Foreword

Real estate is a critical sector for India’s economy due to its large potential for employment generation, capital attraction and revenue generation for the Government. It is one of the fastest growing sectors contributing about 11 percent of India’s GDP. After the initial boom and euphoria in real estate development and investment activities, the sector witnessed a lull in business activities in recent years owing to global factors and policy logjam in the country.

The real estate industry in India is witnessing positive changes post the Lok Sabha elections this year. Factors like political stability at the Centre, steps taken by Government to usher in reforms to speed up economic revival and growth, strong focus on removing bottlenecks to growth of housing and infrastructure sectors, positive sentiments of global investor community towards India have positively impacted the sentiments of stakeholders in Indian real estate. As a result the sector has begun showing signs of recovery. Announcements in Union Budget 2014-15 of various tax incentives and a scheme to create 100 smart cities in the country have added to the optimism of industry towards revival and growth in the sector.

It is heartening to note that the Government of India is sensitive to the issues faced by the real estate industry in executing housing and infrastructure projects. Efforts to resolve some of the most critical bottlenecks like approval procedures, conditions under FDI policy, time bound approvals, delays due to land acquisition norms etc. are currently on. New instruments of financing like REITs will help the industry to grow faster as it will give access to long term and steady funds for the sector.

The challenge for successive Governments in India has been to bridge the housing shortage in the country which is currently pegged at 18.78 million housing units. Despite many measures taken in the past this challenge still looms large in the face of the Government. A fresh approach is required to pursue the mission of “Housing for All by 2022”.

Smart Cities is an emerging area of focus for the Government of India. The stakeholders of this industry are anxiously waiting to understand the details of the scheme for creating 100 smart cities in the country. There are many cities / towns in India that have imbibed features of smart cities. Existing and new cities will have to be developed on the principles of smart cities for sustainable living.

I am confident that FICCI Annual Real Estate Summit 2014 will be an important and meaningful platform to discuss some of these topics along with other critical areas like brand building and scaling up of real estate business. The FICCI-EY Real Estate Report 2014 is an endeavour to share new thoughts, trends and information with industry in its pursuit of higher growth and excellence in business.

I wish all success to the launch of this report at the 11th Annual Real Estate Summit 2014.
With 31 out of every 100 people in the country living in cities or towns, India has a higher number of people living in urban areas (377 million) than the entire population in the US (around 314 million). It is estimated that this number will increase to 590 million people, who will live in around 60 cities (from 42 currently), by 2030. India has the largest rural population (857 million) in the world, followed by China (635 million). However, with growing urbanization, our cities need to gear up to the shift as the rural population decreases and moves to them.

The urban sector currently contributes around 60% of India’s GDP. The link between the economic performance of cities and the national economy is only likely to get stronger as the rate of urbanization increases. India’s growth rate will therefore largely depend on that of its cities. The need for efficient cities that offer a good quality of life is even more relevant in this age of digital connectivity due to increasing interlinking of urban centers around the world that are now competing to attract talent.

Realising the importance of cities to the economic performance of the country, urban development and housing form a key part of our new Government’s vision of a digitally evolved country.

Real estate is one of the most important mediums of urbanization. Our report elaborates on the role played by real estate in India to achieve the goals set by the Government — be it establishment of smart cities or achieving housing for all. It also illustrates how our mega cities have been responding to the omnipresent demand for housing across income segments through extended development beyond their municipal boundaries. In addition, the report provides profiles of destinations that cater to this demand as well as of emerging trends in these.

Being capital-intensive, funding has emerged as one of the greatest challenges facing the real estate sector in recent times. The global economic crisis considerably reduced funding options available to developers, who have been looking for alternative sources of funding due to reduced deployment of gross bank credit to commercial real estate and housing from 10% in FY10 to 8.3% in FY14. With their learning from the global meltdown and past investments in the country, investors have begun looking at secure funding options such as mezzanine and structured equity instruments. This report provides relevant details of trends in alternative sources of funding, e.g., from Non-banking Finance Companies (NBFCs), pension funds and sovereign wealth funds, which can bridge the gap between the demand for and availability of funding. It also outlines the regulations of the long-awaited Real Estate Investment Trusts (REITs) regime, which is one of the landmark reforms undertaken by the new Government. The new Government has also liberalized the foreign direct investment regime significantly for the construction development sector, which is a welcome step and should see renewed foreign participation in the sector.

Policy reforms and a macro-government vision mark the start of a new era. In this report, we outline the role of real estate in the evolution of a new India.
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Indian real estate: the year gone by

Economic overview

The Indian economy has been reporting a growth of less than 5% for the past two financial years due to the sustained slowdown of the global economy, the Euro crisis, and structural constraints and inflationary pressures in India. The country’s GDP growth was 4.5% and 4.7% in FY13 and FY14, respectively. Almost all the sectors recorded a decline, but the services sector, on which the commercial real estate is directly dependent, showed resilience with a marginal decline in its growth to 6.8% in FY14 from 7.0% in FY13. Economic revival is expected in the near future due to the new stable Government in India and its plans to revive the country’s economy.

Indian real estate market

After witnessing fluctuating business cycles in the last decade, the real estate sector slowed down due to reduced end user demand, rising inventory, increasing prices of raw material and the high cost of debt. However, despite adverse sector dynamics, prices are resilient in most cities and have dropped in select micro markets. The trend of creating land banks, witnessed during the pre-crisis era, has dented the balance sheet of developers, while slow demand has affected monetization of land banks further. The average funding cost of developers is hovering at between 12% to 13% and is eating into their margins. However, although the short-term perspective looks gloomy, India’s real estate market is progressing well in its recovery mode and its long-term fundamentals seem promising. A stable Government at the Centre, with its plans to relax Foreign Direct Investment (FDI) norms, provide housing for all by 2022, create 100 smart cities and approve Real Estate Investment Trusts (REITs) in the country, has boosted the confidence of stakeholders. The new Government is expected to drive reforms and regulations that are long overdue. This is likely to trigger recovery and fuel growth in the country.

1 “India Real estate,” Barclays, 12 December 2013, via ThomsonOne.
## Trends

### Residential demand: still not revived

**High capital values but reduced sales**

- While the capital values of properties have surpassed the 2008 peak value in several cities, demand continues to lag behind, primarily due to low affordability levels. Even after several quarters of low sales volumes, developers are reluctant to reduce prices in their ongoing projects. There is unsold inventory in prime markets (inventory overhang of around 29 to 40 months). To cope with this reduced demand and high pricing, developers are now reducing the sizes of apartments in new projects in order to target mid-income customers\(^2\).

**Affordable homes the new target segment**

- Sales volumes are rising in the case of competitively priced properties – mainly at the peripheries of the top seven cities in the country. Furthermore, the Government’s mission on housing for all by 2022 has attracted several developers.
- The Government has also shown a keen interest in technological collaboration with countries such as Singapore, which are pioneers in affordable housing.
- Moreover, the Government has relaxed its FDI policy for projects, demonstrating its commitment to provide housing for all its citizens.

### Office space: in the recovery mode

**Return of demand for office space in anticipation of revival of economy**

- Although more than 70 million square feet of office space is vacant in the top seven cities including Mumbai, Delhi, Bengaluru, Hyderabad, Chennai, Ahmedabad and Kolkata, several micro markets in Gurgaon, Bengaluru and Hyderabad have been reporting a moderate rise in rentals during the last two to three quarters. This is a positive indication of recovery in the rental market\(^3\).
- Domestic and multinational companies have both revived their expansion plans in anticipation of the country’s economy picking up after the election of a stable Government.
- Unlike in the case of the residential segment, rental of office space in most cities (except Bengaluru) lags behind its peak levels in 2008. Some companies are leasing space at high-quality office complexes to leverage this trend\(^4\).
- The IT-ITES sector has been the main consumer of commercial office space and is likely to be a strong contender in coming years as well. The National Association of Software and Services Companies (NASSCOM) has projected that the sector is likely to employ 10 million people by 2020 from around 3 million in FY2012-13.
- REITs will provide an alternate means of raising funds and also help developers acquire high-grade office space to deleverage their balance sheets. It can also be the game-changer for major developers with large commercial assets.

### Retail: cautiously moving ahead

**Reduced supply in 1H14**

- Vacancy rates in malls have been stable in the top cities in 2014, with Pune reporting healthy leasing activities, and Ahmedabad, Chennai and Bengaluru witnessing a moderate demand. Stable vacancy rates are attributed to reduced supply in 2014\(^5\).
- However, macro-economic conditions have not been encouraging. Moreover, strict retail FDI regulations have led to international giants adopting a wait and watch policy.

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\(^2\) “JLL meeting highlights,” Morgan Stanley, 13 September 2014, via Thomson One.

\(^3\) “JLL meeting highlights,” Morgan Stanley, 13 September 2014, via Thomson One.

\(^4\) “JLL meeting highlights,” Morgan Stanley, 13 September 2014, via Thomson One.

### Rental of mall space demonstrating a mixed trend

- The micro markets of several cities are witnessing varying trends. Mysore Road and Cunningham Road in Bengaluru reported reduced rentals and Goregaon in Mumbai and Hadapsar in Pune a positive trend.

- High-grade space in core markets continued to be in demand with the growth of the rental segment. Retailers are however facing a challenge in entering key shopping areas due to dearth of high-grade shopping center space.

### Hospitality: a moderate performance

#### Continuance of stable performance

- The hospitality industry has reported a marginal decline on several parameters such as occupancy levels and average room rentals in the last few quarters.

### Domestic travel on rise

- Rising affordability and an increased propensity for leisure travel are driving domestic tourism in India. Domestic tourist visits were recorded at 1.14 billion in 2013 (provisional), up 9.59% over 1.04 billion in 2012. During 1H12, 3.24 million tourists visited India – a 7.4% increase over 1H11.

- Foreign tourist arrivals registered a 7.6% growth from January to September 2014, compared to the same period last year.

### International hotel brands increasing their presence in India

- Over the last few years, international hotel chains have expanded their India footprint to enter its rapidly growing hospitality industry.

- Developers are increasingly tying up with international brands and hospitality chains on highly priced service apartments. Some are also tying up with Five Star hotels to provide branded residences (luxury homes), where customers receive hotel services at their homes.

### Industrial sector: Government taking ambitious steps

#### Special Economic Zones (SEZs)

- As of August 2014, a total of 388 SEZs have been notified, and the Board of Approvals has given its nod to setting up of another 564. The southern and western states lead SEZ development in the country.

- Investment in SEZs amounted to around INR2,966 billion, including INR2,733 billion in newly notified zones, until 31 March 2014. The Government is looking at granting incentives to promote IT-related export hubs in small towns to attract investors back to these zones.

- The new Government has set up a high-level team to revive development of SEZs (which was lost after tax advantages and other sops were removed in 2011) in the country. As part of the plan, states will soon be allowed to set up their own Export Processing Zones (EPZs). Along with policy reforms of land acquisition and labor laws, this is likely to usher in a new era in the SEZ segment.

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9 “Builders hardsell ultra luxe branded homes,” Business Standard, 10 April 2013, (c) 2013 Business Standard Ltd.

10 SEZ India website, http://www.sezindia.nic.in/index.asp.

Food parks

- The Government plans to set up mega food parks across the country to bring down wastage, control food inflation and take processing in fruits and vegetables from its current level of 2% to 6% in the next five years.

- As part of the plan, INR20 billion has been allocated to the food processing sector and Central Excise duty levied on it brought down from 10% to 6% in the Union Budget 2014-15. Moreover, a mega food park has recently been established in the Tumkur district of Karnataka.

Industrial corridors driving establishment of smart cities

- The Government has announced its plans to set up a National Industrial Corridor Authority with an initial corpus of INR1 billion to drive the growth of India's manufacturing sector. It has fast-tracked its development of the Amristsar-Kolkata Industrial Corridor, which will house industrial smart cities in seven Indian states. It also plans to complete master planning of three new smart cities in the Chennai-Bengaluru Industrial Corridor region. These include Ponneri in Tamil Nadu, Krishnapatnam in Andhra Pradesh and Tumkur in Karnataka.

