The existing capacity of organised players stands at nearly 108,000 beds across the top seven cities. Going ahead, the supply of beds by organised co-living players is expected to increase by more than 5 times to about 541,000 beds by 2023. In response to this strong expansion in supply, demand will grow in tandem to about 470,000 beds. As a result, India's co-living market is expected to increase at a strong CAGR of 17% in the next five years to become a nearly INR 1-trillion market.

[2] JLL Research conducted a comprehensive demand survey targeting millennials across the top seven cities of Mumbai, Delhi NCR, Bengaluru, Hyderabad, Chennai, Kolkata and Pune. The key objective of this assessment was to study their behavioural patterns and preferences for owning vs. renting houses.

[3] The size of the total shared rental accommodation market comprising working professionals and students represents the total opportunity available for organised co-living players and is referred to as 'potential demand'. At the same time, the number of beds currently occupied by working professionals and students in a co-living space across these seven cities is referred to as 'realised demand'. Further, we have measured the penetration of the co-living market as a ratio of realised demand to potential demand, expressed in percentage terms.

On the demand side

So, what will drive the Indian co-living market?

Migrant millennial workforce

The level of urbanisation has increased with the share of India's urban population increasing from 28% of the total population in 2001 to 31% in 2011. This is further expected to increase to 40% by 2030. As of 2018, an estimated 4.7 million migrant millennials were employed in the services sector across India's top seven cities. According to our analysis, this is expected to grow at a steady CAGR of 8% and reach nearly 7 million in 2023, boosting demand for rental housing.

Preference of workforce towards shared spaces

A survey conducted by JLL indicates that India's migrant millennial workforce tends to lay emphasis on affordability, convenience and community, when it comes to selecting shared living spaces for themselves.

Affordability

Co-living has been gaining popularity because it aligns with buyers' need for lower rental expenses. Research reveals that housing rents form a whopping 25-30% of the urban population's income. Apart from providing accommodation in the vicinity, co-living spaces guarantee availability of modern facilities at reasonable prices. Additionally, our survey indicates that a majority of the millennial workforce is willing to shift from an unorganised space into a branded co-living establishment by paying up to 25% over and above their current rental outgo. With the average rentals of organised players across the top seven cities ranging from ₹9,000-15,000 /bed/ month, the pricing system adopted by most organised players are in sync with the willingness of tenants to pay.

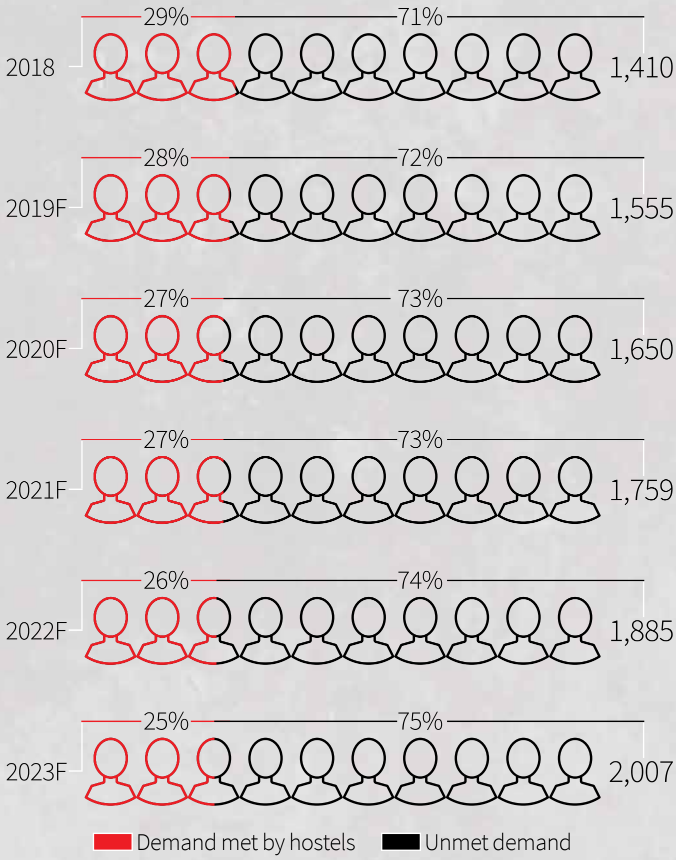
Convenience and community

Co-living offers flexible and shorter lease terms. Often monthly lease options make it highly attractive in today's dynamic and uncertain times. It is a simple 'plug and play' model that provides a ready-to-move-in option for consumers. Most millennials prefer organised shared accommodation (co-living) over traditional rental models as they do not have to deal with issues such as:

- Lack of standard practices for security deposits, notice periods and monthly rentals
- Social acceptance issues for renting houses to youngsters and single working professionals
- Hassles with housekeeping, payment of utility bills, maintenance, furniture and fixtures, renewal of lease contracts, etc.

Additionally, the biggest differentiator in co-living is the emphasis on community. Co-living operators are cultivating communities by placing emphasis on organising social activities, events and workshops. They also tend to match residents with other like-minded people through personality profiling. Regular events which are focused on festivals, sports events, and weekend music, dance, yoga, aerobics are organised to engage the customers.

Supply constraints in universities dictate significant opportunity for co-living operators (beds in 000s)



Source: JLL Research

In addition to the burgeoning demand from a migrant millennial workforce, there exists a continued capacity accommodation constraint within university campuses. Campuses typically fulfil 25-30% of their total student housing demand. This presents an off-campus housing demand from close to 1 million migrant students (aged 18-23) across the top seven cities, which can translate into a significant business opportunity for organised co-living players.

On the supply side

Co-living is still in its nascent stages in India. In the last decade, several unorganised operators have mushroomed in the shared rental accommodation segment to tap the strong demand from a migrant workforce and students across major tier-I cities in India. Sensing the huge potential in the domestic market and taking cues from established global players, start-ups ventured into this space to transform it into a professional, service-based offering. Further, the absence of a regulatory framework has led to the emergence of various business models in the market.

Developers to become 'owners and managers' of co-living spaces

In the near future, select large and mid-sized real estate developers have plans to foray into co-living and student housing segments. Co-living as a business model is likely to provide a fresh lease of life to cash starved developers who are battling with slowdown in sales and mounting unsold inventory. Developers are also exploring opportunities to construct purpose built co-living facilities and either operate the same themselves or lease them out to operators.

Developers are likely to adopt any of the following models:

- **Build & operate:** Building properties as BTS co-living spaces and managing them as well
- **Build, lease & operate:** Building properties as BTS co-living spaces and tying up with operators on a lease basis
- **Build & management contract:** Entering into a service contract with the operator to run the property on a co-living basis

Technology to determine the competitive edge amongst players

Within the organised segment, the use of technology to provide a seamless living experience and strong branding will provide a competitive edge to co-living operators. Operators in this domain are acquiring smaller rental start-ups and food tech companies to expand their capabilities and improve operational efficiency. They are also using technology and data to provide innovative solutions for the daily requirements of end-users. This will not only guarantee a seamless experience to end-users, but also bring in enhanced efficiency and cost optimisation for operators. Co-living operators are also collaborating with major brands to provide users access to various social and entertainment platforms.

> Use of technology will provide a competitive edge to Co-living operators

Co-living to drive rental housing market in key cities

With the changing home ownership preferences of millennials, supply in the residential sector needs to evolve. The rental housing market is expected to drive residential real estate in the near future and the unorganised nature of the rental market in India offers immense potential for the development of co-living. More importantly, co-living provides a win-win scenario for both landlords and operators.

Profitability - From an operator's perspective

The profitability of a co-living operator varies according to the type of business model the operator adopts. Most follow an asset-light model and prefer a revenue sharing arrangement, while a few others prefer a fixed rental arrangement.

Operators who provide combined services typically make a profit margin of 10-20% at the operating level. A co-living operator's cost savings are, driven by inefficiencies of an unorganised shared rental market. They create efficiencies of scale for things like utilities, Wi-Fi, cleaning costs and furniture which provide a win-win situation for the operator as well as the landlord. Operators boost their profit margins by charging a rental premium from tenants and landlords improve returns without the hassle of managing their assets.

Yield - From a landlord's perspective

While rental yields have stagnated at 2-3% in the traditional housing market, co-living presents attractive returns at 6-8% at a relatively lower risk level, with a potential upside for developers operating on a build-own-and-operate model.

> Co-living to become an INR 1 trillion market by 2023

With the nomads of today moving to bigger cities and looking for easy access, demand for co-living establishments is expected to be on an upswing. The Indian co-living space is expected to become an INR 1 trillion market by 2023. The model tenancy regulation will provide a further fillip to this market. With specific provisions relating to subletting, property managers, rent and legal recourse for landlords, the law fills in the regulatory void in the shared rental market. Coupled with aggressive expansion plans of co-living operators and support from the Government, the co-living industry in India is set to take flight.

Commercial - Integration of human experience, space management and technology

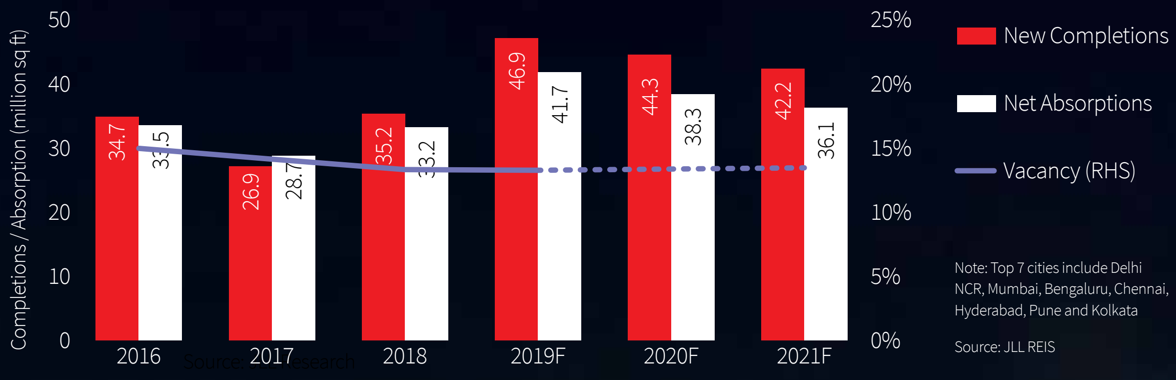
India's office sector set to attain new benchmarks

India's office real estate landscape has changed significantly in the past few years. Grade A office stock has expanded rapidly from nearly 310 mn sq ft in 2011 to more than 565 mn sq ft in H1 2019. This is expected to surpass 700 mn sq ft by 2022. Office markets across the country have shown considerable vibrancy with strong fundamentals like steady economic growth, a business friendly ecosystem and increased transparency driving demand across the top cities.

Grade A office stock stands at over 565 mn sq ft in H1 2019

With the Indian office market emerging as a preferred investment asset class, commercial markets are expected to continue their journey on a positive trajectory. Additionally, recent developments (such as the listing of REIT by Blackstone-Embassy JV) have opened the market for higher investments. This has been accompanied with a significant change in occupier trends that show a marked increase in the collective take up of co-working spaces. These disruptions open up opportunities for various stakeholders, leading to increased demand. The co-working sector in particular has been the front-runner for bringing in innovation in the commercial real estate markets. New revenue models are being tested by co-working operators. Further, data centres are the recent entrants in the commercial office market which are expected to gradually gain momentum in thenext few years. The following sections delve into the performance of commercial markets and take a close look at the key innovators-co-working, data centres and technology.

Office market to scale new heights in 2019



Note: Top 7 cities include Delhi NCR, Mumbai, Bengaluru, Chennai, Hyderabad, Pune and Kolkata

Source: JLL REIS

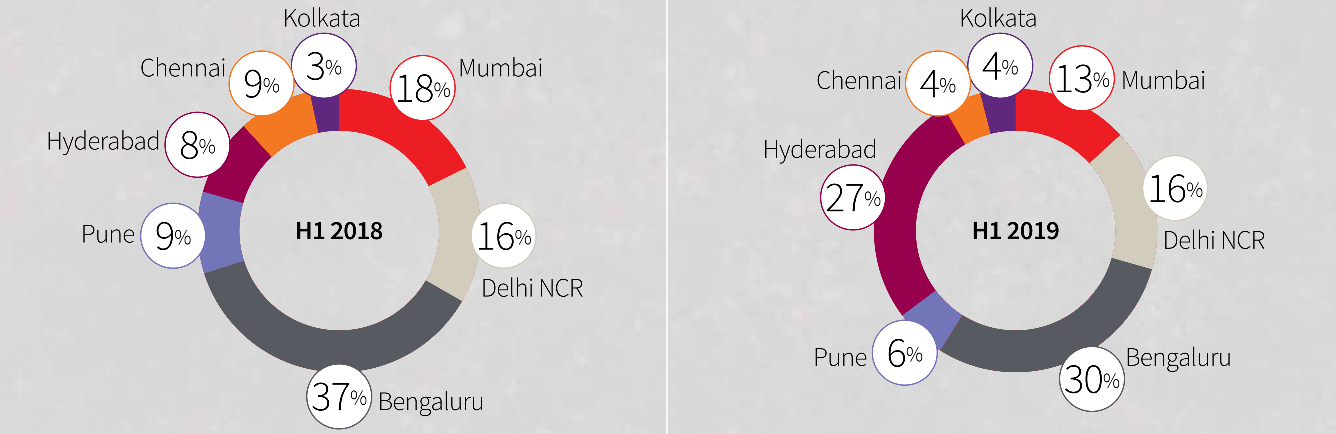
Net absorption likely to scale new peaks in 2019

After a marginal decline in 2017, leasing activity in the commercial real estate sector gained pace in 2018. The current year started on a positive note with net absorption across the top seven cities touching nearly 22 mn sq ft in H1 2019, indicating optimism amongst occupiers.

> Hyderabad saw significant jump in net absorption in H1 2019

As has been the trend, Bengaluru's position at the top remained unchallenged with net absorption of 6.5 mn sq ft in H1 2019. Interestingly, Hyderabad saw a significant surge in net absorption - increased almost four times from 1.5 mn sq ft in H1 2018 to 5.8 mn sq ft in H1 2019. This was led by strong expansion of IT/ITeS, BFSI and co-working occupiers amidst strong business sentiments.

Bengaluru drives leasing activity; Hyderabad emerging as a dominant office market



Source: JLL REIS

Source: JLL REIS

The leasing momentum is expected to continue in the second half of the current year with net absorption across the top seven cities estimated to surpass the 40 mn sq ft mark for the first time. Along with a robust supply pipeline, Hyderabad is witnessing an upsurge in demand for Grade A office spaces with 50-60% of the anticipated supply in the second half of the current year already pre-committed by occupiers. This will result in net absorption in the city crossing the levels of Bengaluru by the end of 2019.

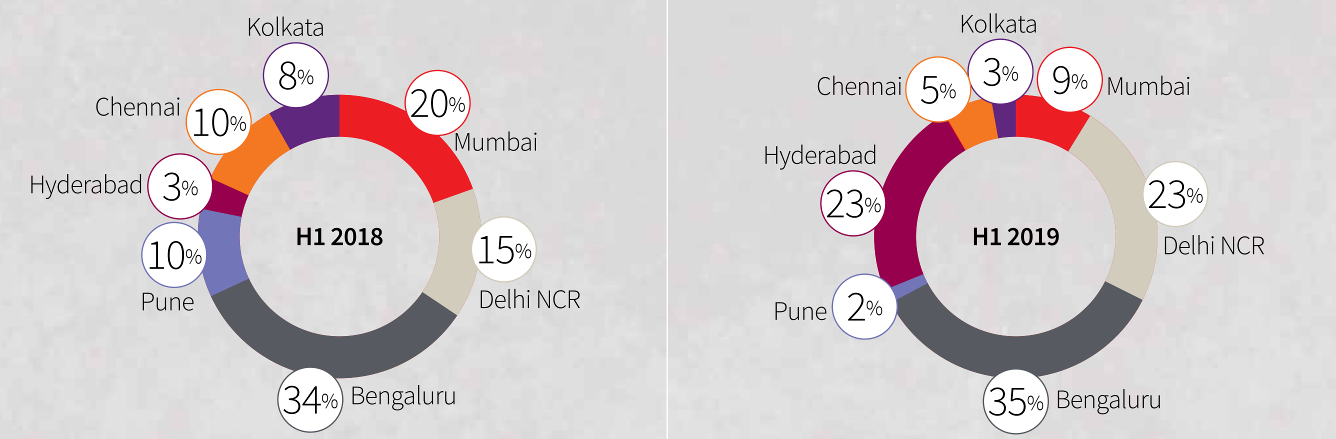
Post 2019, we expect net absorption to hover around the 36-38 mn sq ft mark till 2021. Hyderabad is likely to emerge as the dominant office market in the next few years. The take up of office space here is likely to more than double to 9 mn sq ft in 2021 from the average annual absorption levels of 3.5-4 mn sq ft during 2017-2018. The Delhi NCR office market is also expected to witness a revival, with leasing activity likely to increase significantly in 2020 and 2021.

New completions to ramp up in the next few years

> 2019 is set to achieve highest ever-recorded addition of Grade A supply!

Post a slow 2017 with new completions of only 26.9 mn sq ft of Grade A office space, 2018 witnessed the addition of more than 35 mn sq ft to the Grade A supply stock in the country. With new completions to the tune of 24 mn sq ft recorded in H1 2019, this year is expected to set a new benchmark - addition of 47 mn sq ft of Grade A office space to the supply. This will be the highest ever recorded supply in a single year in the India office market. Bengaluru continued to account for the largest share in terms of new completions at 35% of the total supply as of H1 2019. Interestingly, this was followed by Hyderabad and Delhi NCR which contributed nearly 23% to the new completions.

Hyderabad to lead new completions at 13 mn sq ft in 2019



Source: JLL REIS

Source: JLL REIS

This pace of new completions is likely to continue in the future years with India office market witnessing an addition of more than 40 mn sq ft every year to the stock till 2021. It is pertinent to note that the share of IT-SEZ supply is likely to decline over the next few years owing to uncertainty over extension of the sunset clause. Going ahead, Hyderabad is likely to surpass Bengaluru and be the front-runner, adding 13.2 mn sq ft in 2019 and nearly 21 mn sq ft in the two years post that. Pune and Delhi NCR also have a strong supply pipeline with a significant jump in new completions expected in the near future.

Addition of over 40 mn sq ft grade A office space each year till 2021

Stable vacancy with a healthy, consistent rental growth

Cities like Bengaluru, Hyderabad and Pune continued to witness single digit vacancies in the first half of 2019. A consistent and steady growth in demand despite higher influx of supply, has resulted in a rental growth of over 5% in H1 2019 on a Y-o-Y basis in these cities. In rest of the cities, the rental growth was below 3% on a Y-o-Y basis at the end of June 2019.

IT/ITeS dominated markets have already crossed the peak of 2008

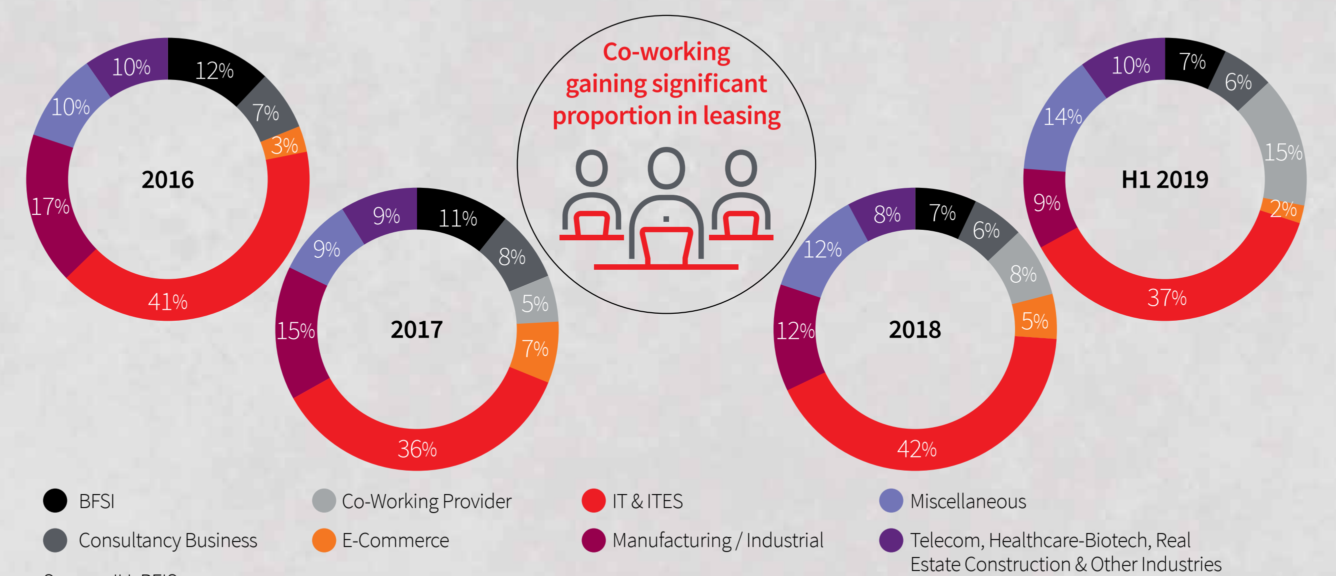
Cities	Mumbai	Delhi NCR	Bengaluru	Pune	Hyderabad	Chennai	Kolkata
Rental index (H1 2019)	59.0	59.1	136.5	109.8	107.0	110.1	81.4

Base Year (3Q 2008) = 100 Source: JLL REIS

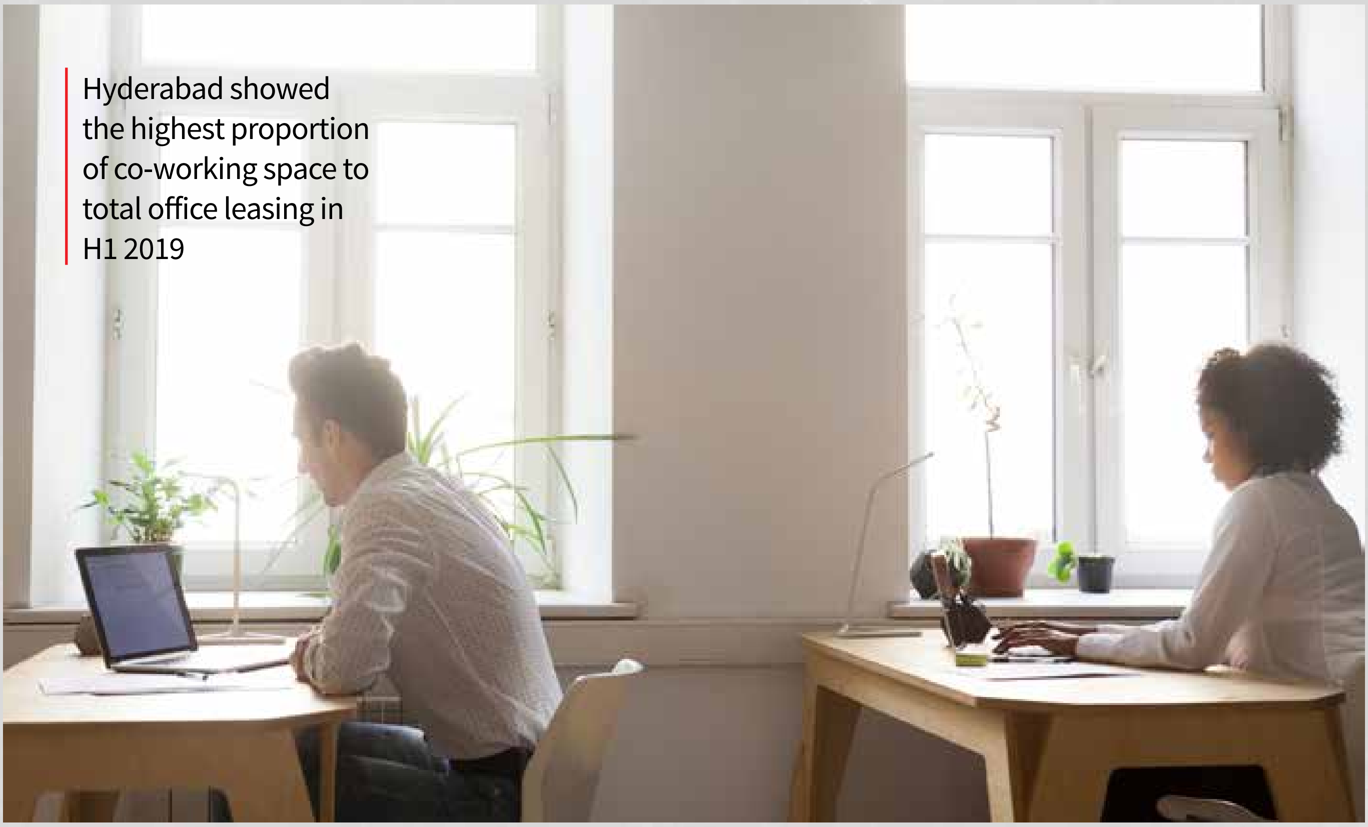
A look at the rental index clearly indicates that IT/ITeS dominated cities like Bengaluru, Pune, Hyderabad and Chennai have already surpassed the rental peak of 2008. Rental levels in cities like Delhi NCR and Mumbai continue to hover below the levels witnessed in 2008. Majority of the office activity was concentrated in the CBDs of Mumbai and Delhi NCR until 2010. The weighted average rentals of these submarkets witnessed its peak during this period owing to constrained supply and strong demand. Post 2010, the office markets started moving northwards in Mumbai and led to increased traction in the SBD markets of Lower Parel and BKC and emergence of peripheral markets (Thane and Navi Mumbai). Similarly, Gurugram and Noida gained significant prominence as business districts with the commencement of the Delhi metro which provided seamless connectivity to Delhi, Gurugram and Noida. In the last few years, most of the supply additions have been witnessed in the peripheral markets, where the average rentals are relatively lower than the prime markets. This has kept the overall average city rentals at levels significantly lower than those prevailing in 2008.