- The Government is also looking at developing the Bengaluru Mumbai Economic Corridor (BMEC) and the Visakhapatnam-Chennai Corridor by setting up 20 new industrial clusters. Similarly, the Delhi-Mumbai Industrial Corridor (DMIC) is expected to create around 25 manufacturing hubs (cities) and several smart communities/cities along its corridor, which covers six states.

National Manufacturing Policy

- The Government's National Manufacturing Policy seeks to boost the growth of the manufacturing sector by ramping-up its share in the country's GDP to 25% from the current level of 15%-16% over the next decade. The policy also seeks to create 100 million new employment opportunities by 2022.

- The Government has taken certain initiatives, such as permitting 49% FDI in manufacture of defense equipment, providing tax benefits for investment and removing the inverted duty structure of several products, to support its policy. These initiatives and the Government's policy are expected to drive the demand for industrial real estate in coming years.
Regulatory changes

Approval of REIT: In September 2014, the final guidelines for REIT were notified by the Securities and Exchange Board of India (SEBI). The guidelines require the Finance Minister’s approval for tax concessions to make REIT attractive and at par with similar norms in the rest of the world. Several developers are waiting on the sidelines to list their commercial space stock. According to industry estimates, India has 200 million square feet “REIT-ready” space. REIT will provide an alternative route of finance.

FDI in real estate: FDI inflows in construction (townships, housing and construction development) have been declining since FY12 due to India’s weak economy and regulatory concerns. FDI in construction development has declined to US$1,226 million in FY14 from US$1,332 million in FY12.

The Union Cabinet has approved the proposal of the Department of Industrial Policy and Promotion to relax existing performance-linked conditions relating to FDI. These include the following:

- Built-up area to be reduced from the existing 50,000 sq.m. to 20,000 sq.m.
- Minimum capitalization reduced from US$10 million to US$5 million, with a three-year post-completion lock-in period
- Projects with a commitment of at least 30% of the total cost toward low-cost affordable housing exempted from requirements relating to minimum built-up area and capitalization, with a three-year lock-in period

Real Estate Regulation and Development Bill: The Real Estate Regulation and Development Bill was tabled in Parliament on 14 August 2013 and was thereafter sent to the Standing Committee, which submitted its report on 17 February 2014. The new Government needs to expedite passage of the Bill in Parliament and enforce its implementation.

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Outlook

**Residential:** The new Government’s thrust on smart cities, housing for all and urban renewal is expected to give a boost to the growth of the residential sector. Its efforts are likely to create an adequate demand, but implementation remains the key. The country has been witnessing a sharp decline in absorption since 2011, with potential buyers deferring their purchases. These buyers are now gradually returning to the market. This may raise sales volume in the near future (primarily in the mid-income and affordable segment).

**Commercial:** Corporate entities have already begun rolling out their expansion plans due to improving sentiments in the country. The anticipated revival of the economy is expected to be a key trigger for the segment. Given that the market has seen oversupply in the last few years, the gap between demand and supply is likely to shorten, leading to a further increase in rentals.

**Retail:** REIT is currently open for office space, but developers of malls are anticipating extending of REITs to shopping centers, which will boost development of malls in the country. Furthermore, relaxation of FDI norms may encourage foreign single- and multi-brand retailers to set up shop in India and create a significant demand for retail space.

**Hospitality:** The Government’s announcement of e-Visa facilities at nine airports and its announcement of a clear roadmap on its Visa on Arrival Policy (VoA) is a positive step for India’s hotel sector. Business and leisure travel is expected to pick up are expected to pick up in the country with economic recovery supporting the revival of its hospitality industry, which is expected to add more than 50,000 branded rooms in the next 5 years, taking the total supply in the country to around 144,000 such rooms by FY18.

**Industrial:** The industrial real estate segment is expected to see new dimensions of growth in the next few years due to the Government’s thrust on food parks and industrial corridors, and its promotion of the manufacturing sector.

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New age funding for real estate
New age funding for real estate

India’s real estate transaction landscape has seen a surge of investments made by pension funds (PFs) and sovereign wealth funds (SWFs) in large platform-level deals. The potential of and the challenges faced in investing in real estate as well as the investment philosophy of available pools of capital have led to the evolution of this new form of investment in real estate in the country.

Market opportunity – the need gap

There was a major transformation in India’s real estate sector after FDI was allowed in the construction development sector in 2005. In addition to traditional sources of funding, the policy change opened up the floodgates for investments from global real estate, private equity and hedge funds as well as from strategic investors and foreign developers. This led to big ticket equity transactions and successful IPO listings becoming the norm before the global financial downturn in 2008.

The global financial downturn in 2008 resulted in a significant shift in the funding scenario with investors becoming increasingly cautious. Along with a decline in the total quantum of investment, the average ticket size of deals in real estate trickled down from US$140 million in 2008 to US$30-US$40 million after the financial downturn. Another notable trend was that investments became skewed towards the project level rather than the entity level.

Developers have been looking for other sources of funding due to the decline in gross bank credit deployment to the commercial real estate and housing sector from 10% in FY10 to 8.3% in FY14. However, with learning derived from the global meltdown and past investments in India, investors have begun looking at more secure funding options such as mezzanine and structured equity instruments. Non-Banking Finance Companies (NBFCs) have been actively looking at “last mile funding” opportunities, where projects in which substantial investment have been made are delayed due to temporary mismatches in cash flows. Therefore, there is a large need (created over time) for equity funding from institutional sources. It is this gap that is being filled by platform-level deals between PFs/ SWFs and developers.

The other market opportunity being seized by these investors is consolidation of core assets. Residential projects have always attracted investors’ capital due to their self-liquidating nature. However, given the high office space yield – India has a 10.5% yield from office space, which is amongst the highest yields across leading developed and developing economies – and with increasing visibility on Indian REITs taking shape, investors are looking at building sizeable portfolios of high-quality rent-yielding commercial spaces going forward. This has led to PFs/SWFs partnering with developers, operators and managers to create a platform of office space assets.

On the supply side, the emergence of the trend of direct investment in Indian real estate by SWFs and PFs has evolved due to the increasing allocations to real estate as an asset class by these SWFs and PFs. At the global level, an increased quantum of investment capital has been specifically set aside for the real estate sector due to increasing real estate and sovereign debt yields. In the last six months, total global capital available for investment grew by 15% to US$408 billion. Global PFs and SWFs are altering their investment strategies and increasing their allocation of funds to the real estate sector.

Nature of platform-level deals

Attractive yields and the presence of large real estate developers have led to global PFs and SWFs (which would earlier invest in the capacity of limited partners in private equity funds) backing large real estate developers and funds, with wide experience in the real estate sector, to develop/invest in portfolios of projects.

Platform-level transactions are a hybrid of project-level and entity-level transactions. Typically, it involves an identified pool of projects as well as funding of a future pipeline that is or may be available. In these “platform-level deals,” real estate developers contribute their equity as well and are the exclusive development managers of projects to be pursued through such equity commitments for which they receive a development management fee. What is significant is that PFs and SWFs that were earlier more likely to route their investments through third-party funds are now investing directly in real estate. What is also critical is that these are

1 Considered deals for which the transaction size have been disclosed.
2 Source: VCCEdge, EY Analysis.
3 Considered lending to commercial real estate and priority sector housing.
4 Source: Reserve Bank of India – Deployment of Gross Bank Credit by Major Sector Data.
6 Source: The Great Wall of Money, DTZ, October 2014.
akin to joint ventures, with PFs/SWFs garnering close to 50% or higher stakes and thereby exercising control.

Apart from these platforms, PFs/ SWFs are also focusing on tapping the opportunity to provide structured debt funding through NBFCs with capital commitment of US$700 million investment in these in the recent past7.

Investment flows

Since April 2012, there have been seven such large platform-level deals by PFs/ SWFs that we have tracked. Total investment in these deals amounts to US$1.9 billion with an average deal size of US$270 million. The trend has increased in the last year (since July 2013) when the number and size of these deals increased significantly. In terms of asset classes, while 74% of this investment is for office space assets, 20% is in the residential segment and 6% in the hospitality segment. In terms of the number of transactions, the share of office space is 57%, residential 29% and hospitality 14%.

We have analysed the quantum of investment through the traditional private equity (including structured deals) route in order to gauge the relative importance of these deals. During the period April 2012 to September 2014, investment in such deals amounted to US$3.9 billion vis-à-vis invested capital from private equity deals worth US$2.7 billion8. Although capital from platform-level deals will be invested over a longer period in portfolios of projects, the increasing number of such deals as well as the higher quantum of capital commitment indicates the confidence of global funds in the Indian real estate sector.

Summary

Increasing investment flows from SWFs/PFs indicate their confidence in the potential of the Indian real estate sector.

The nature of this pool of capital as well as the form of investments – directly in platform level deals – overcomes some of the challenges faced by foreign investors in the past. Given the nature of the sector, long-term capital has a better chance of generating expected returns, and therefore, this form of patient capital can address the needs of developers and investors by offering them enhanced flexibility to tide over market cycles and project gestation periods. Reduction in the development size of projects for which FDI can be tapped will also open up additional opportunities with shorter project development time frames.

Development risk is also being mitigated by the focus of some investors on core asset strategies, wherein they are concentrating on buying out developed office space assets. The size of this opportunity has increased significantly in the last few years as high-specification office space assets have been developed and leased. Allowing REITs in India has opened up another exit avenue for investors in this class of assets.

A critical aspect of platform-level deals is that investors have greater direct control over their investments. This form of investment offers them hybrid forms of project and entity-level deal structures. While this enables ring-fencing of risks and returns (as in a project-level deal), it allows investors’ additional returns through a future pipeline (as in an entity-level deal).

There has been an upward revision in growth forecasts with the formation of a new Government with a clear majority at the Centre. Some policy changes with respect to real estate have already been initiated (e.g., relating to project size and minimum capitalisation for FDI, REIT-related regulations, finance for affordable housing, etc.). These, along with the expected improvement in the macroeconomic environment, can give further momentum to investment flows from SWFs and PFs as well as to platform-level deals in India.

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7 In addition to these joint venture platform level deals, these investors have also been focusing on managed accounts through other fund managers with more control on the investment vis-a-vis a third party fund. However, we have not covered these in this section.
8 Considers deals from CY 2012 to CY 2014 (till date).
9 Source: VCCEdge, EY Analysis. It does not consider capital commitment through platform deals.
REIT – the new investment vehicle in Indian real estate market
REIT— the new investment vehicle in Indian real estate market

Real Estate Investment Trusts were introduced in the US in 1960 through a legislation that was patterned on legislation governing mutual funds, and it shared a similar objective — to provide a means “whereby small investors can secure advantages normally available only to those with larger resources.” Realising the benefits REIT provides to a country’s population, its economy and its real estate industry in particular, other countries also introduced REIT legislations subsequently.

Generally speaking, REITs are trust vehicles that raise funds from investors, acquire rent-yielding real estate, manage real estate and distribute a substantial amount of the income earned to investors. REITs typically offer investors regular yields, coupled with appreciation of capital and a liquid method of investing in real estate. Over the long term, real estate (as an asset class) has traditionally provided returns that are above inflation levels and is therefore a sound hedge for investors against inflation. REIT is a vehicle of choice and enables an investor to invest in real estate (with a low ticket size investment) and at the same time gain from the large and diversified corpus of a REIT, as compared to investing in a single asset.

REITs were first formally introduced in India by the Securities & Exchange Board of India as draft REIT Regulations in 2007. However, due to inherent limitations in the draft regulations, the final laws were never announced and REITs were buried for six years. In October 2014, SEBI issued REIT Regulations that are largely in line with global REIT regulations. Furthermore, the tax regime for REITs was also notified. The introduction of REITs in India marks the coming of age of the country’s real estate sector and recognises the fact that there is adequate stock of real estate assets that are REIT-able in the country.

India’s real estate sector faces severe constraints in terms of adequate and structured finance options. Although banks have increased availability of funds to meet capital needs in the sector, bank credit remains an expensive and limited source of funding. Private lending or lending by non-banking financing companies have been the main sources of financing for the real estate sector. While there are signs of a turnaround in capital invested in the sector (long-term, sovereign and pension funds), there is still shortage of risk capital in it. This implies that the bulk of capital in the sector comprises high-cost quasi-private equity.