Larger firms will need to align space requirements to pre-leased office spaces

Despite the expected strong augmentation in supply, vacancy levels are anticipated to remain stable in the next two years, in anticipation of a sturdy increase in demand. Thus, larger firms (mainly IT/ITeS) will have to align their space requirements to pre-leased office spaces in single-digit vacancy markets such as Bengaluru, Hyderabad and Pune. At the same time, several large mainstream corporates are also exploring the option of moving into managed spaces of co-working operators and this changing occupier trend is gaining traction.



Source: JLL REIS

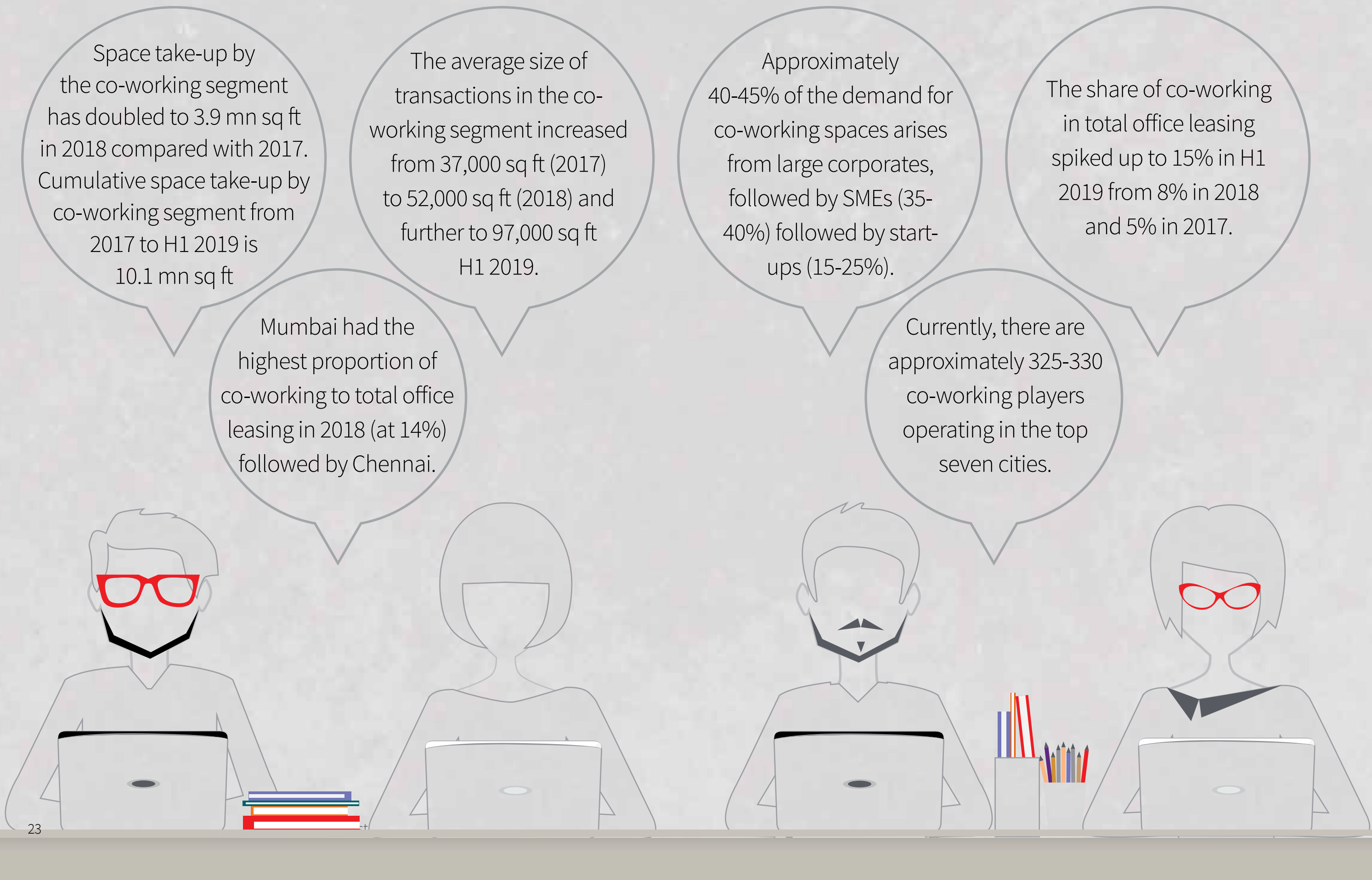


During the last three years, the contribution of co-working space to the total office leasing has grown significantly. Our assessment shows that out of the key 7 cities, Mumbai, Bengaluru and Delhi NCR have witnessed a marked increase in the proportion of co-working space to total office leasing. However, during first six months of 2019, it was Hyderabad which recorded the highest proportion (at 45%) of co-working space to total office leasing.

At the same time, IT/ITeS occupiers continued to account for a major chunk of the demand (37% of overall leasing).

Co-working revolutionising modern office spaces

Co-working at a glance



Co-working spaces are based on the model of a shared economy and these spaces are driving innovation in office markets. The concept has transformed the way businesses function allowing for the emergence of new commercial tenancy models and a recalibration of financial and human capital. It is indirectly providing an impetus to start-ups and SMEs. Typically, start-ups and SMEs face challenges regarding space availability among other financial worries, when venturing into business.

Innovative models like customised spaces and managed aggregator have emerged in co-working

The changing landscape of office spaces is fueled by the changing dynamics of a workforce, which needs vibrant and dynamic office spaces to perform to their full potential. These spaces offer unique facilities such as gymnasiums, crèche services, food courts etc., which is making them popular. Apart from SMEs and startups who look for cost effective and flexible options, co-working spaces have been gaining traction amongst large corporates too, due to the positive impact of such workspaces on employee productivity. Gauging the large potential of this sector, operators have come up with various business models such as lease and operate, customised spaces and managed aggregator models among others.

Why is the segment gaining traction?

Co-working spaces are not only a solution to issues related to space constraints and affordability, they have also emerged as multi-service providers. Along with the flexibility of scaling operations, they provide an environment where like-minded professionals can interact with one another thereby strengthening the 'community' aspect. Initially, the co-working spaces emerged to fulfill the need of startups and SMEs to scale up. They allowed for the flexibility of scaling and leasing along with providing significant exposure for these nascent brands. However, the trend has spread rapidly to corporates who view this as a cost optimising option. It is also seen as enhancing employee productivity. A survey by JLL showed that 40-45% of co-working demand emanated from big corporates, followed by SMEs which contributed to 35-40% and 15-25% demand came from startups.

Increasing importance of co-working spaces

Co-working spaces have been growing exponentially in different geographical locations, thereby changing the outlook of office space leasing. There has been a significant rise in total leased space, which stood at 4.3 mn sq ft in H1 2019 compared to 3.9 mn sq ft in 2018. The growth in the sector is attributable to the rapid scaling up of existing players and entry of new ones with innovative business models. Trends in the top seven cities show an increase from 5% in 2017 to 8% in 2018 in the share of office leasing. This further increased to 15% in H1 2019.

The huge potential of this sector is attracting investment and this in turn is furthering growth. Investments and acquisitions are not just driving geographical expansion, but also aiding technological augmentation, upgradation of amenities and an increase in the client base. They are also providing a platform for start-ups. Some of the major players that have established a name for themselves in the market include WeWork, Awfis Space Solutions, The Hive and CoWrks among others.

Co-working players have turned around the commercial real estate sector with their innovative and modern product offerings. Co-working players have made business management for these corporates easy by taking away the load of office administration. Hence, corporates can focus on their core competencies. Rather than just being a service provider to the big corporates, they have also emerged as business enablers for market entrants who want to establish their brands in the market. These players have not restricted themselves to commercial office spaces alone, but have ventured into other locations such as shopping malls, hotels and metro stations. The success of co-working spaces is based on innovative and cost-effective offerings to occupiers. In terms of future potential of the segment, innovation driven business models will ensure maximum space utilisation and attract investments into this segment.

While the boom in IT/ITeS in India saw massive growth in office markets, the current pace of digitisation is giving birth to growth of data centres. We see immense potential in this sector and data centred businesses will reap the benefits of innovations taking place here.

India's data centre industry- at the tipping point of quantum growth

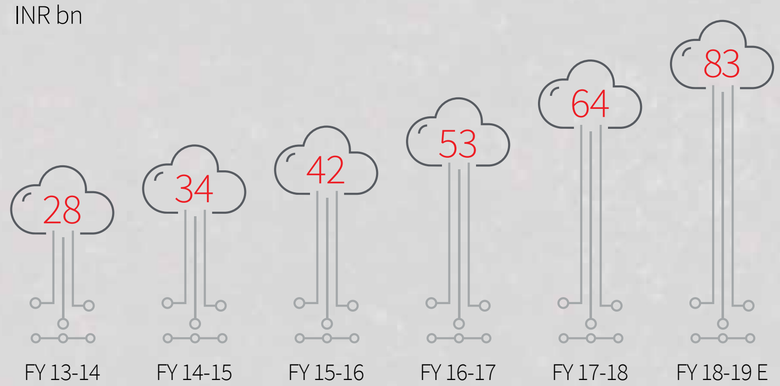
An efficient data centre is at the heart of every digitally connected organisation. Due to the increasingly important role they play in the digital era, data centres have slowly evolved from being an in-house activity to a specialised industry, which provides services for data storage and other value added services. High growth internet based applications in various industries have led to the setting up of large data centres globally and locally.

India's population demographics is giving birth to an advantage unheard of – the data advantage. India's 354 mn smartphone user population (the second largest worldwide) is expected to double by 2023. This has led to a massive growth of data usage (the DNA of information) and consequently, growth of data centres.

Rising internet usage for financial transactions, demand for on-demand media services, e-commerce and social media, coupled with falling data costs has led to unprecedented growth in use of data. Though the current need is being met with through data centres across the globe, legislation on personal data is being considered the tipping point for data centre industry in India. Data policy bill is expected to be tabled soon.

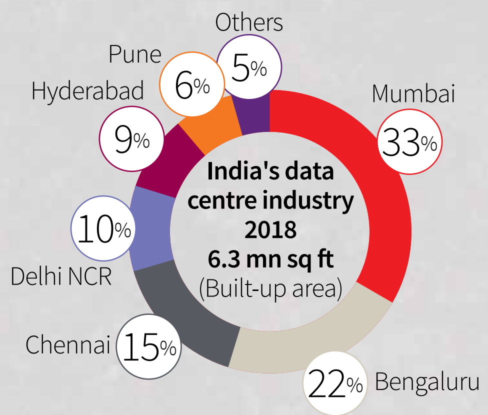
The government has introduced many legislations that focus on data protection. The key legislations that are likely to have an immediate impact are: RBI's notification on 'Storage of Payment System Data', draft Personal Data Protection Bill 2018, draft e-commerce policy and the draft e-pharmacy regulations.

24% CAGR growth of India's data centre industry



Source: JLL REIS

Mumbai leads with 1/3 share



Source: JLL REIS

India's data centre industry grew at a CAGR of 24% between FY 2013-14 and FY 2018-19. The country's data centre capacity is estimated to be close to 480 MVA with revenues around INR 83 bn in FY 2018-19. Metros like Mumbai, Bengaluru and Chennai together account for 70% of total built-up area of the data centre industry, followed by Hyderabad at 9% and Delhi NCR at 10%.

JLL research expects India's data industry to double by FY 2021-22 driven by data localisation, rising internet usage, increasing usage of internet connected devices and lowering cost of data. Mumbai is expected to maintain its lead due to uninterrupted power supply, increasing undersea cable landing station capacity and presence of BFSI space.

The current key challenges faced in setting up data centres in India are:

• High cost of development (requires large BTS spaces)	• Lack of technical knowhow and specialist skills for development of such centres	• Internet speed that can serve enterprises in real time remains a challenge	• Concern over data privacy and cloud security	• Environment issues surrounding cooling needs of data centres

However, despite current challenges we expect that interest in developing such centres will continue unabated, as the potential the sector presents is huge.