Ideally, REITs should offer a structured and perpetual source of capital and exit opportunities for developers and financial investors, allowing them to unlock capital employed in completed real estate assets by including such assets in the REIT structure. Introduction of REITs that are pure equity capital will help to improve the debt-equity balance in the real estate market by providing equity financing and thereby facilitate the growth of a stable and mature real estate market. It is also expected that REITs will help in streamlining the real estate sector by creating a transparent mechanism for raising finance in the market.

For REITs to become a reality in India there are certain key issues that need to be resolved first.

First of all, Indian pension funds and insurance companies should be permitted to invest in such securities while permitting FDI in REITs up to 100% under the automatic route.

Indian sponsors of real estate will either be real estate owners or developers. However, SEBI’s regulations require sponsors to have a “real estate experience” of five years, which makes it impossible for corporate real estate owners sell and leaseback their real estate assets to REITs sponsored by them. A special dispensation should be made in relation to “sale and leaseback transactions” to open up avenues for businesses in the service and manufacturing sectors and enable them to raise equity capital by monetising their non-core (but valuable) assets, e.g., factory premises, warehouses, corporate offices, etc.

There are other alternatives available for real estate developers that have built assets for leasing, e.g., discounting lease rent or raising capital through a Commercial Mortgage Backed Security offering or simply opting for equity IPO of the organisations that owns these assets. Some of these alternatives have been already tried and tested, and constitute the path of least resistance. Therefore, in order to promote REITs as a preferred alternative, the Government needs to give an impetus to real estate developers to sponsor and offer their commercial assets under a REIT structure to public markets. This can be in the form of tax equality with non-resident investors in relation to income from interest and also permit flow of domestic and international capital into investment products.
Currently, the proposed tax treatment of REITs differentiates between a resident unit holder and a non-resident unit holder in relation to their income from interest through a reduced rate of tax (5%) for non-residents. This discrimination makes the structure unviable, since a sponsor, being a resident, does not benefit from the effective tax impact. Moreover, this will influence the capitalisation structure of the REIT and its SPVs. To address this, it is imperative for the Government to exempt Dividend Distribution Tax (DDT) on dividends distributed by an SPV to a REIT.

REITs should be accorded the same treatment currently available for listed equity shares. Accordingly, the period of holding (for the purpose of capital gains) should be 12 and not 36 months. Otherwise, the intention of the legislature to grant same tax benefits is not achieved.

Furthermore, beneficial tax treatment of sponsors is a requisite for incentivising them to create and sponsor REITs. Currently, tax laws are not geared to this, for instance, while sponsors are exempt at the time REITs (transfer of assets/shares in exchange for units of REIT) are created, but are taxed when they sell the units on stock exchanges, even after paying Securities Transaction Tax (STT), which is different from listed equity shares.

Lastly, all investment products should carry a risk disclosure and disclaimer in their prospectuses. It is therefore critical to educate investors about REITs as an investment product. This needs to be specifically geared toward essential elements such as how the performance of the REIT manager, etc., should be evaluated.

Global capital allocated to dedicated REIT investment is increasing exponentially. Countries that do not yet have REIT markets are currently missing out on a share of rapidly growing REIT-dedicated capital. With the introduction of REITs in India, the allocated global capital for dedicated REITs can be channelised in the country, thereby, increase foreign investments in it. However, to ensure that REITs take off in the intended manner, it is critical that foreign investments are allowed in it and the tax regime for it is enabled through requisite changes made in the proposed procedure. This could clearly be the last chance available for the real estate sector to access public markets. It is therefore imperative for the sector to ensure the success of the initiative in the long term.
Real estate — making India
Adapting Indian real estate to evolving avenues
Housing for all
Housing for all

Affordable housing in India

The Indian Government has recently announced its vision of “Housing for all by 2022,” the year in which India will celebrate 75 years of its independence. To achieve this ambitious target, the Government will need to come up with an optimum mix of budgetary support and policies to strengthen investors’ sentiments and make housing projects, especially in the affordable segment, financially accessible to people from all walks of life. The term “affordable housing” is being used in reference to varying income ranges as well as to the sizes of dwellings. To make it more specific, the Ministry of Housing & Urban Poverty Alleviation has defined these as “individual dwelling units with a carpet area of not more than 60 sq.mt. and preferably within the price range of five times the annual income of the household.”

The Government has been taking steps to promote affordable housing and has announced initiatives such as the following:

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<th>Central level</th>
<th>State level</th>
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<tr>
<td><strong>Initiatives proposed in Union Budget 2014-15</strong></td>
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<td>▶ A total of INR70.6 billion has been allocated for the development of smart cities as satellite towns. These satellite towns will provide land for affordable housing projects at low rates. The budget also proposed to allocate INR40 billion to NHB to increase the flow of cheap credit for low-cost affordable housing.</td>
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<td>▶ For self-occupied house, deduction limit on account of interest on loan has been raised from INR150,000 to INR200,000.</td>
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<td><strong>Policy reforms approved by union cabinet till Oct. 2014</strong></td>
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<td>▶ FDI norms for housing were relaxed through a reduction in built up area to 20,000 sq.m from 50,000 sq.m and minimum capitalisation requirements to US$5 million from US$10 million. Investor are permitted to exit on completion of the project or after three years from the date of final investment subject to development of trunk infrastructure.</td>
<td></td>
</tr>
<tr>
<td><strong>Announcement by the RBI</strong></td>
<td></td>
</tr>
<tr>
<td>▶ In the six metropolitan centres, loans of up to INR5 million (for houses costing up to INR6.5 million) and in other cities of INR4 million (for houses with values up to INR5 million) shall be eligible for priority sector lending. The RBI has also exempted long-term bonds raised for funding affordable housing from mandatory regulatory norms such as CRR and SLR. These measures will result in lower interest rates, reduced cost of funds and better liquidity.</td>
<td></td>
</tr>
<tr>
<td><strong>Initiatives till June 2014</strong></td>
<td></td>
</tr>
<tr>
<td>▶ External Commercial Borrowing (ECB) has been allowed for low-cost affordable housing projects.</td>
<td></td>
</tr>
<tr>
<td>▶ A 1% subsidy is being provided on loans worth up to INR1.5 million on the purchase of houses costing less than INR2.5 million.</td>
<td></td>
</tr>
<tr>
<td>▶ Investment-linked deduction of capital expenditure in affordable housing has been increased to 150%.</td>
<td></td>
</tr>
<tr>
<td><strong>Initiatives until June 2014</strong></td>
<td></td>
</tr>
<tr>
<td>▶ The Tamil Nadu Government announced 30% extra FSI for the mid-income group housing under JNNURM.</td>
<td></td>
</tr>
<tr>
<td>▶ The MMRDA had initiated steps toward initiating the Public-Private Partnership Rental Housing Scheme for 5 million houses; however, the project is stuck due to lack of infrastructure development, high prices of construction materials and a slump in the real estate market.</td>
<td></td>
</tr>
<tr>
<td>▶ In return for building and promoting the rental housing project, the builder shall receive FSI benefits in certain fixed area of the plots. In these specific pockets, it would have the freedom to build and sell commercial or residential units.</td>
<td></td>
</tr>
<tr>
<td>▶ As part of the master plan of Hyderabad, 4 hectares of land has been reserved for affordable housing.</td>
<td></td>
</tr>
<tr>
<td>▶ Along with the Andhra Pradesh Housing Board, the Hyderabad Government is offering properties at a 25% discount to the mid-income group.</td>
<td></td>
</tr>
</tbody>
</table>

1 “Housing for all by 2022 is govt priority,” Mail Today,” 6 July 2014, via Factiva, © 2014 Living Media India Ltd.
Demand drivers

Phenomenal increase in urbanization from 27.8% in 2001 to 31.2% in 2011

Significant rise in the middle class population across cities; figure expected to reach 200 million by 2020

“Housing for all by 2022” vision of the current Government

Rise in home prices outpacing growth in income, making the purchasing of houses unaffordable for the majority of the masses

Home ownership culture among Indians has encouraged them to own a house across an income group

Rising disposal income due to healthy economic growth

Home ownership culture among Indians has encouraged them to own a house across an income group

High inflation and a significant increase in the prices of construction material and labor costs have resulted in rising prices in the housing segment.

Lack of single-window clearance and the tedious and lengthy regulatory approval process adds to project costs.

The sluggish pace of reforms, lack of an affordable housing policy and slow development of infrastructure are curtailing the growth of the sector.

Real estate in India is challenged by a multiplicity of taxes on transactions, raising property costs for end users. Furthermore, speculation in affordable housing projects leads to a spike in project costs.

While these steps are encouraging, growth has historically been slow due to some inherent challenges such as the following:

Supply of affordable housing has not been able to match up to demand due to the challenges listed below:

Dearth of serviced urban land results in soaring land prices in cities, making affordable housing projects unviable. In addition, such projects developed on the outskirts of urban areas lack adequate physical and social infrastructure, and consequently, eventually become ghost cities.

Furthermore, speculation in affordable housing projects leads to a spike in project costs.

Affordable and social housing a focus area for governments across the world

Globally, affordable and social housing has been a key focus area for governments during the past several decades. Some of their best practices are as follows:

<table>
<thead>
<tr>
<th>Brazil</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective and scale of scheme</strong></td>
<td>The Government is financing housing for public and private sector workers.</td>
</tr>
<tr>
<td>The Government launched the MINHA CASA, MINHA VIDA (My House, My Life) program in 2009. It aimed to build one million houses for lower-middle income families by 2011. As part of the second phase, it planned to construct two million homes by 2014. (Its target has now been revised to 2.76 million.) The Government has now announced its plans to construct another three million homes in the third phase, which is slated for completion by 2017.</td>
<td></td>
</tr>
<tr>
<td><strong>Target income group</strong></td>
<td>Workers covered under the scheme have a broad range of incomes. The scheme focuses on those earning less than four times the minimum wage (TMW) (&lt;US$606) and those earning between 4 and 11 times TMW. In 2013, an estimated 57% of the loans were reserved for workers under 4 TMW, 31% between 4 to 11 TMW and 12% above 11 TMW.</td>
</tr>
<tr>
<td>Under the program, the Government finances properties that are valued up to US$67,820 (R$130,000). Beneficiaries selected by government banks have incomes between 3 and 10 times their minimum salary bands, with varying allowances 7.</td>
<td></td>
</tr>
<tr>
<td><strong>Incentive and initiatives</strong></td>
<td>The Government created the National Workers’ Housing Fund (INFONAVIT) in 1972 to supply the bulk of mortgage finance in the country. Salaried employees contribute a mandatory 5% Payroll Tax to this fund, which is used to grant mortgages to low-income workers.</td>
</tr>
<tr>
<td>The Government has fixed a pre-agreed competitive sale price for properties (varying across cities). In return, it offers subsidies and tax incentives to developers. It also provides discounted insurance and has reduced notary registration fees. From 2011 to 2014, US$205 million has been invested by state-owned companies and the private sector out of the total US$527 million invested in this scheme7. Under the scheme, investors can buy multiple units from developers, fund construction and later sell the units to end users. Caixa National Bank provides 100% finance for this program in order to enable low-income groups to avail mortgage.</td>
<td>The initiative resulted in successful construction of new homes. However, several of these are currently vacant because developers built the majority of them far away from jobs and city centers due to rising inflation and land prices. This makes it difficult for residents to travel to city centers without an adequate transport infrastructure. In some cases, transport costs are high and unaffordable for the residents. This has led to many unhappy customers and resulted in an increasing number of vacant homes (from 2.4% in 2005 to 14.2% in 2010). Several home-owners have stopped paying their mortgages, and developers have to deal with cancelled credit lines and law suits from lenders. Learning from it experience, the new Mexican Government aims to revamp its policy. It is now shifting its focus from providing single homes at distant locations to offering vertical developments closer to cities. It also plans to enable increased coordination between INFONAVIT and local government bodies8.</td>
</tr>
<tr>
<td><strong>Challenges / solutions</strong></td>
<td>The issue resulted in successful construction of new homes. However, several of these are currently vacant because developers built the majority of them far away from jobs and city centers due to rising inflation and land prices. This makes it difficult for residents to travel to city centers without an adequate transport infrastructure. In some cases, transport costs are high and unaffordable for the residents. This has led to many unhappy customers and resulted in an increasing number of vacant homes (from 2.4% in 2005 to 14.2% in 2010). Several home-owners have stopped paying their mortgages, and developers have to deal with cancelled credit lines and law suits from lenders. Learning from it experience, the new Mexican Government aims to revamp its policy. It is now shifting its focus from providing single homes at distant locations to offering vertical developments closer to cities. It also plans to enable increased coordination between INFONAVIT and local government bodies8.</td>
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<tr>
<td>The economic slowdown and price rise have significantly affected progress on this scheme. Furthermore, there have been reports of unlivable, low-quality houses being constructed far away from cities, which make them an unlivable proposition for buyers.</td>
<td></td>
</tr>
<tr>
<td><strong>Outcome</strong></td>
<td>Millions of homes were built and 4.3 million mortgages offered by INFONAVIT to people through housing funds in 2001-2011. Mexico is a classic case where housing finance was provided to people and the Government was able to offer them affordable housing. However, inadequate planning, poor construction quality, high inflation and lack of infrastructural planning impeded the progress of the project.</td>
</tr>
<tr>
<td>The Government is able to provide mortgage to the lower-middle income class through this innovative arrangement. This was not possible previously. In addition, it has been able to cap the rising prices of dwellings by making housing more affordable. Although the program has been facing challenges due to the economic slowdown and price rises, the first phase of the project was completed in 2013 and has been a success. The second phase is in progress, although it is facing some delays.</td>
<td></td>
</tr>
</tbody>
</table>

6 1RS = 0.5217 US$ (average taken of Jan 2010 to Sep 2014).
7 INFONAVIT presentation 2013, http://portal.infonavit.org.mx/wps/wcm/connect/3204b7be-e0cc-4a18-9855-e8de87e7cb1/MHD_2013_ingles.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=3204b7be-e0cc-4a18-9855-e8de87e7cb1.
### Objective and scale of scheme

<table>
<thead>
<tr>
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<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affordability of housing reduced significantly in China in 2010. To overcome this situation, the Government planned to construct 36 million houses by 2015, out of which 70%, or 29.4 million, were to be constructed between 2011 and 2013.</td>
<td>The Housing Development Board (HDB) was set up by the Government of Singapore in 1960 with the sole purpose of providing affordable housing to citizens.</td>
</tr>
</tbody>
</table>

### Target income group

<table>
<thead>
<tr>
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<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low and medium income households</td>
<td>HDB provides a variety of properties under its scheme, ranging from one-room to five-room dwellings, based on the income levels of individuals. The Government provides several housing grants. In addition, the prices of these homes are subsidized on the basis of individuals’ incomes. Families earning less than SG$5,000 per annum receive an additional grant, while those earning between SG$1,501 and SG$2,250 and less than SG$1,500 receive a special housing grant.</td>
</tr>
</tbody>
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### Incentive and initiatives

<table>
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</thead>
<tbody>
<tr>
<td>The Government has been pushing for reforms to increase supply of land for such projects, provide subsidies to end users and make these properties affordable. It plans to spend US$18.8 billion on affordable housing in 2014. Out of the planned seven million affordable houses in 2014, construction has started on 2.86 million.</td>
<td>In 1968, the Government allowed the use of provident fund savings for people to make down payments and pay the rest in monthly installments. Over the years, it has provided funding and subsidies to make home ownership affordable and viable for lower and mid-income families in the country. From 2006 to 2011, it improved subsidy rates regularly, based on increases in incomes and property prices. HDB has launched several schemes and subsidies targeting categories including new parents and new married couples. In 2005, the Government introduced the Design, Build and Sell Scheme. This entails the private sector designing, building and selling HDB flats. HDB, backed by government funding, has been able to achieve a low housing price to income ratio.</td>
</tr>
</tbody>
</table>

### Challenges / solutions

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>The significant investment required for this initiative would put pressure on the Government’s revenues. It would have to sell land at discounted rates to make housing projects affordable. In addition, it would need to provide subsidies to end users.</td>
<td>Despite land-related constraints, HDB has been able to build high rises with all the requisite public amenities and infrastructure, even in the low-income housing segment. It has pioneered cost-effective designs and completes projects on time. It clubs housing for different income groups under its new projects to increase social cohesiveness.</td>
</tr>
</tbody>
</table>

### Outcome

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>By the end of 2013, China had completed 15.77 million units, falling short of its target by 50%. Nevertheless, this was a significant progress made by it within only two to three years. However, as is the case in other countries, projects are being developed at far-off locations in the country, and are low in quality, which defeats the purpose of the initiative.</td>
<td>More than 80% of Singapore’s population lives in HDB flats. The country boasts one of the highest home ownership rates in the world. Regular updating of policies and subsidies has made government schemes relevant in all market conditions. Singapore’s citizens not only have a brick and mortar area under which to take shelter, but a sense of community as well. This defines the success of the scheme. Several private equity funds have also invested in HDB schemes.</td>
</tr>
</tbody>
</table>

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Recommendations for India on the way forward

Looking at the scale and magnitude of demand and deficit, India needs to do a lot more to promote affordable housing and achieve the Government’s vision of “Housing for all by 2022.”

Recommendations on policies and measures:
- The Government could put in place an affordable housing policy. Housing boards should be equipped with decision-making authority and generous funding.
- Properties should be sold to individuals in the appropriate income brackets, otherwise there may be speculation in prices.
- Housing policies should be revamped from time to time to keep them relevant.
- The Government needs to ensure supply of urban land with public utility services at a reasonable cost.
- Specific tax holiday benefits, along with subsidies on interest rates and waiver of stamp duty, could be provided for affordable housing projects.
- Project costs can be contained further by reducing Excise Duty on cement and steel.
- Reserved zones for affordable housing in city plans would enable adequate supply of land.

Adopting PPP model to develop affordable housing

- Under the PPP model, the Government could look at entering joint development agreements and providing land to make land acquisition affordable for developers. It could also consider providing incentives such as increased FSI and reduced stamp duty to bring down the price per unit.
- It could put single-window clearance schemes in place and expedite the regulatory approval process through enhanced collaboration within ministries. Guaranteeing bank loans for such projects would further reduce the cost of funding.

Private developers could be engaged to develop residential units. The Government could build the necessary infrastructure to make such projects “livable.”

Funding of projects

- Financial institutions are needed to initiate affordable construction and mortgage loans.

Planning and execution

- Due to the large scale of such projects, they require the latest technology and state-of-the-art project management.
- Developers could enter joint development arrangements with land-owners to reduce their land costs.
- Affordable housing projects need to be set up closer to cities and be adequately connected by means of appropriate infrastructure. The quality of construction and availability of basic amenities needs to be a priority to ensure that projects are sustainable and livable in the long term.

While the new Government has set the wheels in motion by initiating some sound proposals to promote affordable housing, more needs to be done on the policy front to improve investors’ sentiments and reduce regulatory hurdles. Moreover, implementation is going to be the key to achieving the vision in coming years. The country needs a detailed affordable housing policy with easy finance options and inexpensive land banks. Tax incentives should be provided to developers and customers to make housing affordable for both in the long run. Furthermore, while affordability is the main focus, the location and quality of projects cannot be compromised, since this would make projects unsustainable in the long run although they could be affordable in the short term.
Real estate — making India adaptable to evolving avenues
Real estate — making India

Adapting Indian real estate to evolving avenues
Mega cities: response to need for housing for all
Mega cities: response to need for housing for all

Emerging destinations around Mumbai

Mumbai has spread far beyond its northern suburbs. Recent improvements in connectivity through extension of the western railway local network have greatly enhanced the development potential in districts surrounding the city’s suburban areas. This rail network now links its commercial hub at Churchgate station with Dahanu Road station in the adjoining Palghar district — much beyond Virar (the erstwhile culminating station). In addition, the initiative to make the NH-8 junction-free through construction of flyovers has helped industrial hubs on the route to have easy access to Mumbai. Palghar (~118 kms) and Boisar (~123 kms) are two such industrial hubs that have emerged as residential destinations. They offer real estate products at lower price points compared to other parts of the Mumbai Metropolitan Region (MMR).

<table>
<thead>
<tr>
<th>Emerging destination</th>
<th>Palghar</th>
<th>Boisar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (Census 2011)</td>
<td>68,930</td>
<td>36,151</td>
</tr>
<tr>
<td>Economic base</td>
<td>Industrial units</td>
<td>Industrial units and Tarapur Atomic Power Station (TAPS)</td>
</tr>
<tr>
<td>Distance from Mumbai Central (in kms)</td>
<td>118</td>
<td>123</td>
</tr>
</tbody>
</table>

Growth drivers

- **Escalating real estate prices**: Real estate prices in Virar (around 85 kms from Churchgate), considered the northern most suburb on the western corridor, range from INR4,200 to INR5,500 per sq.ft. in 2014. Consequently, locations beyond these, such as Boisar and Palghar, have emerged as new centers, offering products at lower price points.

- **Industrial base**: Maharashtra Industrial Development Corporation (MIDC) Tarapur is situated in Boisar. It houses over 1,500 industrial units and generates employment for more than 100,000 people. Asia’s first nuclear power plant, Tarapur Atomic Power Station (TAPS), is located 12 km away from Boisar and has a gated residential development for its employees. In addition to MIDC, there is also the Tarapur Industrial Estate, with its bulk drug-manufacturing units. These cities are industrial hubs with a captive population that require residential accommodation.

- **Advantage of proximity to Maharashtra-Gujarat border**: Palghar and Boisar serve the industrial hubs in south Gujarat, e.g., Vapi, Valsad and Surat, and also have a working population in the peripheral areas of Maharashtra, such as in the Vasai-Virar region.

- **Extension of western railway line**: Improved connectivity with Mumbai (through the western railway with 20 services scheduled to and from the city every day) has been driving real estate in the region.

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Overview of real estate residential market

<table>
<thead>
<tr>
<th>Destination</th>
<th>Format of development</th>
<th>Key clusters</th>
<th>Prevalent configuration</th>
<th>Size range (SBUA in sq.ft.)</th>
<th>Base rate on SBUA (INR per sq.ft.)</th>
<th>Block price range (INR m)</th>
<th>Key projects</th>
<th>Cost of land (INR m per acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Palghar</td>
<td>Townships with apartments</td>
<td>New Satapati Road and Palghar Road</td>
<td>1BHK ~ 60% of supply 2BHK ~ 35% of supply</td>
<td>1BHK 400 to 750 2BHK 610 to 980 3BHK 900 to 1,000</td>
<td>1Q 2013: 2,200 to 3,300 4Q 2014: 2,600 to 3,800</td>
<td>4Q 2014: 1BHK 1.0 to 2.4 2BHK 1.6 to 3.3</td>
<td>Paradise City, Viva Smaranagan, Raheja Prime, VBHC Vaibhav</td>
<td>4Q 2014: 35-50</td>
</tr>
<tr>
<td>Boisar</td>
<td>Townships with apartments</td>
<td>Boisar-Tarapur Road and Boisar Road connecting NH-8</td>
<td>1BHK ~ 45% of supply 2BHK ~ 46% of supply</td>
<td>1BHK 550 to 850 2BHK 680 to 1,050</td>
<td>1Q 2013: 2,150 to 4,000 4Q 2014: 2,350 to 4,300</td>
<td>4Q 2014: 1BHK 1.3 to 2.9 2BHK 1.8 to 4.2</td>
<td>Chhaya Niwas, Tata New Haven, Eco Eden City, Wonder City</td>
<td>4Q 2014: 30-40</td>
</tr>
</tbody>
</table>

Note: SBUA - super built-up area
Source: EY research conducted in October 2014

The dominant format seen in Palghar and Boisar is of apartments in integrated townships. Most projects house 350-400 residential units.

Residential real estate market in Palghar

Key cluster/micro-markets: Residential development is mainly concentrated in two clusters. One is the New Satapati Road, which is close to the city center and is on the route to Palghar beach, and the other is Palghar-Manor Road, which is in proximity to NH-8 and provides easy access to both Mumbai and Gujarat.

Prominent configuration: Supply of residential real estate in Palghar primarily includes 1BHK (60%) and 2BHK (35%) apartments, which together comprise ~95% of the total supply. The balance comprises 3BHK units.