While demand for office space remain buoyant, client needs are changing due to increased use of technology and enhanced consciousness regarding environmental concerns. Businesses are striving to operate efficiently and want to reduce the impact their firms have on the environment. This is bringing about a change in the nature of demand for commercial real estate. Concepts like sustainability, green buildings and WELL certification are making a headway in the world of commercial real estate.

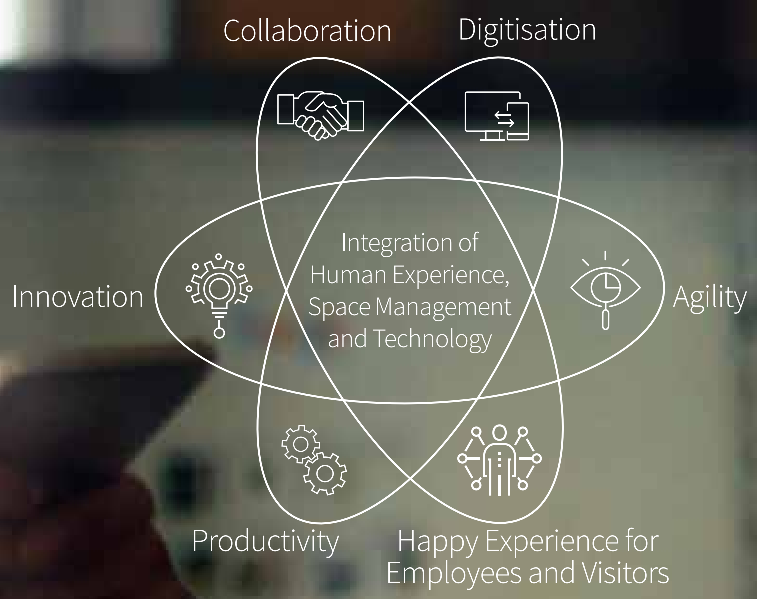
The subsequent sections of this chapter will focus on the emerging technological interventions in commercial office space to meet the changing occupier needs. This will further aid in rationalising real estate costs while building greener workspaces.

Technological innovations driving change in workspaces

Structural changes are currently underway in the manner in which corporates are working. Greater focus is now seen on creativity, agility, innovation and collaboration. The changing nature of working practices has a profound effect on the working environment and requirements from an office space. End users in a corporate space now expect a seamlessly integrated and personalised experience tailored to their needs. Consequently, technological innovations and tools are being implemented by corporates. This is playing an important role in redefining the future of workspaces in India.

New workplaces now typically include an open collaborative design tailored to the wide-ranging workflow of each employee including focus pods, collaboration lounges and relaxation spaces.

Requirements of today's workplace



Technology augmentation enhancing efficiency of human capital

Technologies such as Internet of Things (IoT) and Artificial Intelligence (AI) are now being adopted in India by corporate occupiers. Technologically enabled workplaces offer the following benefits:

- They create a more resourceful, comfortable and safe atmosphere
- Help employees focus on their core business, rather than spending time on administrative and functional aspects of operations
- Improved employee experience enhances productivity and thereby has a positive impact on the top-line as well

> Technological tools are helping track softer aspects of human experiences at work

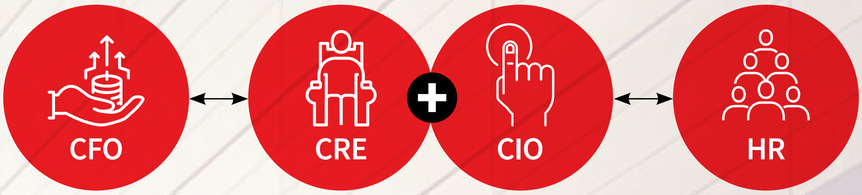
Hence by incorporating technology in workplaces, corporates will be able to save on a major proportion of their cost component i.e. human capital. Enhanced occupier experience is the most significant value proposition of a technology driven workplace.

Data enabled business strategy

Technological tools help track data on various aspects related to the functioning of a workplace and employee satisfaction. Conventional measures of achievement, such as higher income and cost savings are being augmented with real time data analysis of softer aspects of human experience such as sustainability, health and well-being of employees.

Gradually more and more corporate occupiers are planning to incorporate technology across the lifecycle of building a sustainable workplace. It is generally observed that this enhances the efficiency of a real estate space by 20% in terms of space utilisation.

Data Enabled Decision Making: Integrated Corporate Business Strategy



Workplace + Technology

Today CFO and HR professionals of organisations collaborate with CRE and CIO heads on how to improve employee productivity and satisfaction at the business planning stage itself in terms of:

> Technology is making its debut at the inception stage of business planning

Real estate space optimisation

- Making employees agile and collaborative
- Current desk utilisation
- Meeting rooms utilisation

Creating healthy workspace environment

Sensors measure CO_2, light, humidity, temperature and noise

Maximising Employee satisfaction

- Environment
- Safety
- Health & Wellness
- Amenities

Data-driven enterprises have access to a whole new world of insights and intelligence. Organisations can decode the parameters associated with a workplace for formulating their business strategy. Advanced and predictive analytics can take an organisation to new altitudes of understanding employee expectations.

Technology driving human experience at workspaces

Technological solutions enhance the experience of employees and visitors as it enables collaboration and a sense of well-being. Workplace strategy has moved from just design based decision making, to a more experience led approach. Human experience has become a key differentiator for organisations focussing on quality of life at work.

The table below lists the various technological touch points that act as an interface for the employees at their workplaces.

Technology driving human experience at corporate workspaces

Employee Touch Point	Technology provided	Benefits
Plans car pool to reach office	Web platform and mobile app	• **Shows the available resources** like cars and parking spots
Enters the building and parks the car	**Parking management system:** Both software and hardware solutions	• **Mobile Application and Online service for reservations:** Employees/visitors secure a reserved parking space from home or en-route via smartphone. • **Barrier gates for all applications:** Customised feature rich barrier gates enhances drive in experience. • **Versatile data carriers:** In addition to a single-use ticket, keytag or reusable RFID card for contactless entry and exit, the solution also turns mobile phones into data carriers. • **Signages** indicate available parking spaces. Digital signs display directional symbols guide to the nearest free parking space. Each space is equipped with a coloured occupancy indicator, making it easy to see which parking spaces are available.
Occupies work station	**Smart desk booking:** Cloud-based application	• Enables the booking of desks, manage bookings and locate colleagues.
Has a visitor/ Attends unplanned meeting	**Meeting Room Management:** Interactive screen for booking, check-in and check-out **Smart Visitor Experience:** App based solution	**Meeting Room Management** • Streamlines booking process, tracks no show to increase occupancy rate • Enhances employee experience and saves real estate cost **Smart Visitor Experience** • Facilitate swift check-in via self-check-in iPad solution. This saves cost by eliminating the need of assistance from front desk with visitor registration and host notification.
Accesses cafeteria	**Smart Cafeteria Solution:** An end to end mobile solution	• Allows employees to place their food orders at workplace from their mobile, pay digitally and eliminate queues. • The solution also enables employees to track calories and generate health tips.
Connect to a colleague in office premises	**Kiosk Screens & App**	• Helps with navigation to a specific point or person in the office premises

Technological augmentations for space management

Components	Tools	Outcome/Benefits
Tracking Space Utilisation	Using IoT and heat maps, real time occupancy of desks and meeting rooms can be tracked	Helps in planning for optimal space utilisation and maximising the efficiency of space
Monitoring air quality	Using IoT to observe air quality and air pressure	Enhances wellbeing and comfort level of employees

Apart from large enterprises, flexible space operators are also providing advanced technological tools to provide a superlative experience to its occupiers. Along with occupiers, landlords and developers will also play a key role in the transformation of workplaces.

Case Study

Global Centre of Expertise (CoE) for Technology, Data and Information Management by JLL in Bengaluru

JLL launched **Global Centre for Technology, Data and Information Management** in Bengaluru in November 2018. This state-of-the-art facility is focused on harnessing emerging technologies and developing new solutions for JLL and its clients. As India's first global centre for property technology (PropTech), the Centre of Excellence (CoE) sets new standards of innovation for the commercial real estate industry.

Spread over 20,000 sq.ft at Prestige Trade Towers in Bengaluru the CoE provide a single data, engineering and support platform to JLL and its clients globally. The centre drives rapid iterative innovation, aiming to set new standards for the commercial real estate industry. This includes experimenting with data and technology design, artificial intelligence, augmented reality, virtual reality and other emerging technologies to help JLL's clients make smarter decisions about real estate. CoE delivers an end-to-end digital experience, underpinned by a modern data and technology platform that leverages JLL's deep knowledge-base to enable unique data insights and advanced **digital solutions to the clients.**

Key Features:

- **Cave Automatic Virtual Environment (CAVE)** - A projection technology that enables teams to utilise an immersive VR environment for better research, design & analysis.
- The CoE is designed to meet **WELL Gold Standard** for the highest levels of health and safety in a workplace: The WELL Gold Standard evaluates facilities on various factors involving air, water, light and other elements to ensure a healthy environment. There is plenty of natural light, air purifiers as well as adjustable, ergonomic furniture to reduce strain & body discomfort. The office also includes indoor air quality (IAQ) monitors, occupancy sensors to track space utilisation & collaboration platforms for connecting with clients and teams globally.
- **A great mix of work environment** has been created including a board room, meeting rooms of different capacities, large open work areas, phone booths, focus and sleep pods. It also features electric standing desks, a multi-purpose work café and variety of collaboration spaces with a community feel. This fosters a collaborative work culture and improves employee productivity.
- **Smart technology enhances user experience** - With cloud based video conferencing, app-based admin services, and Cisco Unified Communication Products.
- The CoE will serve as a **Liquid Lab** to develop and test products to tackle workplace challenges for clients across the globe. Teams will also collaborate with the start-up ecosystem in India to test their products / solutions, fast track new technologies and provide trial spaces for testing and developing.
- JLL's '**Future of Work**' is a model on the changing world of work and its impact on the next generation of real estate. It charts a five-dimensional path to a workplace ready for the future. Human experience, digital drive, continuous innovation, operational excellence and financial performance comprise the five interrelated dimensions in this model. CoE encompasses all the 'Future of Work' dimensions in design, technology, innovation and service.


JLL

Wellness in real estate

The concept of Green Buildings emerged around 1993 and included buildings that reduced the negative impacts on environment by being resource efficient, reducing pollution, using non-toxic materials for construction and so on. The bend towards healthy living has taken the concept of sustainable and green office spaces a step further. The concept of wellness is increasingly gaining ground in office spaces and is transforming the product offerings by developers.

> Buildings with Well Certification are the latest hallmark of wellness at work

Business managers are increasingly taking initiatives to improve office layouts so as to increase employee productivity. They realise that poor quality of infrastructure, improper ventilation and noisy layouts adversely impact productive efficiency of employees. This burgeoning demand from corporates has led to the emergence of WELL certified buildings.

What does the Wellness Certificate imply?

The International WELL Building Institute (IWBI) formulated the standard for office buildings and their interiors that promoted and enhanced the social, economic and environmental well-being of occupants. The key focus areas of the standard include fresh air, hygienic water, sufficient light and facilities for the nourishment, fitness and comfort of occupants. It is intuitively, a blend of human sciences with building sciences.

Taking sustainable office developments a step ahead in India

Well certification is at a very nascent stage in India as it has been introduced recently. Although, the concept has gained popularity among residential buyers of homes, developers of commercial property and corporates, it is still largely concentrated among MNCs. The MNCs who are familiar with the 3-30-300 principle and hence, would like to economise on costs are viewing well certification with interest. The progress however, is still not satisfactory as clients are hesitant to opt for wellness certificates owing to the high costs of certification and dependence on base builders for upgrading already existing facilities. In the residential sector, awareness of both the consumers and developers regarding this concept is low.

Who gains? Occupants or Developers?

The answer is **BOTH**.

Increased access to knowledge and data on building performance and its impact on employee performances are leading to corporates demanding more from the developers than just brick and mortar. The main driver of demand are business managers who realise that the highest cost in an organisation is incurred on employees. Hence, it is absolutely essential to provide an environment which guarantees their happiness and wellness at work.

An occupier's perspective

Cost savings

- Cost savings by realising the 3-30-300 principle (The concept that a firm spends approximately USD 3 per sq.ft. per month for utilities and amenities, USD 30 per sq.ft. per month for rent and maintenance and USD 300 per sq.ft. per month on human capital.)
- Highest cost incurred on human capital
- Reduced absenteeism and good health leads to lower financial liabilities
- Higher employee retention leads to lower recruitment costs

Increased efficiency

- Good health enhances productivity by 8-11%
- Performance efficiency boosted by reduced noise layouts, active furnishings, collaborative office layouts, good quality water and sufficient lighting among other facilities.

A developer's perspective

While employees save on costs and guarantee efficient employee performances, developers gain in the form of higher rents, investments, larger number of contracts among others.

Premium rents

- Attracting tenants capable of paying a 5% - 20% premium on existing market rent, owing to building's wellness, green and healthy features.

Ensuring lower vacancy

- Compared with those without a certification, these assets also perform better during market downturn.
- Leading corporates in India are portraying WELL Core & Shell as their fundamental requirements when scouting for office spaces.

Increased tenant retention

- Increased tenant retention saves new tenant search cost which is approximately 0.5% - 20% of the annual rental.

Increased number of contracts

- A 30%-45% increase in possibility of signing mid to long term lease contracts, helps in securing steady rental incomes even during market uncertainties.

Higher investments

- Greater demand from organized real estate investors (including real estate funds and REITs owners) offering higher resale values for high-quality buildings.

The concept of well-certified buildings proves mutually beneficial, in the short as well as long run. They result in higher returns, greater marketability and faster leasing and sales velocity. The cost of inclusion of wellness features, on the other hand forms a miniscule portion of the potential future gains and monetary returns that it accrues.

Developments in the Well Certification sphere

Green Building initiatives in India have been accelerating during the last 10 years. IGBC reports that India has more than 5,300 green certified buildings. This stock represents about 6.9 billion sq ft of built-up space and it has the greatest potential to earn wellness certification in the future. The maximum number of projects have been registered in Maharashtra followed by Uttar Pradesh. As per IWBI, 41 projects encompassing more than 28 million sq ft across India are Well Certified. A few select projects are listed below.

Select WELL certified projects in India

Project Name	Project Size (In sq.ft.)	City
Artesia-K. Raheja Corp Residential Tower	492,631	Mumbai
Prestige Falcon Towers	492,000	Bengaluru
Office Building at sector 18	378,889	Gurugram
Paharpur Business Centre	48,469	New Delhi
Citi Enclave Phase 6 C	19,677	Pune
Mint Towers	16,909	Chennai
Group10 Office Gurugram	7,956	Gurugram
GBCI India Corporate Office	3,978	Noida

Source: IWBI

The potential for such product offerings is quite large owing to increasing concerns about sustainable developments and green office spaces. The absence of barriers to entry are encouraging more projects to come up. Further, government's policies such as Smart Cities Mission, Pradhan Mantri Awas Yojana (PMAY) and Atal Mission for Rejuvenation and Urban Transformation (AMRUT) also fall in line with the aligned objectives thereby reducing policy resistance. Numerous initiatives in this regard reflect the optimism surrounding growth of green buildings and well certified projects in India.

Retail - Advent of FECs

Retail Innovation-FECs driving footfalls in malls

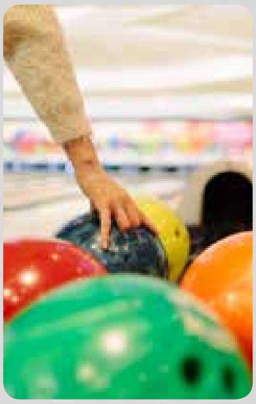
In the retail sector, the need for community spaces has led to the emergence of malls and within mall spaces, Family Entertainment Centres (FECs) are acting as change drivers.

India has emerged as one of the most dynamic and fast-paced retail markets over the last 10 years with a size of about INR 65 trillion in 2018, and anticipated to grow at a CAGR of ~10% during 2019-2021. It currently accounts for ~10% GDP and ~9% employment share. This has directly resulted in significant demand and supply for Grade A retail destinations, leading to a combined stock of ~ 81 mn sq ft in the top seven cities (NCR, Mumbai, Kolkata, Chennai, Bengaluru, Hyderabad and Pune).

FECs are increasingly helping in retaining footfalls within malls

This sector has witnessed significant demand in one particular category viz. FECs. FECs are primarily entertainment zones designed to keep the entire family engaged. They offer options such as gaming consoles, arcades, indoor playground systems, children's rides etc. With an industry size of an estimated INR 10 trillion in 2018 and forecast to grow at a CAGR of ~13% during 2019-2021, India has witnessed an increase in the popularity of FECs, with particular contribution from Grade A malls. Malls are actively including FECs, since they help in increasing and retaining footfalls. They also help increase the number of hours consumers spend in malls. Now, developers have begun to plan bigger spaces in their malls and consider FECs a desirable unique selling proposition (USP).

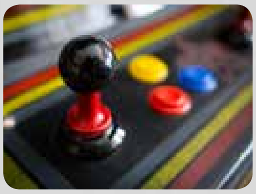
FECs are expected to see significant growth in the near future as well, due to aggressive penetration from various key players. Some of the key players are as follows:



SMAAASH

Launched in 2012, SMAAASH is one of India's acclaimed gaming and entertainment centres that showcases sports, virtual reality, music and dining into an immersive, evolved, interactive and innovative social experience for family, friends and children. It is a virtual reality led entertainment centre.

Currently present in Mumbai, Gurugram, Delhi, Hyderabad, Bengaluru, Noida, Mangalore, Bhopal, Mysore, Indore, Chandigarh, Pune and Ludhiana, SMAAASH is now also present in the Mall of America. It now has 33 centres and an average set up area of 8,000 to 10,000 sq ft. SMAAASH is aggressively expanding in Tier II & III towns in India. Due to the aspirational nature of the ambience it offers, consistent demand from these cities for such centres is emerging.



BUSTERS

Busters is the latest entrant into the organised retail FEC space in South India. The brand is currently on an aggressive expansion spree. They are constantly looking to expand both organically as well as inorganically and are aiming to touch 30 centres by 2020. The bowling arena, rides and an exclusive selection of arcade games are the key attractions at Busters.

TIME ZONE

Time Zone India has gloriously risen to 25 outlets in metropolitan and major cities like Mumbai, Bengaluru, Kolkata, Siliguri, Pune, Goa, Raipur, Patna and Vadodara over the last few years. Established since 2004, Time Zone is now recognised as the one-stop interactive entertainment destination and a cherished- bonding over fun-place for millions nationwide.

FUN CITY

Fun City is another one of the major FECs in India, entertaining its customers for a long time. Providing games for every age group makes it a family entertainer. Present in almost every metropolitan and major city, it is the most spread out FEC in India.

The need for more space for FECs and Food and Beverages (F&B) is also being fuelled by the increase in online shopping. With over the counter shopping not being the key driver anymore, FECs and F&B have become the key differentiators between malls and high street / online experience. FECs and F&B now often occupy as high as 50 percent of the total mall space, against ~20 percent until 4 years ago.

The nuclear family's need for spending quality time is dictating growth of FECs


250

Capital Markets - Ascent of new investment options

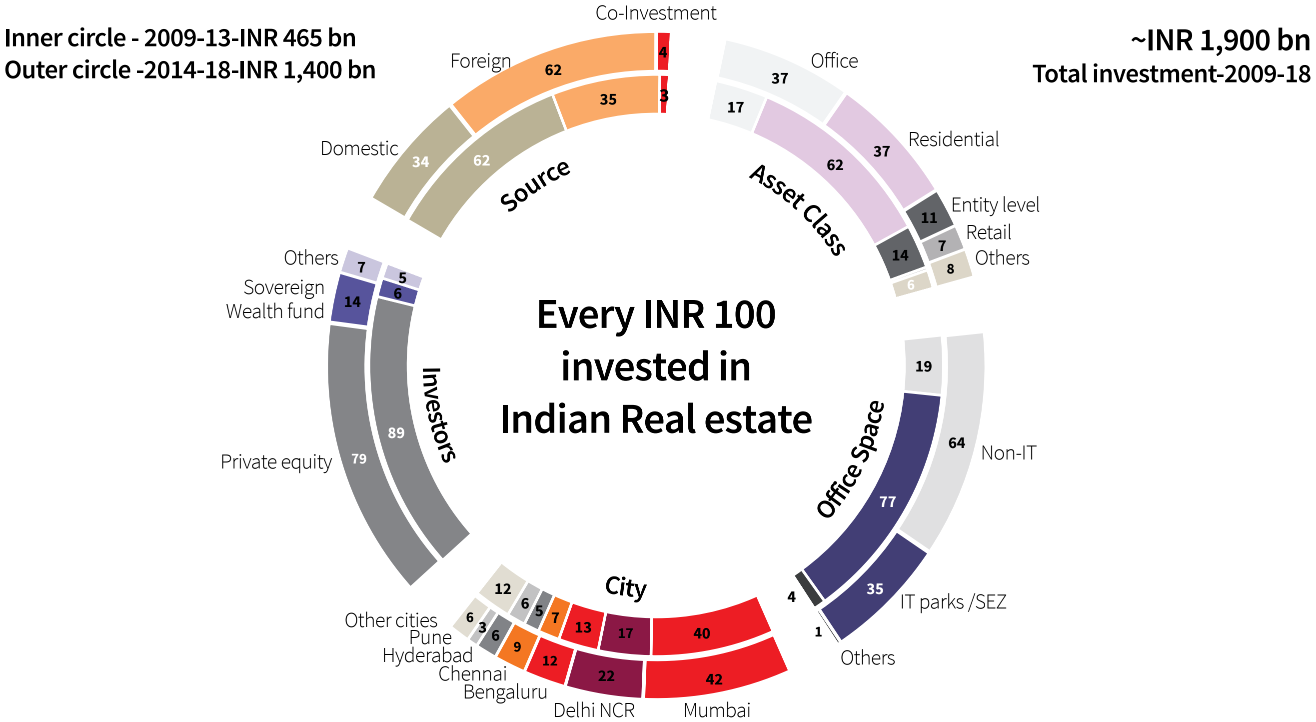
Paradigm shift in Indian real estate investments

The lessons learnt from financial meltdown influenced the investment patterns of Indian real estate. Investors sought more active participation in investment process by forming platform fund or joint ventures with marquee developers. The objective of superior risk adjusted returns led to investments in new emerging asset classes like co-working, co-living, student housing, schools, hospitals etc. The first listing of REITs in India opened up new alternative investment option for retail investors. The policy reforms, robust demand in some asset classes new investment structures led to increase in investments over the years.

Over the years, the Indian real estate industry has been receiving capital from various institutions like scheduled commercial banks, institutional investors and Non-banking Financial Institutions (NBFIs).The review of institutional investments in Indian real estate post 2008 has revealed two distinct phases as shown in the graphics. Institutional investors have invested INR 1900 bn during 2009-2018 in Indian real estate. These investors include family offices, foreign banks' real estate investment desks, pension funds, private equity firms, real estate investor-cum-developers, sovereign wealth funds and foreign firms.

The period from 2009-2013 saw slow recovery of investments in real estate sector, while the second phase (from 2014-18) witnessed faster growth due to several reforms introduced during this period. The comparison of investments during these two phases reveals the following trends.

Three-fold increase in institutional investments during 2014-18 over 2009-13



Source: JLL Research

Some key inferences, which can be drawn from the above graphics, are as follows:

An era of recovery (2014-18)

- The Indian real estate attracted INR 465 bn between 2009-2013 forming 25% of the total investments received during 2009-18. The initial momentum of investments lost its steam after 2011 due to slowdown in economic growth, high interest rates and delay in implementation of policy reforms.
- The period 2014-18 was an era of transformation in Indian real estate and it witnessed a record flow of investments amounting to INR 1,400 bn. These investments were three times more than those seen in the 2009-13 period.
- Transformative reforms like introduction of Securities and Exchange Board of India (SEBI) guidelines for Real Estate Investment Trusts (2014), Housing for All Mission (2015), Real Estate Regulation and Development Act (2016), Benami Transactions (Prohibition) Amended Act (2016) and relaxation in Foreign Direct Investment norms changed the face of the sector during the 2014-18 period.

6-fold jump in investments in commercial office space driven by strong occupier demand, higher returns and REIT regulations

- The period 2009-18 witnessed a dramatic shift in the asset classes preferred by investors with commercial office spaces gaining prominence. This asset class edged out the residential sector. Retail and warehousing also witnessed some activity during 2014-18 period.
- Institutional investments in commercial office space rose to INR 622 bn (2014-18) from INR 105 bn (2009-13) - a whopping 6 fold jump due to strong office space demand.
- The successful launch of the first REIT in India in 2019 is a testimony to the fact that progressive reforms introduced since 2014 have led to a rise in investments and the future outlook for commercial spaces is promising.
- The retail sector saw a quantum leap as investments jumped to INR 102 bn during 2014-18 from INR 7 bn during the 2009-13 period.

> Innovation in the investment space was witnessed in the form of the first REIT

- The warehousing and logistics sectors have also gathered momentum as the landmark tax reform Goods and Services Tax (GST) was introduced. The “Make in India” initiative and the e-commerce revolution have also played a significant role in propelling growth in these sector.