Size: The typical area of a 1BHK apartment ranges from 400-750 sq.ft. (SBUA) and of a 2BHK unit from 610-980 sq.ft. (SBUA). Limited 3BHK units of 900 to 1,000 sq.ft. (SBUA) are available.

Pricing: Average values in 4Q 2014 are in the range of INR2,600 to INR3,800 per sq.ft. (SBUA). These prices have witnessed an average appreciation of around 10%-15% in the past seven quarters (1Q 2013 – INR2,200 to INR3,300 per sq.ft. for SBUA). In 4Q 2014, the price of a 1BHK apartment in Palghar ranges from INR1.0 million to INR2.4 million and of a 2BHK from INR1.6 million to INR3.3 million.

Residential real estate market in Boisar

Key cluster/micro-markets: Residential development is predominantly focused on two clusters in Boisar – the Boisar-Tarapur Road leading to the Tarapur Atomic Power Station (TAPS) Colony and MIDC-Tarapur. The second cluster is on Boisar Road, which connects Boisar to NH-8 (connecting Mumbai to Gujarat).

Prominent configuration: Supply of housing in Boisar includes an almost equal supply of 1BHK (45%) and 2BHK (46%) units, together accounting for ~91% of total residential real estate supply in the area. In
addition, the Chhaya Niwas project has launched 1.5BHK units, which are preferred to 2BHK apartments.

- **Size**: The typical area of apartment units in Boisar is larger than in Palghar, with 1BHK units ranging from 550–850 sq.ft. and 2BHK units from 680–1,050 sq.ft. of the SBUA.

- **Pricing**: Average prices range between INR2,350 and INR4,300 per sq.ft. (SBUA) as on 4Q 2014. The market has seen a 6%-10% appreciation in the past seven quarters – from 1Q 2013 to 4Q 2014 (lower than in Palghar). However, the projects that were completed during this period saw a 10%-20% price rise.

The block price of a 1BHK unit ranges from INR1.3 million to INR2.9 million and those of 2BHK units from INR1.8 million to INR4.2 million, depending on the SBUA of the units.

**Capital values of residential units in Boisar**

<table>
<thead>
<tr>
<th></th>
<th>Minimum (INR per sq.ft.)</th>
<th>Maximum (INR per sq.ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Q 2013</td>
<td>2,150</td>
<td>4,000</td>
</tr>
<tr>
<td>4Q 2014</td>
<td>2,350</td>
<td>4,300</td>
</tr>
</tbody>
</table>

Source: EY research conducted in October 2014.

With prices in Mumbai sky-rocketing, there is tremendous potential in the peripheral areas of the city. Suburbs at a distance of 30–45 kms offer accommodation at INR7,000 to INR12,500 per sq.ft. of their SBUA. Moving further north, areas such as Virar (~75 kms) offer INR4,200 to INR5,400 per sq.ft. of the SBUA options. Today, peripheral areas such as Palghar and Boisar are emerging as destinations with housing options, with ticket prices of less than INR4.0 million. Other upcoming residential locations that could offer products at similar price points are around 85 kms from the city. These urban fringes of the Mumbai Metropolitan Region include areas such as Karjat (~75 kms), where average prices range from INR2,350 to INR3,250 per sq.ft. and Shahpur (~85 kms) with average prices in the range from INR1,650 to INR2,500 per sq.ft. of the SBUA. These areas were earlier perceived as second homes, but are now set to emerge as first home destinations.

**Emerging destinations around Kolkata**

Kolkata has been regarded as an end-user market rather than an investors’ market, which has kept the real estate sector immune to sharp price movements in comparison with other parts of the country. While Kolkata may not have seen many large-scale township projects, its fringes are witnessing a multitude of housing projects in areas including Rajarhat and the Eastern Metropolitan (EM) Bypass (toward Garia).

Sonarpur and Baruipur are located on the eastern fringe of the Kolkata Metropolitan region in the district of South 24-Parganas and are linked with the city via the EM Bypass. The congestion and saturation of Kolkata’s Central Business District (CBD) has led to the growth of its eastern areas, e.g., Salt Lake, New Town Rajarhat and the EM Bypass. Areas including Salt Lake and New Town Rajarhat are now increasingly facing issues relating to availability of land. These markets are also investor-driven on account of the growth of the Information Technology (IT) sector. Developers are shifting their focus to locations on the EM Bypass towards Garia, Sonarpur, Baruipur, Diamond Harbor and Kona Expressway, primarily due to improved infrastructure, connectivity and low land prices in these areas.

<table>
<thead>
<tr>
<th>Emerging destination</th>
<th>Sonarpur</th>
<th>Baruipur</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (Census 2011)</td>
<td>424,368&lt;sup&gt;4&lt;/sup&gt;</td>
<td>433,119&lt;sup&gt;5&lt;/sup&gt; (estimated for sub-division)</td>
</tr>
<tr>
<td>Economic base</td>
<td>Educational hub</td>
<td>Proposed government administrative hub</td>
</tr>
<tr>
<td>Distance from Kolkata railway station (in kms)</td>
<td>22</td>
<td>32</td>
</tr>
</tbody>
</table>


Growth drivers

- **Improving connectivity and social infrastructure**: Improving connectivity on account of the EM Bypass and metro networks is a key reason for the growth of southern suburban locations in Kolkata. Moreover, the extended metro service from Tollygunge to Garia has eased traffic congestion in this area. Both Sonarpur and Baruipur are well connected by the metro, with the Kavi Nazrul Metro Station being the closest metro station from Sonarpur (6.60kms) and Baruipur (15.50kms). In addition, these are also junction stations and the two major transit points in this area. They are served by the EM Bypass, which connects them with Kolkata, Salt Lake and the growing Rajarhat township.

- **Shifting of district headquarters**: It is proposed that the district headquarters for South 24-Parganas should be relocated from Alipore to Baruipur (an area of more than 4,000 acres). According to the Kolkata Metropolitan Development Authority (KMDA), the nodal agency for planning activities in the Kolkata Metropolitan Area, there is a proposal to develop five major trans-metro growth centers around the city – Kalyani, Barasat, Rajarhat, Uluberia and Baruipur. According to the proposal, Baruipur should be the district headquarters and part of a comprehensive plan program.

- **Government’s interest**: Bengal Park Chambers Housing Development Ltd., the 50:50 joint venture between the West Bengal Housing Board (WBHB) and the Sureka Group, has launched a residential apartment project that caters to the Middle Income Group (MIG) and Lower Income Group (LIG) categories in Baruipur (project Sunrise Junction).

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Overview of residential real estate market

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<tr>
<td>Sonarpur</td>
<td>Townships with apartments</td>
<td>EM Bypass Road and Prasadpur</td>
<td>1BHK ~10% of supply</td>
<td>1BHK 450 to 650 2BHK 800 to 1,300 3BHK 1,200 to 1,650</td>
<td>1Q 2013: 1,600 to 3,500 4Q 2014: 1,750 to 4,200</td>
<td>4Q 2014: 1BHK 0.8 to 1.8 2BHK 2.1 to 3.9 3BHK 2.7 to 5.7</td>
<td>Amrita Abashan, Mega City, Tirupati Paradise, Southwinds</td>
<td>4Q 2014: 5-15</td>
</tr>
<tr>
<td></td>
<td>Plotted development</td>
<td>Plots</td>
<td>4Q 2014: plots - 280 to 300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Green Haven</td>
</tr>
<tr>
<td>Baruipur</td>
<td>Limited townships with apartments</td>
<td>Baruipur-Amtala Road and Baruipur-Canning Road</td>
<td>1BHK ~4% of supply 2BHK ~10% of supply</td>
<td>1BHK 450 to 550 2BHK 650 to 725</td>
<td>1Q 2013: 1,400 to 1,600 4Q 2014: 1,750 to 2,200</td>
<td>4Q 2014: 1BHK 0.6 to 1.2 2BHK 0.8 to 1.6</td>
<td>Sunrise Junction, Dakshinaty</td>
<td>15-24</td>
</tr>
<tr>
<td></td>
<td>Plotted development</td>
<td>Plots</td>
<td>4Q 2014: plots - 280 to 300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Satya Park, Basundhar, Baruipur Bloomfield</td>
</tr>
</tbody>
</table>

Source: EY research conducted in October 2014

Residential real estate market in Sonarpur

Sonarpur primarily comprises township development with apartments and limited projects on plotted land. Most of the projects have around 250-300 residential units.

Key clusters/micro-markets: Residential development in Sonarpur is mainly concentrated in two clusters – on EM Bypass Road, which is close to the Garia metro station (good connectivity with Kolkata) and has adequate social infrastructure. The second cluster is Prasadpur, which comprises plotted developments primarily due to improved connectivity between Garia and Prasadpur after the construction of the Sonarpur flyover.
Prominent configuration: Supply of housing in Sonarpur mainly includes 2BHK (~27% of the supply) and 3BHK (~62% of the supply) apartments, which account for ~89% of the total inventory. Some developers have also launched 1BHK units, which account for ~10% of this market.

Size: The typical area of 1BHK units ranges from 450 sq.ft. (~650 sq.ft. (SBUA)), whereas 2BHK units are in the range of 800 sq.ft. (~1,300 sq.ft. (SBUA)) and 3BHK units from 1,200 sq.ft. to ~1,650 sq.ft. (SBUA).

Price: In 4Q 2014, average values range from INR1,750 to INR4,200 per sq.ft. (SBUA). On an average, projects have seen appreciation in the range of 10%-20% during the period 1Q 2013 and 4Q 2014.

Block price: As on 4Q 2014, the block price of 1BHK units in Sonarpur range from INR0.8 million to INR1.8 million, 2BHK units from INR2.1 million to INR3.9 million and 3BHK units from INR2.7 million to INR5.7 million.

Residential real estate in Baruipur:

Key clusters/micro-markets: Baruipur is witnessing residential development in two clusters – Baruipur–Amtala Road, which is in close proximity to Sonarpur, and Amtala, which is one of the largest trading hubs in South 24 Parganas and has good road connectivity due to existing and upcoming wide road (EM Bypass). The second cluster is Baruipur-Canning-Kulpi Road, where contiguous land parcels are available at low rates and attract developers to launch township projects.

Prominent configuration: Baruipur primarily comprises plotted development projects (~86% of the supply) with the balance being apartments. In the apartments, the 2BHK format constitute ~10% of the total supply and the 1BHK format ~4%. Most of the plotted projects launched and developed house 1,000 plots of varying sizes on an average.

Size: Plots are available in the size range of 1,450 to 3,600 sq.ft. Apartments are available in two configurations, 1BHK and 2BHK, with 1BHK being available in 450 sq.ft. to 550 sq.ft (SBUA) and 2BHK residential units in the range of 650 sq.ft. to 725 sq.ft. (SBUA). The market seems favorable for independent large formats with plots dominating the supply.

Price: In 4Q 2014, the average price in Baruipur is in the range of INR1,750 to INR2,200 per sq.ft. (SBUA). The average price of plots in 4Q 2014 is in the range of INR300 to INR350 per sq.ft. as on 4Q 2014, the block price of 1BHK units is in the range of INR0.6 million to INR1.2 million and 2BHK units from INR0.8 million to INR1.6 million.

The region is set to see a healthy demand, primarily due to improved connectivity, the Government’s initiatives to provide affordable housing and shifting of district headquarters. Residential activity is expected to increase in coming years, attracting developers, especially in the affordable and mid-segment category on account of the large land parcels available at comparatively low prices. Other upcoming residential locations in this area include the Diamond and Kona Expressway (with capital values in the range of INR1,900 to INR2,100 per sq.ft. (SBUA), where development is also picking up.

Source: EY research conducted in October 2014.
Emerging destinations around Bengaluru

The “Garden City,” Bengaluru, has rapidly emerged as a realty and knowledge hub. In particular, the last decade has seen a significant growth in developmental activity and establishment of IT/ITeS service hubs, campuses of higher education institutions and special economic zones (SEZs). This has led to a steadily increasing demand for housing and integrated townships for all income brackets. Micro-markets such as Whitefield, Outer Ring Road and Hebbal have witnessed the establishment of large commercial office establishments and have emerged as the “commercial belts” of the city. This has created a demand for residential and other social infrastructure. Over the last five years, the need for residential units in prime commercial belts has resulted in escalation in capital values. This has resulted in the gradual shift of residential markets to the city’s peripheral areas.