Non-IT office space share rose from 19% to 64% between the two periods, driven by surge in investments into upcoming REIT spaces

- The return of capital flow post GFC led to picking up of marquee assets by opportunistic funds in select office spaces (Commercial and IT parks /SEZs) during 2009-13.
- Notification of REIT regulations in 2014 led to a deluge of investments in high yielding assets with attractive valuations, especially in the Non-IT office space as most quality IT/ ITeS assets were acquired by funds.
- Preference for Grade-A office space with single ownership and its limited supply, pushed global investors to close big deals in these assets whenever they were available.

Top 3 cities still dominate investment choices with Mumbai leading the pack

- Investments across asset classes remained concentrated in Delhi NCR, Mumbai and Bengaluru which accounted for 74% of the total institutional investments during 2009-18
- Higher share of office space in these cities followed by residential and retail segment has led to the skew in investments towards office space during the above period.
- The policy focus on growth of tier-II and III cities will lead to a wider spatial distribution of investments over the next few years.

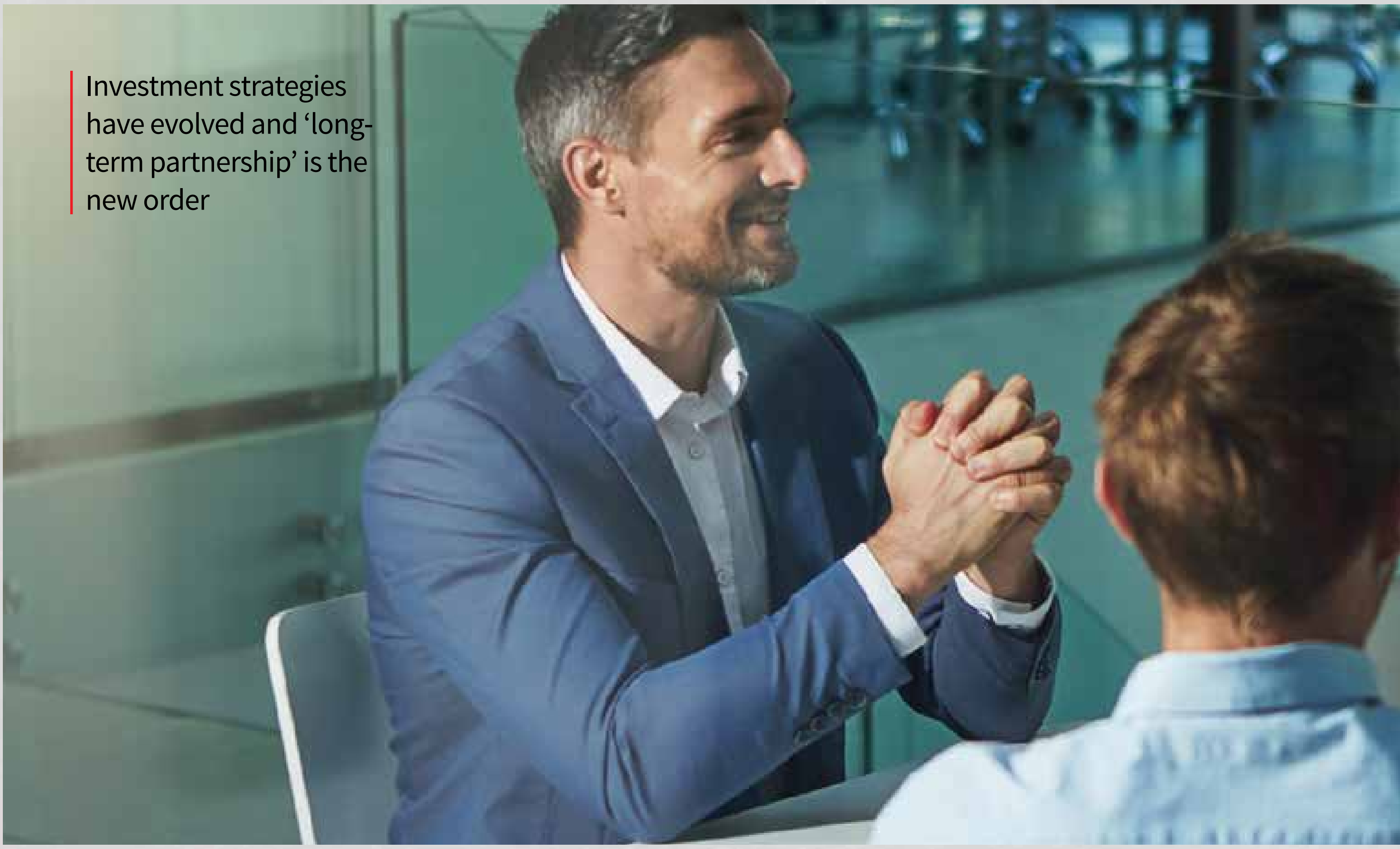
8-fold rise in share of Sovereign wealth funds indicating long term prospects

- Aggressive investments by sovereign wealth funds (SWF) is a prominent trend witnessed, though private equity accounted for more than 80% share of investments during 2009-18.
- SWFs are investing as anchor investors in platform funds as well as entering into joint ventures with pedigree developers.
- Higher investments by SWFs indicate that the real estate sector is a preferred asset class for long term investments by global investors.

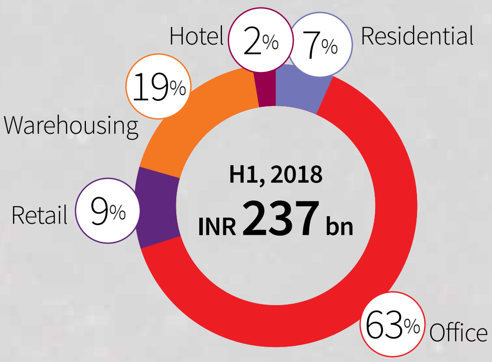
Global investor share rose from 41% to 62% with rising confidence and transparency

- Foreign investments increased gradually during the decade with rising investor confidence and improved risk appetite.
- Global investors have been seeking active participation by forming joint ventures and investments platforms as compared to blind pool funds.
- Investment strategies have clearly shifted from being largely opportunistic to long-term partnership driven.

The ground laid by reforms in 2014-18 has led to the launch of India's first REIT in April 2019. A review of current trends in investments and a close look at REITs follows



Investments took a breather in H1 2019; Stability and continuity to drive growth in rest of 2019



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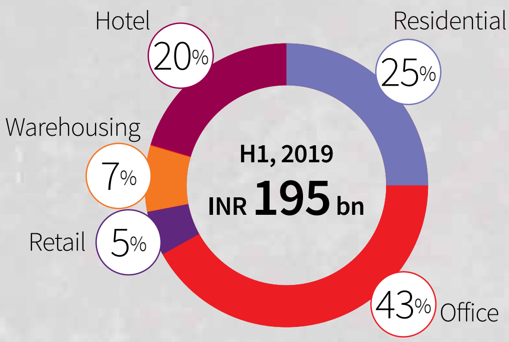


Source: JLL Research

Institutional investments in real estate took a breather in H1, 2019 closing their tally at a lower number (INR 195 bn) compared to INR 237 bn in the same period in the previous year. The investment climate in first half of 2019 was befuddled with uncertainty. Initially this was due to the NBFC default crisis and later due to general elections in the world's largest democracy.

The signals of strong demand in office sector and signs of improvement in residential sector absorption seem to be reflected in the investment patterns in H1, 2019. Residential sector saw reversal of trends with share of investments bouncing from mere 7% to 25% during the first halves of 2018 and 2019 respectively. Residential sector continued its growth journey as sales grew by 22% in first half of 2019 as per JLL research analysis of top 7 cities. Commercial office sector saw a decline in investments as lower availability of quality assets led to large investors chasing entity level deals leading to extended investment cycles. Another distinct investment trend has been that of investors getting aggressive by picking stressed asset opportunities as the hotel sector saw two large deals during the H1,2019. On the other hand, investments in the warehousing sector moved to smaller sizes, as compared to entity deals in the previous year.

The first half of 2019 has been thus insightful and different in many ways as compared to our analysis of the institutional investments during 2009-18.

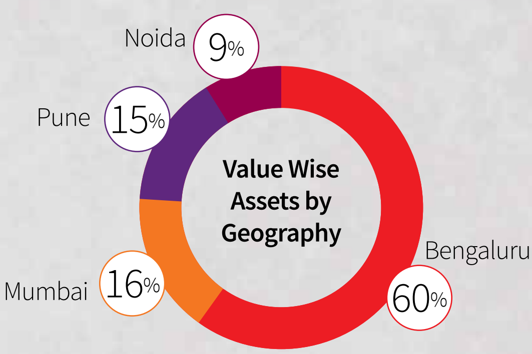
Real estate investment trusts (REIT) - Heralding a new era in real estate investments

India witnessed the launch and subsequent successful listing of its first REIT issue by Embassy Office Parks recently. This marks the birth of a fresh investment avenue and unfolding of a bright, new chapter in real estate markets in the country. The REIT was launched five years after regulations were notified in 2014. Two factors- progressive regulations and robust investor interest contributed to the success of this issue.

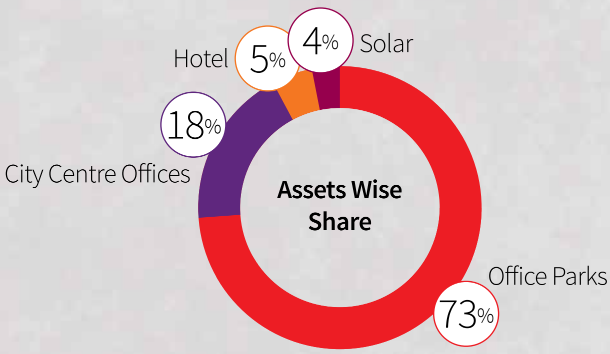
Expected returns from REIT investments in India was a topic intensely discussed and debated. This was not surprising as retail investor interest hinged on return expectations. Return expectations in any economy are a function of the risk free rate at the lower end of the returns spectrum and equity return rate at the higher end. We analysed the long-term returns from equity, mutual funds and risk free bonds to understand the returns scenario in India. The comparison of various existing investment options indicates that REITs returns have to compete well with other investment options to attract retail investors. However, insurance and pension funds are asset classes which would anyways actively consider REITs due to their ability to provide stable returns over a longer horizon.

Embassy Office Parks REITs snapshot

1. Portfolio of 32.6 msf comprising of 24.2 msf completed and 2.9 msf under construction office space.
2. REIT also owns four hotels (1,096 hotel keys) of which one is operational and the balance are under construction and a 100 MW captive solar plant within the office parks.
3. The REIT has reported revenues of INR 16 bn in FY 2018.
4. The market capitalisation value of the REIT stood at INR 280 bn as on 2nd August 2019.

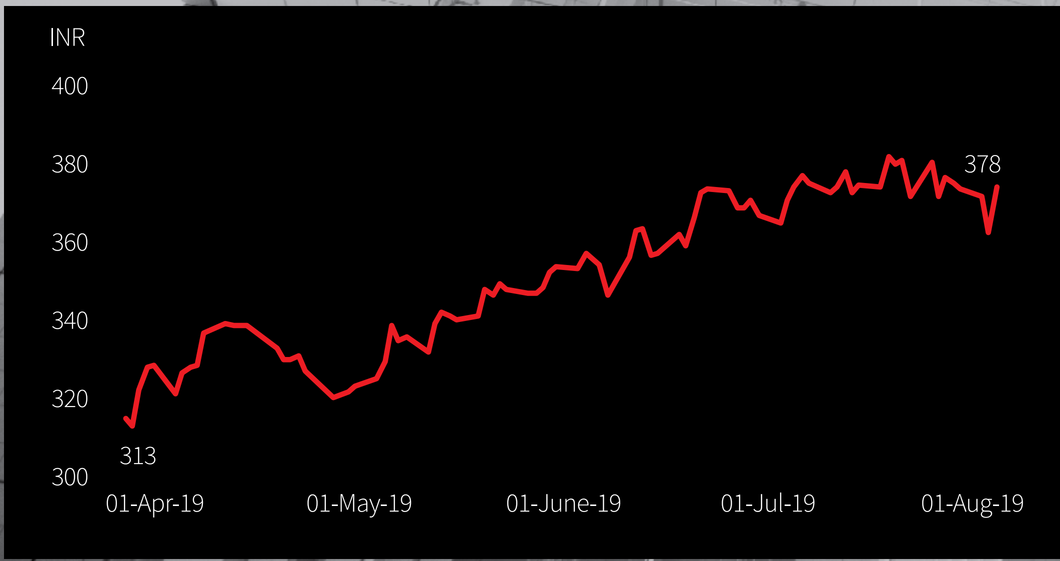


Source: JLL Research



Source: JLL Research

Embassy Office Parks REIT trading at premium to listed price



Source: National Stock Exchange

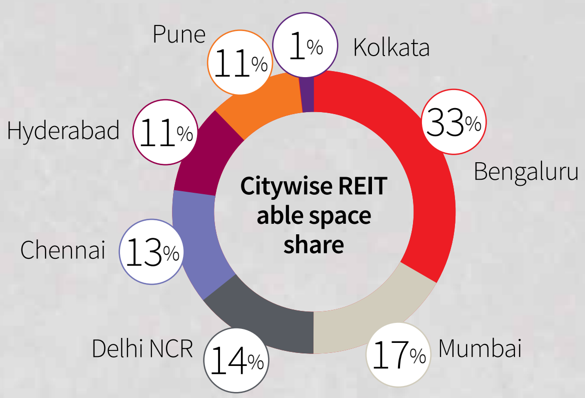
The Embassy Office Parks REIT was listed in April 2019 and is currently trading at a premium of 25% to its allotted price. The performance of this REIT is expected to serve as a benchmark for the launch of future REITs in India. In India, office spaces would be the preferred asset class for REITs as many global funds who have invested in these asset classes can exit by listing the assets through REITs.

India's REIT worthy assets estimated at 294 mn sq. ft.

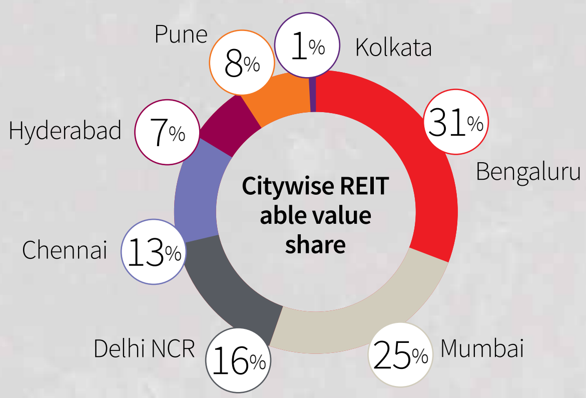
India's commercial office segment has been the favorite asset class of institutional investors over the years. A detailed analysis of the office market based on asset ownership, size of the property, leased space and asset quality has been undertaken to arrive at REIT-able office space. Single ownership and larger floor space offices with good occupancy rates being the natural choice for floating REITs, we have arrived at the REIT worthy assets based on these criteria. JLL research indicates that 294 mn sq ft* of office, space stock would be eligible for REIT. This would translate to a potential investment of INR 2,400 bn.

(Indicates REIT able asset from stock as on 2018 and includes Embassy Office Parks REITs)*

Bengaluru to lead REIT- able office space share



Source: JLL Research



Source: JLL Research

Apart from a close look at REITs, we now delve into the arena of platform funds as these have been gaining prominence. When we dwell upon innovations in the real estate sector, REIT investments and the growth in platform funds both need a detailed study.

Platform funds - Gaining pace on the back of strong investor confidence

Dedicated investment platform deals/funds which first appeared in 2012 with the Godrej–APG platform deal in the residential segment, have come a long way. The total commitment till date is INR 572 bn.

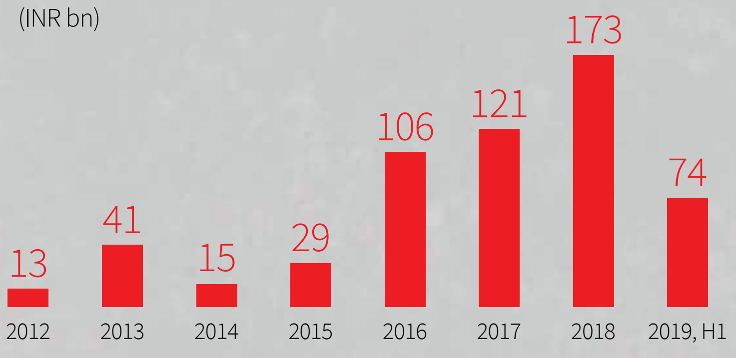
Though blind pool funds (with unstated investment goals) account for a dominant share, platform/JV funding have witnessed a significant jump - from INR 13 bn in 2012 to INR 173 bn in 2018. This transition has been driven by investors seeking more direct control over their investments. Focused strategy and well-defined parameters have been key to facilitate deal evaluation and faster decision making in this space. These platforms aim at building long-term partnership with competent developers.

The partnership of large funds and competent developers is likely to benefit the sector as well as its end users. The rising investor confidence is being reflected in the form of equity investments in projects which is helping the JV/Platform deal model pick up pace.

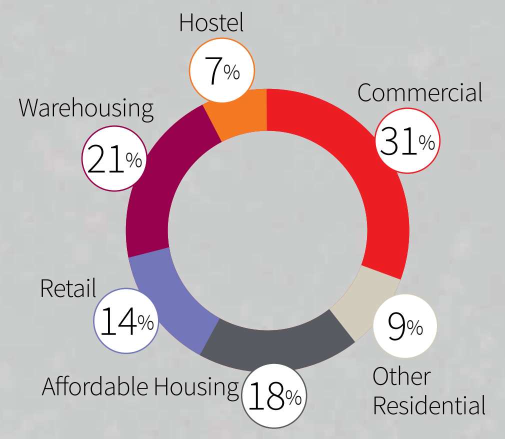
Platform funds have gained ground as investors seek direct control over investments

Over 14-fold rise in Real Estate Investment Platform Funds /JVs during 2012-18

Platform funds/Joint venture funds committed



Commercial office space - Highest share



Note: Residential segment has been divided under 'Other Residential' and `Affordable Housing'
Source: JLL Capital Market Research

- A whopping INR 572 bn capital has been raised by these funds from 2012 till date; despite dominant share of blind pool funds, platform/JV funding has witnessed a significant jump.
- Investment Platforms have seen a 14- fold rise in funds raised - from INR 13 bn in 2012 to INR 173 bn in 2017.
- Investor preference for more direct control over their investments have driven growth of investment platforms.
- Focused strategy and well-defined parameters have been key facilitators in deal evaluation and faster decision making in investment platforms.

31% of funds allocated to commercial office space due to huge opportunity

- Grade-A office project investments led the way with 31 % share of the total funds raised. Select examples of funds raised are given below:
  - RMZ-QIA raised INR 18 bn in 2013
  - Standard Chartered- Tata Realty and Infrastructure formed INR 30 bn platform fund in 2016
  - APG - Godrej funds management of INR 29 bn in 2018
- Investments in brownfield/ build to core developments are key destination for platform level tie-ups between established commercial developers and global PE players

Affordable housing - Highest fund raising theme with 18% share

- Residential segment closely followed office space, in which affordable housing has been the highest fund raising theme with a 18% share of total platform funds raised.
- HDFC Capital has raised INR 63 bn dedicated platform for investments in affordable and mid-income residential projects in 15 cities

Affordable Housing has received 18% of total platform funds

- Prestige Estate Project Ltd. and HDFC Capital Advisors have committed INR 27 bn for affordable housing projects

Retail growth story gets stronger investment support with 14% share of funds raised

- A 14% share in the platform funds for retail segment reflects the rising investor confidence in retail
- Phoenix Mills Ltd. and CPPIB formed investment platform of around ~INR 16 bn in 2016, while APG-Xander Group are co-investing INR 30 bn in the retail segment since 2016
- These funds, apart from investments in operating malls have acquired Greenfield projects thus undertaking the development role
- Indian retail segment will benefit from global expertise and best practices, supported by growth capital provided by these investors

Warehousing and Industrial assets to drive future platform deals

- Warehousing and Industrial segment with 21% share of platform funds raised is expected to witness paradigm shift with new industry 4.0 revolution due to landmark changes introduced by GST and a robust growth in e-tailing.
- Post GST, we are witnessing consolidation and emergence of large warehouses in certain sectors like Fast-Moving Consumer Durables (FMCD) and Fast-Moving Consumer Goods (FMCG)
- Government's focus on 'Make in India' and industrial corridors is expected to drive increased demand for Warehousing space
- Recently, ESR Group, an Asian logistics real estate developer backed by private equity firm Warburg Pincus, and Germany's Allianz has announced setting up of INR 70 bn investment platform to invest in India's logistics sector.

Alternatives - Investment trends in India's co-living space

The first choice and safe bet for investors are higher rent yielding office assets. These assets provide a regular income flow and steady appreciation in capital values. Sovereign funds bought large office projects or portfolios with the intention of creating real estate investment trusts (REITs). The higher supply of capital towards the limited quality office space led to yields from such assets getting rationalised with appreciating capital values.

Maximum innovation in Indian real estate is being witnessed in Alternatives

The search for higher returns led investors towards other assets classes for investments. Soon retail, industrial and warehousing assets also attracted capital in quality projects. However, the pool of good quality, ready income yielding assets is limited. The next step is to lock in higher returns by becoming active investors rather than just asset buyers.

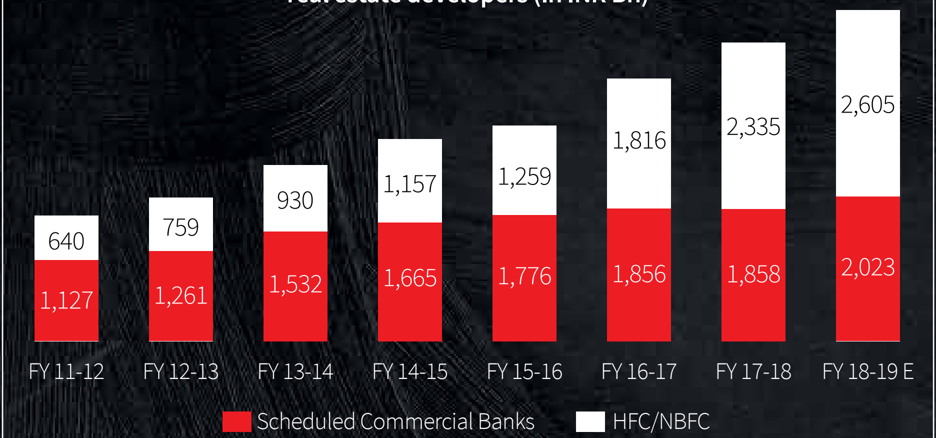
Alternative assets, including co-working and co-living, are the new entrants on the investment radar and have attracted the interest of several large global funds. Institutional investors are showing active interest in co-living and pumping in funds, with the likes of Sequoia, Nexus Venture Partners and Goldman Sachs already committed to the sector. The reported investments in the co-living till date has been INR 53 bn.

NBFC crisis - Drying up of funds to real estate developers

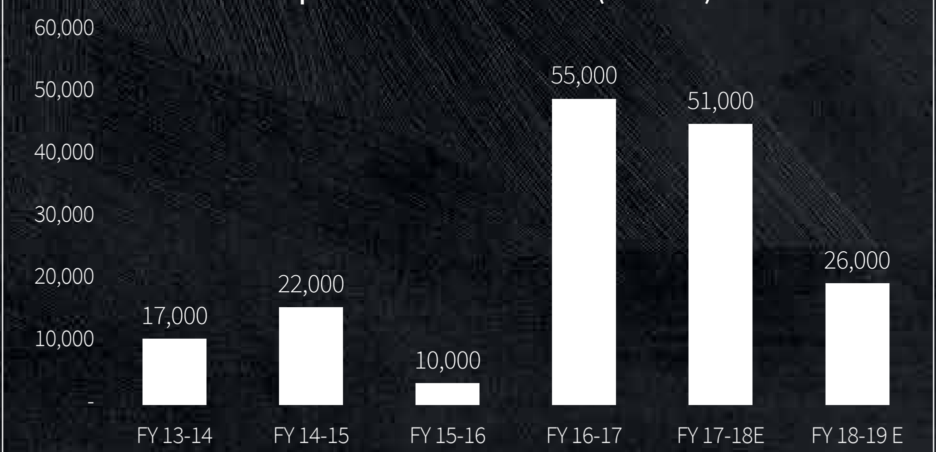
Real estate developers (comprising Residential, Commercial, Retail and others) have traditionally received finance from scheduled commercial banks. However, this funding came under the scanner and restrictions were imposed by RBI in the aftermath of the global financial crisis. The funding gap which followed, was filled in by NBFCs/HFCs and the numbers reflect their increased lending to the sector. This is corroborated by the fact that outstanding credit by NBFCs/HFCs to real estate developers increased by more than 4 times to about INR 260,000 cr till FY 2018-19 (E) from INR 64,000 cr in FY 2011-12.