A key area of focus is however the continuously growing demand for housing for low to middle income groups. Domestic and foreign migration is high due to growing employment opportunities, which adds to the demand for housing in Bengaluru. Its peripheral city limits have been growing to meet this demand. This has led to the establishment of satellite areas, which are being targeted by developers to set up housing and integrated townships.

The four emerging growth nodes around Bengaluru:

<table>
<thead>
<tr>
<th>Destination</th>
<th>Population (2011 census)</th>
<th>Economic base</th>
<th>Distance from Bengaluru city (kms.)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dodaballapur</td>
<td>93,105</td>
<td>Small-scale industries</td>
<td>41</td>
</tr>
<tr>
<td>Devanahalli</td>
<td>28,051</td>
<td>Aviation parks and cargo hardware</td>
<td>37</td>
</tr>
<tr>
<td>Sarjapur-Attibelle road</td>
<td>11,807</td>
<td>Tech corridor</td>
<td>25</td>
</tr>
<tr>
<td>Nelamangala-Tumkur Road</td>
<td>37,232</td>
<td>Small-scale and agricultural industries</td>
<td>31</td>
</tr>
</tbody>
</table>

* Distances from city center taken from M.G. Road

These locations were traditionally agriculture or industrial belts. Gradual expansion of city limits led to the spillover of real estate activity to peripheral locations. Plotted development layouts were initially seen in these areas due to low land costs. However, over the last two to three years, peripheral locations have witnessed development of apartments, which are marketed at comparatively low pricing, due to improved infrastructure and escalation in the capital values of residential apartments in developed locations. However, although the peripheral locations selected have witnessed the development of apartments of late, the micro-market still offers plots and villas to those who can afford these.
<table>
<thead>
<tr>
<th>Emergegng destination</th>
<th>Format of development</th>
<th>Key clusters</th>
<th>Prevalent configuration</th>
<th>Size range (SBUA in sq.ft.)</th>
<th>Base rate on SBUA (INR per sq.ft.)</th>
<th>Block price range (in INR m)</th>
<th>Key projects</th>
<th>Cost of land (in INR m per acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dodaballapur Road</td>
<td>Apartments and plotted development layouts</td>
<td>Dodaballapur Road and Yelahanka</td>
<td>1BHK - 25% of supply</td>
<td>1BHK: 650 to 750</td>
<td>2BHK: 845 to 1,200</td>
<td>3BHK: 1,100 to 1,500</td>
<td>4Q 2014: 3,700-4,500</td>
<td>Century Arena, Provident Welworth city, Prestige GK lakeview</td>
</tr>
<tr>
<td>Devanahalli</td>
<td>Township development with apartments</td>
<td>NH-207 and NH-7 Devanahalli</td>
<td>1BHK, 2BHK and 3BHK</td>
<td>1BHK: 500 to 750</td>
<td>2BHK: 750 to 1,200</td>
<td>3BHK: 1,250 to 1,500</td>
<td>4Q 2014: 3,000-4,800</td>
<td>Brigade Orchards, Hiranandani Upscale, Ozone Urbana</td>
</tr>
<tr>
<td>Sarjapur Road</td>
<td>Apartments and plotted development layouts</td>
<td>Sarjpur and Sarjapur - Attibele Road</td>
<td>1BHK - 20% of supply</td>
<td>1BHK: 750 to 900</td>
<td>2BHK: 1,050 to 1,300</td>
<td>3BHK: 1,230 to 1,650</td>
<td>4Q 2014: 2,700-5,500</td>
<td>Confident Gardenia, Sriam Smriti, Citilights Seasons</td>
</tr>
<tr>
<td>Nelamanagla-Tumkur Road</td>
<td>Apartments and plotted development layouts</td>
<td>NH-7 Tumkur Road</td>
<td>1BHK - 30% of supply</td>
<td>1BHK: 600 to 900</td>
<td>2BHK: 1,000 to 1,200</td>
<td>3BHK: 1,230 to 1,400</td>
<td>4Q 2014: 2,500-3,000</td>
<td>Tata Haven, Arshiya Meadows, Shriram Sameeksha</td>
</tr>
</tbody>
</table>

Source: EY market research conducted in September and October 2014
Dodaballapur Road

Dodaballapur is mainly a cluster of semi-rural villages, which form a part of the Bengaluru rural district. It is located around 41-43 km. from the city center.

Growth drivers:

- **Improved accessibility:** Access to and from this growth node is improving due to its proximity to the Dodaballapur railway station and intra and intercity Bangalore Metropolitan Transport Corporation (BMTC)-run bus terminals. Dodaballapur is therefore fast developing as a satellite town to Bengaluru. The Bengaluru-Hindupur State Highway 9 connects the area to the city. SH 9 is a two-lane road and is in excellent condition. In addition, the area is well connected with Bengaluru’s International Airport via NH 207.

- **Commercial development:** Dodaballapur is also close to the upcoming Bengaluru Aerospace Park (BAP), Hardware Park, Apparel Park and IT/IT Park in North Bengaluru, in addition to the Dodadaballapur Industrial Area and the Dabbaspet Industrial Area being located in it. This is an essential growth driver for residential development in this peripheral area of the city. The BAP has already generated substantial corporate and investor interest, which is contributing to the growing demand for accessible and inclusive housing for employees of economic hubs in the area. Furthermore, development of industrial clusters around the airport has witnessed a spillover effect with regard to the demand for residential housing and is expected to drive growth in the future. Up and coming housing projects include Metro Park, North Paradise, IDEB Riverspring, Vaishnavi Elements and Mantri Layouts.

Residential real estate market

- **Key clusters/micro markets:** The bulk of development is seen on Dodaballapur’s main road and the Yelahanka junction. Since the road is expected to get saturated, it is likely that development will spread toward Honnenhalli on the State Highway 9.

- **Prominent configuration:** Around 75% of the residential supply consists of 2BHK and 3BHK units. These have seen a steady appreciation in their values since 2011. The demand for 2BHK units is the highest because of nuclear families migrating to the area in search of employment opportunities. The preferred option for first-time buyers are 2BHK apartments. Therefore, the bulk of development includes apartment complexes. The second most popular format consists of plotted developments and layouts because of availability of vast land parcels in this semi-rural district.

- **Size:** The average size of 2BHK units ranges from 845 sq.ft.-1,200 sq.ft. (SBUA) and that of 3BHK units from 1,100 sq.ft.-1,500 sq.ft. (SBUA).

- **Price:** Capital values have witnessed a steady rise in the last two to three years. Currently, prevailing capital values in the area are in the range of INR 3,700- INR4,500 per sqft., depending on the location of the development, facilities and amenities provided, stage of completion, etc. On and around the Yelahanka-Dodaballapur Main Road, there are projects such as Provident Welworth City, Nirmal Residency and Vrindavan Bliss selling at INR3,000-INR3,500 per sq.ft. (on the SBUA). Most 2BHK units are priced between INR2.5 to INR4.8 million and 3BHK units between INR3.7 to INR7.5 million. In the case of plotted developments, the price ranges from INR1,200- INR2,800 per sq.ft. on an average.

Based on recent developments, there is high potential for capital appreciation in the area because it is not yet congested and saturated with development, as is the case in the Outer Ring Road. Developers are still acquiring land parcels to develop townships, villas and plots on them. This is seen as a lucrative investment opportunity by first-time buyers and those who want to buy second homes, and therefore, is expected to influence capital values positively.

Devanahalli

Devanahalli is a large semi-rural area, located on NH7 and NH 207. It is located around 40-42 km. from the city center and is considered one of the fastest growing areas in North Bengaluru. The location has already witnessed the development of integrated townships, high-end villas and plots. Furthermore, growth of an industrial cluster around the airport has seen a spillover effect with regard to the demand for residential housing, which is expected to drive development in the future.
Growth drivers:

- **Development of transport infrastructure:** Devanahalli's proximity to the International Airport, only five km. away, has contributed to increased traffic along the highway, leading to rapid development of infrastructure in the corridor. Projects such as the Outer Ring Road and the planned six-lane carriageway have led to widespread improvements in roads and connectivity with the central business district (CBD) and Inner Ring Road. The completion of the elevated flyover has provided the area seamless connectivity with various parts of the city. Additionally, planning developments such as that of the peripheral Ring Road are expected to enhance its connectivity to important locations.

- **Economic nodes:** Operational economic hubs in the city include the Kempegowda International Airport and BAP. A number of other nodes, such as the Hardware Park, IT/BT Park, ITIR, Logistics Parks and the Devanahalli Business Park are planned around this market.

Residential real estate market:

- **Key clusters/micro markets:** Devanahalli is witnessing residential development in two clusters – NH–7 Devanahalli Road a key cluster, which is witnessing integrated development, high-end villas and plots. The cluster has developed on account of its excellent connectivity and proximity to Kempegowda International Airport. The second prominent cluster is NH–207, which has emerged due to industrial development in and around the airport. Activity witnessed in this cluster includes competitively priced housing options and plots.

- **Prominent configuration:** The dominant configuration includes 2BHK apartments. The remaining units include 3BHK and 1BHK units.

- **Size:** The average size of a 2BHK unit ranges from 750 sq.ft.–1,200 sq.ft. (SBUA).

- **Price:** Capital values have seen a steady rise in the last two to three years. Currently, prevailing capital values in the NH-7 Devanahalli zone are in the range of INR4,000–INR4,800 per sq.ft. (SBUA), depending on the location of the development, facilities and amenities provided, stage of completion, etc. Capital values in the NH–207 region are in the range of INR3,000–INR4,400 per sq.ft. (SBUA). The block price of a 2BHK apartment ranges from INR3.0 million to INR4.5 million in the NH– 207 region and from INR5.0–INR8.0 million in the NH–7 Devanahalli region. In the case of plotted developments, prices range from INR1,800–INR3,500 per sq.ft. on an average.

The demand for apartments is predicted to rise in the near future following the completion of planned infrastructure projects such as Devanahalli Tech Park and BAP. There is ample opportunity for projects at these price points due to the current low competition from other community housing projects and no major community housing planned for the next two to three quarters.

Sarjapur–Attibelle Road

Sarjapur Road is a rapidly developing area, situated in the south-east of Bengaluru. It is around 23-25 km. from the city center.

Growth drivers:

- **Connectivity:** Sarjapur Road has access to all major transport nodes of the city, including the local railway station (approx. 4 kms) and Bengaluru Municipal Transport Corporation (BMTC) bus terminals. It has thus emerged as a preferred residential destination for most people working on the ORR.

- **IT hub:** This hub is situated near the Outer Ring Road, which is a major IT/ITeS corridor in the city and contributes around 25% of the total IT/ITeS space in it. This area is also well connected to Electronic City.

- **Land banks:** Gradual expansion of city limits and setting up of land banks by developers are expected to be the major drivers of growth on Sarjapur Road. Moreover, large IT/ITeS companies have land banks on the road to develop campuses, which are expected to be major drivers of residential development in the future.

Residential real estate market:

- **Key clusters/micro-markets:** Residential development on Sarjapur is concentrated around the Sarjapur Main Road, the Sarjapur-Attibelle Road and toward the ORR. Due to near saturation of supply on the main road, developers are now targeting land parcels
located off the main Sarjapur and Attibelle roads. The Sarjapur-Attibelle road caters to people working in organizations on the Outer Ring Road and the city’s growing population. Large land parcels for residential development have opened up following the construction of the Outer Ring Road in 2002.

**Prominent configuration:** Around 80% of the total residential supply consists of apartment complexes, mainly comprising 2BHK and 3BHK units, with the majority of buyers being mid-level employees of IT companies in the area.

**Size:** The average size of the SBUA for 2BHK units ranges from 1,050 sq.ft.– 1,300 sq.ft. (SBUA) and that of 3BHK units from 1,230 sq.ft.– 1,650 sq.ft.

**Price:** Quoted capital values in developments in the micro-market ranged from INR2,700 to INR3,300 per sq.ft. (SBUA). Those closer to established locations on Sarjapur Road (around 3–4 km. from the Sarjapur-Outter Ring Road junction) are in the range of INR4,000–INR5,500 per sq.ft. (SBUA). The average price of a 2BHK flat ranges between INR2.9 to 4.5 million and that of a 3BHK flat from 3.5 to 6.0 million. In the case of plotted developments, the prices range from INR1,600–INR2,200 per sq.ft. on an average.

**Nelamangala-Tumkur Road**

The Nelamangala-Tumkur Road area is located in the western periphery of Bengaluru and is around 17–19 km from the Outer Ring Road. The area in its vicinity is mainly agricultural, but also includes individual dwelling units in Mallarbanavadi village and Nelamangala town.

**Growth drivers:**

**Industrial corridor:** Nelamangala is located around 10–12 km. from Peenya, which is considered one of the largest small-scale industry hubs in Asia. The Dobaspet Industrial area is located around 8–10 km. from Nelamangala. There are numerous industries located along both the highways including NH 4B and NH 4 as well as others. Nelamangala is a growing sub-urban node in Bengaluru. It attracts an increasing number of migrants and this consequently generates demand among the local and domestic population in the area, driven by employment opportunities – particularly in small businesses and agriculture-based industries. Since these industries dominate in the area, the bulk of (85%) of residential development in Nelamangala consists of plotted developments and layouts.

**Connectivity:** The completion of the Tumkur Road elevated flyover has provided seamless connectivity to various parts of the city. Furthermore, Metro connectivity to Peenya has spurred real estate activity in the region and has spilled over real estate-related activity to regions including Nelamangala.

**Residential real estate market:**

**Key clusters:** Increased residential activity is currently being witnessed across various locations along Tumkur Road. Locations that are around 10 km. and beyond Outer Ring Road, such as Madanayakahalli, Nelamangala and Huskur Road, are currently witnessing significant activity in terms of affordable housing units due to availability of land at competitive prices. The micro-market is currently seeing marketing of apartment developments such as Tata New Haven, Vaishnavi Rathnam and Janapriya 1st Avenue.

**Prominent configuration:** Around 70% of the total residential supply consists of apartment complexes, mainly comprising of 2BHK and 3BHK units. Since the majority of buyers are mid-level employees at nearby industrial units, around 30% of the flats are 1BHK units.

**Size:** The average size of a 2BHK unit ranges between 1,000 sq.ft.–1,200 sq.ft. (SBUA) and that of a 3 BHK between 1,230 sq.ft.– 1,400 sq.ft. (SBUA).

**Price:** The quoted capital values of housing units in the micro-market are in the range of INR2,500 to INR3,000 (SBUA). The average block price of a 2BHK flat ranges between INR2.9 to 4.5 million and that of a 3BHK from INR3.5 to INR6.0 million. The price of a plotted developments ranges from INR1,000-INR1,400 per sq.ft.

Locations such as Whitefield, Electronic City, Kanakapura Road, Mysore Road, Peenya and Yelahanka have witnessed development of housing at comparatively low prices. However, the gradual expansion of the city has led to capital values in these locations witnessing steady escalation. They currently consist of mid-upper mid-end apartments. Locations such as Dodaballapur, NH-207 Road, Sarjapur-Attibele Road, Tumkur Road and Mysore Road (close to NICE junction) currently offer flats in a low per sq. ft. price. Availability of relatively cheap land, good connectivity and proximity to commercial and industrial hubs lead to large-scale developers developing projects in these locations.
Emerging destinations around Delhi National Capital Region (NCR)

Bhiwadi and Dharuhera, which were once small village settlements, have now become industrial towns. They are strategically located between Delhi, Gurgaon and Jaipur. Improved connectivity has led to increased industrial growth during the last decade, giving an impetus to development of real estate in the area.

Growth drivers

- **Proximity to NCR**: The NCR has witnessed an unprecedented growth in its population and rapid urbanization over the past decade, leading to a shift in growth patterns in the adjoining states of Haryana, Uttar Pradesh and Rajasthan. This has benefitted cities including Gurgaon, Faridabad, Noida, Greater Noida and Ghaziabad. The Government’s regional plan recognizes some priority towns in these three states to cater to increasing demand in the NCR in order to absorb the need for development activities outside the NCR, which includes six urban complexes – Sonipat-Kundli, Bahadurgarh, Gurgaon-Manesar, Faridabad-Ballabgarh, Noida and Ghaziabad-Loni. Among these complexes, Alwar and Bhiwadi have been recognized as priority towns for Rajasthan and Dharuhera, Panipat, Rohtak, Palwal and Rewari for Haryana. Developers have been shifting their focus to these towns due to easy availability of land at relatively low prices, coupled with the increasing demand for housing due to growing economic activities in them. Average capital values of residential development range between INR4,500 to INR14,500 per sq.ft. in most parts of Gurgaon, whereas

<table>
<thead>
<tr>
<th>Emerging destination</th>
<th>Bhiwadi</th>
<th>Dharuhera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (Census 2011)</td>
<td>30,344</td>
<td>104,921</td>
</tr>
<tr>
<td>Economic base</td>
<td>Industrial units</td>
<td>Industrial units</td>
</tr>
<tr>
<td>Distance from Delhi CBD (in km.)</td>
<td>75</td>
<td>73</td>
</tr>
<tr>
<td>Distance from Gurgaon (in km.)</td>
<td>45</td>
<td>51</td>
</tr>
<tr>
<td>Distance from Jaipur (in km.)</td>
<td>200</td>
<td>195</td>
</tr>
</tbody>
</table>

* Distance from Connaught Place

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7 “2011-Prov-Results”, Census of India website, censusindia.gov.in, accessed 8 October 2014.
in its prime areas, e.g., Sector 42 (on Golf Course Road) and Ambience Island (Sector 24 on National Highway 8), they can be as high as INR16,000 to INR20,000 per sq.ft. With high average residential real estate prices in Gurgaon, Bhiwadi and Dharuhera have established themselves as new housing centers at comparatively low price points.

**Improving connectivity:** Bhiwadi and Dharuhera are well connected to Delhi via National Highway 8 (NH8), being located at a distance of around 75 km. from Connaught Place – Delhi’s Central Business District (CBD) – around 45 km. from Gurgaon and around 60 km. from the Indira Gandhi International Airport. NH8 is in the process of being widened from Gurgaon to Jaipur – a part of the National Highway Corridor. In addition, the proposed Regional Rapid Transit System (RRTS), connecting Delhi with Alwar through Bhiwadi is expected to improve the region’s connectivity with Delhi. Furthermore, the proposed Western Peripheral Expressway (WPE), also known as the Kundli-Manesar-Palwal (KMP) Expressway, beginning at NH1 near Kundli, connects west Bahadurgarh, crosses NH8 near Manesar (~30 km. from Bhiwadi) and culminates at Palwal (~55 km. from Bhiwadi). This should improve Bhiwadi’s connectivity with important urban centers further and lead to substantial development of real estate in the region in coming years.

**Increasing industrial footprint:** The region already has a well-established industrial base with 15 industrial areas in Alwar being developed by the Rajasthan Industrial Investment Corporation (RIICO), which supports more than 300 large and medium scale manufacturing units. RIICO has developed clusters of industrial areas in and around Bhiwadi, with the key industrial areas being Chopanki (~5 km.), Sarekhurd (~15 km.) and Tapukara (~17 km.). Industries have flourished in the Bhiwadi region due to its improved connectivity with Delhi and Gurgaon. In addition, a multi-product SEZ (Somani Worsted Limited) has been notified in the Khushkhera Industrial Area. The Kushkheda-Bhiwadi-Neemrana Investment Region (KBNIR) is proposed to be developed in Phase 1 of the Delhi Mumbai Industrial Corridor (DMIC). This is expected to add to the economic importance of this region and attract further industrial development in it.
Overview of residential real estate market

<table>
<thead>
<tr>
<th>Emerging destination</th>
<th>Format of development</th>
<th>Key clusters</th>
<th>Prevalent configuration</th>
<th>Size range (SBUA in sq. ft.)</th>
<th>Base rate on SBUA (INR per sq. ft.)</th>
<th>Block price range (in INR m)</th>
<th>Key projects</th>
<th>Cost of land (in INR m per acre)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhiwadi</td>
<td>Township development – apartments</td>
<td>Alwar–Bhiwadi Road, Rewari–Sohna Road</td>
<td>1BHK ~10%–20% of supply 2BHK and 3BHK ~80%–90% of supply</td>
<td>1BHK 390 to 750 2BHK 820 to 1,445 3BHK 1,300 to 1,600</td>
<td>4Q 2013: 2,100 to 2,900 4Q 2014: 2,200 to 3,200</td>
<td>4Q 2014: 2.25 to 5.68 3BHK 2.53 to 6.25</td>
<td>Ashiana Angan, Avalon Gardens and Royal Park, BDI Sunshine City, Terra Castle, Omaxe City</td>
<td>4Q 2014: 17–45</td>
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<tr>
<td></td>
<td>Plotted development</td>
<td>Plots</td>
<td>Plots 900 to 2,700</td>
<td>4Q 2014: 1,400 to 2,200</td>
<td>Plots 1.62 to 6.00</td>
<td>Mapple Greens, Omaxe City</td>
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<tr>
<td>Dharuhera</td>
<td>Township development – apartments</td>
<td>Delhi Ajmer Expressway (NH8), Dharuhera-Bhiwadi Bypass Road</td>
<td>NA</td>
<td>1 BHK 750 to 760 2BHK 980 to 1,500 3BHK 1,225 to 1,850</td>
<td>1Q 2013: 2,400 to 2,650 4Q 2014: 2,600 to 3,000</td>
<td>1BHK 2.24 to 3.42 2BHK 2.74 to 6.80 3BHK 3.43 to 9.11</td>
<td>Avalon Rangoli, Raheja Oma, Vipul Gardens, Vardhman Springdale</td>
<td>4Q 2014: 33–40</td>
</tr>
</tbody>
</table>

Residential demand is not only met by the workforce in these places, but also by Gurgaon (~40 kms) and Manesar (~30 kms) due to improved connectivity via NH8. Both Bhiwadi and Dharuhera have witnessed residential development, primarily in the form of townships with high rise apartments and limited plotted development.

Residential real estate market in Bhiwadi

- **Key clusters**: Residential development is spread across two clusters, the Alwar – Bhiwadi and Rewari–Sohna Roads, in Bhiwadi. However, a majority of the upcoming projects are concentrated on the Alwar–Bhiwadi Road due to its proximity to NH8 on one hand and easy access to Alwar on the other. Moreover, this road connects industries in the old Bhiwadi industrial area (on the Rewari–Sohna Road) to industrial clusters in Khushkhera, Chopanki and Sarekhurd.

- **Prominent configuration**: Supply of housing in Bhiwadi primarily includes 3BHK and 2BHK units (with 2BHK apartments being the dominant configuration). Together, these account for ~80% to 90% of the total inventory in Bhiwadi with the balance being 1BHK units. 3BHK units range from 1,300 sq.ft.–1,600 sq.ft. (SBUA) – Krish City has smaller size 1,100 sq.ft. 3BHK units, whereas MVL Coral goes as high as 1,900 sq.ft. (SBUA). The sizes of 2BHK units range from 820 sq.ft.–1,445 sq.ft. (SBUA), with Ashiana Angan and MVL Coral offering larger sizes that go as high as ~1,600 sq.ft. (SBUA). 1BHK units are available in the range of

### Capital values of residential apartments in Bhiwadi

![Graph showing capital values of residential apartments in Bhiwadi]

Source: EY research conducted in October 2014.
390 sq.ft.-750 sq.ft. (SBUA). Plotted developments are only available in select projects such as Mapple Greens and Omaxe City, with plot sizes ranging from 900 sq.ft.-2,700 sq.ft.

**Price:** Average capital values of apartments in Bhiwadi are driven by a project’s proximity to NH8 and the Rewari-Sohna Road. This results in lower capital values in projects in the vicinity of Khushkhera. In 4Q 2014, average capital values in Bhiwadi are in the range of INR2,200-INR3,200 per sq.ft. (SBUA). Average capital values in 1Q 2013 were marginally lower and ranged between INR2,100-INR2,900 (SBUA). Average capital values of plots (as on 4Q 2014) range from INR1,400-INR2,200 per sq.ft. Block prices of 3BHK flats in Bhiwadi range from INR2.53 million–INR6.25 million, for 2BHK from INR1.92 million–INR5.68 million and for 1BHK from INR1.25 million–INR2.25 million.