Default by leading NBFC - Infrastructure Leasing & Financial Services (IL&FS) in scheduled payments led to a liquidity squeeze in the real estate sector since September 2018. Our interactions with the industry indicate that NBFC and HFC funding was normal during April-September 2018. The period of October-March is considered to be a peak in lending activities. But, because of the NBFC crisis, the lending slowed down substantially during the above period. In FY 2018-19, net disbursals by NBFCs/HFCs to real estate developers declined by almost half from ~ INR 52,000 crore in FY 2017-18 to an estimated INR 27,000 crore in FY 2018-19.

Outstanding credit by Scheduled Commercial Banks and NBFCs/HFCs to real estate developers (In INR Bn)



Developer loans annual net credit (in INR Bn)



Source: RBI, NHB and JLL Research estimates

NBFC default crisis leading to decline in credit disbursal by HFCs/ NBFCs in FY 2018-19

However, all is not as negative as it was even a few months ago. Recovery will take time. We believe that the new credit discipline will benefit the real estate sector in the medium to long term. Also, the new government has taken cognizance of struggling NBFCs and introduced a few new schemes.

In the latest Union budget, our Finance Minister chose to address the NBFC issue by creating a provision of INR 1 lakh crore one-time partial credit guarantee to Public sector banks (PSBs). This will enable PSBs to purchase high-rated pooled assets of financially sound NBFCs with provision for the first loss up to 10%. While this government guarantee will not help to clean the NBFC mess, it will provide immediate relief to the sector by restoring confidence among NBFCs. We believe that this move by the government is likely to iron out the current challenges for NBFCs & will in turn increase pace in the real estate sector.

Conclusion

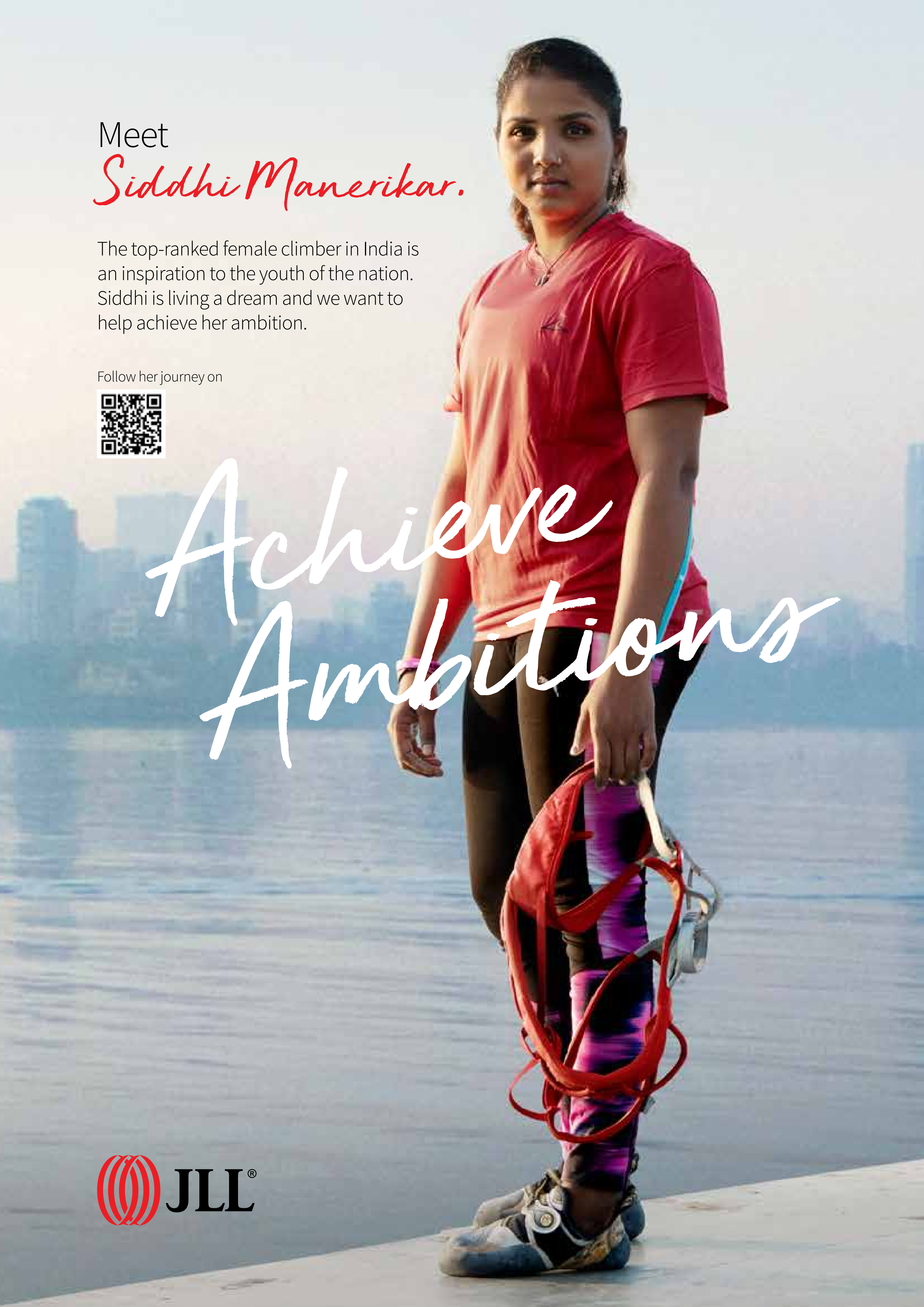
Innovation in real estate, largely fueled by technology and regulatory changes transformed the landscape of the sector. Regulatory reforms have made transparency imperative and increased the pace of technology adoption by various stakeholders.

Today, at every stage, we are witnessing the growing role of technology led innovation. Whether it be IoT at workplaces giving real time alerts, smart sensors helping hot-desking in offices and lighting and temperature control in homes or the digital marketplace serving as an interface between brokers, property owners and buyers, technology has acted as a big game changer.

The expanding role of innovation can be understood better when we see how the market itself has grown and matured, enhancing the scope for new ideas. New asset classes like co-living, co-working and student housing have emerged in tier I cities and are now also growing in tier II cities. These new segments are acting as agents of change in the real estate sector and offering new investment opportunities. They are also driving innovation in partnership models, governing ownership and leasing of assets. Apart from new asset classes, the birth of new investment instruments like REITs is underlining the fact that markets have come of age.

At the same time, the growing concern over environmental issues is pushing innovation in the world of sustainable development. Innovations in construction technology to ensure green, well certified, sustainable commercial, residential and retail assets are being witnessed. However, currently the green and well certified footprint is not evenly distributed across asset classes and this will need to be addressed in the future.

Today, technology is the cornerstone for innovation in real estate. However, new approaches to innovation will be key to unlocking the potential of this sector in future.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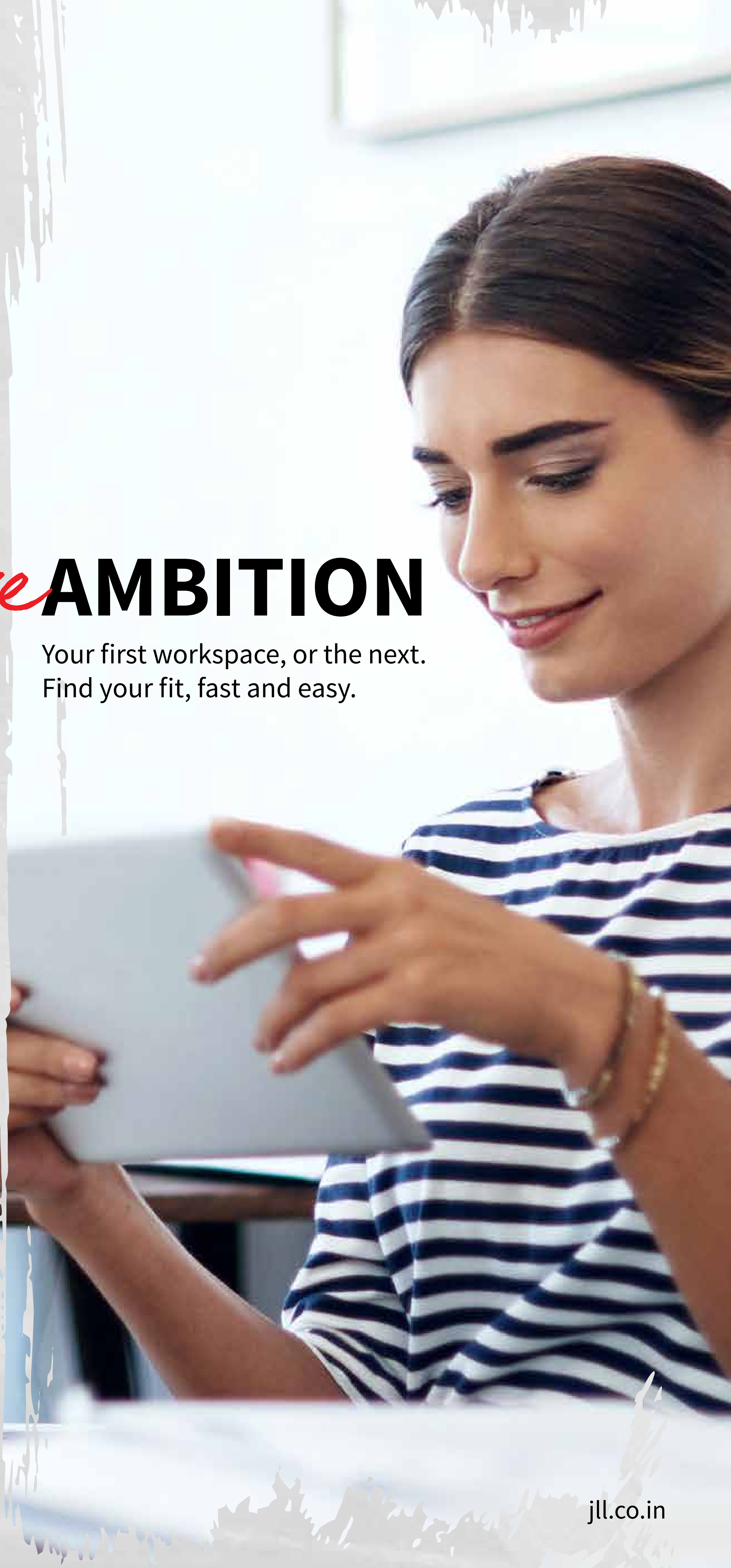

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CII engages closely with Government on policy issues and interfaces with thought leaders to enhance efficiency, competitiveness and business opportunities for industry through a wide portfolio of specialized services and strategic global linkages. It also provides a platform for consensus-building and networking on key issues. Extending its agenda beyond business, CII facilitates corporate initiatives for integrated and inclusive development across diverse domains.

India is now set to become a US$ 5 trillion economy in the next five years and Indian industry will remain the principal growth engine for achieving this target. With the theme for 2019-20 as 'Competitiveness of India Inc - India@75: Forging Ahead', CII will focus on five priority areas which would enable the country to stay on a solid growth track. These are - employment generation, rural-urban connect, energy security, environmental sustainability and governance.

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About JLL

JLL (NYSE: JLL) is a leading professional services firm that specialises in real estate and investment management. Our vision is to reimagine the world of real estate, creating rewarding opportunities and amazing spaces where people can achieve their ambitions. In doing so, we will build a better tomorrow for our clients, our people and our communities. JLL is a Fortune 500 company with annual revenue of $16.3 billion, operations in over 80 countries and a global workforce of over 90,000 as of December 31, 2018. JLL is the brand name, and a registered trademark, of Jones Lang LaSalle Incorporated. For further information, visit jll.com

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JLL is India's premier and largest professional services firm specialising in real estate. With an estimated revenue for FY 2018-19 expected to be approx. INR 4,000 crore, the Firm is growing from strength to strength in India for the past two decades. JLL India has an extensive presence across 10 major cities (Mumbai, Delhi NCR, Bengaluru, Pune, Chennai, Hyderabad, Kolkata, Ahmedabad, Kochi and Coimbatore) and over 130 tier II & III markets with a cumulative strength of close to 11,000 professionals.

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JLL India won the Five Star Award for 'Best Property Consultancy at the International Property Awards Asia Pacific 2018 -19. The Firm was also recognised amongst the 'Top 100 Best Places to Work in India' in 2017 & 2018 in the annual survey conducted by Great Place to Work® and The Economic Times. It has also been acknowledged as 'Property Consultant of the Decade' at the 10th CNBC-Awaaz Real Estate Awards 2015. For further information, please visit jll.co.in

About Real Estate Intelligence Service

Real Estate Intelligence Service is a subscription based research package by JLL. This package is designed to provide in-depth insight on the real estate market and aims to empower businesses with detailed and timely market data. It also covers forecast and analysis for all real estate indicators and asset classes such as office, retail and residential.

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