<table>
<thead>
<tr>
<th></th>
<th>1Q 2013</th>
<th>4Q 2014</th>
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<tbody>
<tr>
<td>Capital values for residential apartments in Dharuhera</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(in INR per sq.ft.)</td>
<td>2,400</td>
<td>2,650</td>
</tr>
<tr>
<td></td>
<td>2,600</td>
<td>3,000</td>
</tr>
</tbody>
</table>

Source: EY research conducted in October 2014.

**Prominent configuration:** Supply of housing in Dharuhera primarily comprises 3BHK and 2BHK units, with very few developments offering 1BHK units. The typical SBUA of 3BHK units range from 1,225 sq.ft.-1,850 sq.ft. (with Aravali Heights and Raheja Oma offering larger sizes of close to ~ 2,000 sq.ft.). The sizes of 2BHK units range from 980 sq.ft.-1,500 sq.ft. (SBUA) and those of 1BHK units from 750 sq.ft.-760 sq.ft. (SBUA).

**Prices:** Average capital values in Dharuhera, based on SBUA per sq.ft., are in the range of INR2, 600-INR3,000 per sq.ft. as on 4Q 2014 (with only Raheja Oma commanding a higher per sq.ft price of INR4,500). Prices ranged between INR2,400-INR2,650 per sq.ft. in 1Q 2013. Average capital values in Dharuhera are slightly higher compared to similar projects in Bhiwadi, since most of the former’s developments are on NH8 and offer better connectivity to Jaipur as well as to Gurgaon and Manesar. The block prices of 3BHK apartments available in Dharuhera range from INR3.4 million-INR9.1 million, from INR2.7 million-INR6.8 million for 2BHK apartments and from INR2.2 million-INR3.4 million for 1BHK apartments.

The captive demand for housing due to established industrial activity, coupled with good connectivity to the NCR, has contributed to the fast-paced growth of the real estate sector in this region. This growth is expected to extend further along NH8 toward Jaipur due to the planned establishment of the Shahjahanpur-Neemrana-Behror (SNB) urban complex as one of the regional centers in the NCR. Neemrana (~55 km. from Bhiwadi), which was earlier a tourist destination, is fast growing as an economic and residential hub, with average capital values of residential developments ranging from INR2,400-INR2,700 per sq.ft.

**Residential real estate market in Dharuhera**

**Key clusters:** Residential development in Dharuhera primarily consists of high rise apartments and is concentrated on NH8 and the Dharuhera-Bhiwadi Bypass Road, where new projects such as Avalon Rangoli and Vardhman Springdales have been launched. Unlike in Bhiwadi, there are no plotted developments in Dharuhera.
Real estate — making India
Adapting Indian real estate to evolving avenues
Real estate for smart cities
Real estate for smart cities

Concept of smart cities

What is a smart city?

“Smart Cities use information and communication technologies (ICT) and data to be more intelligent and efficient in the use of resources, resulting in cost and energy savings, improved service delivery and quality of life and reduced environmental footprint— all supporting innovation and the low carbon economy.”

A city can only be efficient if all the components that go into making it function contribute individually to its overall performance with the aim of increasing its efficiency.

How will smart cities change the way we live?

- You will live in an efficient ecosystem.
  - Buildings and infrastructure in neighborhoods will work collectively.
- You will know:
  - How you are interacting with the environment:
    - Real time data on your consumption of water, energy and other resources
  - How the environment is interacting with you:
    - Real time data on the quality of air you are breathing, the quality of water you are drinking and the consequences of the garbage you are generating
- Your behaviour and consumption choices will drive and lead to customized supply.
- You will help to optimize resources and choose what and how much you consume.

Model for smart cities – real estate and technology as the fulcrum

Planning smart cities is capital-intensive. For example, Songdo in South Korea, a centrally planned data-driven city planned on 100 million sq.ft. over 1,500 acres, cost an astonishing estimated US$35 billion. Plan IT Valley in Portugal, which includes 100 million sensors to monitor and adjust the flow of electricity, water and transport for a population of 2,25,000 people, is expected to cost between US$8 and US$10 billion. With finance remaining one of the greatest challenges, in most cases it is possible that private players (including developers) will make investments and the Government will provide incentives and tax relief to attract organizations to set up offices in the development, thereby putting in motion a demand for real estate. In such a scenario, there is a shift in the way urban development is undertaken. Public services and amenities, which were earlier provided by government agencies (central, state or urban local bodies), could now be provided by private players that can enhance efficiency and sustainability by using modern technology. Therefore, the onus of recovery of investments made by them on such technology is solely their concern. Such a capital-intensive development can then be regarded as an investment with a selling proposition to recover the costs incurred, and sale and lease of real estate and royalties earned on technology as sources of revenue to recover these costs.

---

Model for smart cities - real estate and technology at the fulcrum

<table>
<thead>
<tr>
<th><strong>CONCEPT</strong></th>
<th><strong>EXECUTION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan IT valley, Portugal</td>
<td>USD10 billion</td>
</tr>
<tr>
<td>100 million sensors to monitor and adjust flow of electricity, water, transport for a population of 2,25,000 people</td>
<td></td>
</tr>
<tr>
<td>Songdo, South Korea</td>
<td>USD35 billion</td>
</tr>
<tr>
<td>Centrally planned, data driven city spread over 1,500 acres</td>
<td></td>
</tr>
<tr>
<td>Constraint</td>
<td>Investment intensive</td>
</tr>
<tr>
<td>Role of banks and capital providers</td>
<td></td>
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</tbody>
</table>

**Transformation**

- Smart cities regarded as an INVESTMENT WITH A SELLING PROPOSITION
- Smart cities regarded as COMMERCIAL ENTERPRISES where capital providers play a role
- Real estate sales and lease, technology based royalties to offset capital requirements.

**PUSH**

- Government intervention
- Economic and tax incentives to encourage organizations to set up offices resulting in a demand for real estate

**Model**

- Urban development regarded as a form of public work handled by government agencies
- FULCRUM: Technology and Real Estate

**Information, communication and technology in real estate**

In the case of large-scale real estate developments such as integrated townships or industrial corridors, smart infrastructure and buildings need to complement each other. Using technology to develop real estate could result in the following:

- **Value addition for the product helping promoter command a sale premium**
- **If integrated appropriately with the infrastructure of a city, lead to cost-saving and efficient utilization and management of city resources**

- **Real estate, coupled with appropriate technology, becoming a mechanism to provide real time data on consumption and supply of various resources provided by a city to its citizens**

The Government has been aggressively implementing plans to develop industrial corridors along transport axes to spur urban development. For instance, it plans to align about 25 cities along the Delhi-Mumbai Industrial Corridor (DMIC). It is envisioned that these will include industrial estates and residential areas (with social infrastructure including schools, hospitals and recreation facilities). The Government plans that each of these clusters will be equipped with smart infrastructure and buildings that will be plugged into this smart infrastructure along the industrial corridor.

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**Case study: Large-scale development**

Gujarat International Financial Tec (GIFT) City is located between Ahmedabad and Gandhinagar on NH8, which connects Delhi with Mumbai via Ahmedabad. The project has been developed on lines of the benchmarks of international financial centers.

### Framework

<table>
<thead>
<tr>
<th>Focus areas identified</th>
<th>Tools for implementation</th>
<th>Outcome</th>
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</thead>
<tbody>
<tr>
<td><strong>Smart energy</strong></td>
<td><strong>Technology</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ District Cooling System (DCS) – to provide chilled water to buildings from a centralized chilling plant (estimated capacity 10,000 TR)</td>
<td>▶ Underground cabling for power distribution within GIFT</td>
</tr>
<tr>
<td></td>
<td>▶ Piped gas</td>
<td>▶ GIFT would have the first DCS in India to improve quality of air, and reduce use of energy and maintenance costs</td>
</tr>
<tr>
<td><strong>Smart mobility</strong></td>
<td><strong>Intelligent transportation systems</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Integrated, monitored and controlled traffic flow paths</td>
<td>▶ Public Private Partnership (PPP) model in the ratio of 90:10</td>
</tr>
<tr>
<td></td>
<td>▶ Mass transportation system – MRTS/ BRTS</td>
<td>▶ Improved connectivity with hinterland (Ahmedabad and Gandhinagar)</td>
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<tr>
<td></td>
<td>▶ Personalized Rapid Transit (PRT) system</td>
<td>▶ Reduced carbon footprint</td>
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<td></td>
<td>▶ Multi-Level Car Parking (MLCP)</td>
<td></td>
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<tr>
<td><strong>Smart infrastructure</strong></td>
<td><strong>Innovative techniques</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Collection of solid waste through pipes: waste treated by plasma gratification (process which leads to production of liquid fuels and other energy sources from waste)</td>
<td>▶ Over 60% of space within city a green zone</td>
</tr>
<tr>
<td></td>
<td>▶ Rainwater harvesting by artificially created concrete storage reservoir to meet need for drinking water for 15 days, water recycling and reuse, planned water distribution network and advanced water treatment technologies</td>
<td>▶ Solid waste management to minimize impact on environment, requirement of space and health hazards</td>
</tr>
<tr>
<td></td>
<td>▶ Common utility trench through which all infrastructure networks will pass</td>
<td>▶ Water conservation methods ensuring reliability, quality and quantity of water provisioning</td>
</tr>
<tr>
<td><strong>Smart technology</strong></td>
<td><strong>Centralized monitoring and control</strong></td>
<td>▶ Smart utility trench helping to create safe operational environment and ease maintenance process</td>
</tr>
<tr>
<td></td>
<td>▶ “City Command and Control Centre (C-4)” – a single platform to monitor and manage DCS, Automated Waste Management System (AWMS), Water Management System, Power Infrastructure, City’s safety, security and surveillance, and traffic</td>
<td>▶ Savings:</td>
</tr>
<tr>
<td></td>
<td>▶ Energy management system (monitoring of electricity/water/gas/oil), back-up for generation</td>
<td>▶ 24% on building management system</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▶ 4.5% on total building cost</td>
</tr>
<tr>
<td></td>
<td></td>
<td>▶ 36% on operational expenditure</td>
</tr>
<tr>
<td><strong>Smart connectivity</strong></td>
<td><strong>Information Technology systems</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>▶ Broadband FTTP*</td>
<td>▶ Competitive cost advantage in operating from GIFT city</td>
</tr>
<tr>
<td></td>
<td>▶ WiFi/Wimax</td>
<td>▶ Improved operational efficiency</td>
</tr>
<tr>
<td></td>
<td>▶ Shared IT services</td>
<td>▶ Access to state-of-the-art communication infrastructure</td>
</tr>
<tr>
<td></td>
<td>▶ Pervasive wireless and mobile network</td>
<td></td>
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<td></td>
<td>▶ Data centers</td>
<td></td>
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<td></td>
<td>▶ City e-Portal</td>
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<td></td>
<td>▶ Sensor networks</td>
<td></td>
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<tr>
<td></td>
<td>▶ Internet gateway</td>
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</tbody>
</table>

*Fiber-To-The-Premises (FTTP) is a technology that enables internet access through a direct fiber optic cable from an Internet Service Provider (ISP) to users’ homes and/or businesses.*
EY’s perspective on Deployment of Information, Communication and Technology (ICT) eco-system for smart buildings

A smart building is an integration of building, technology and energy systems to put in place automation, life-safety measures, telecommunications, and user and facility management systems. All the systems of a smart building are operated over the Ethernet or IP. This enables people, systems and objects to communicate and interact with each other in novel ways.

In order to include ICT in real estate projects, technology providers engage with real estate developers at every stage, ranging from ideation to implementation, by leveraging vertical solutions built on networks as open and integrated platforms with a broad ecosystem of partners and innovative business models to change how communities are designed, built, managed and renewed. The requisite steps in this process include a project’s initial feasibility, its concept and schematic designs, its detailed working drawings, construction, launch and operation, all of which will be carried out in a phased manner throughout its development cycle.

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Current ICT operating models used by developers of real estate in smart buildings

Implementing ICT solutions requires the involvement of five primary stakeholders, depending on the scale of a project, e.g., the occupants of a building, the property developer, the technology provider, the facility manager and the Government.

**Model 1:** The System Integrator (SI) procures hardware from the technology vendor. The SI then integrates and sets up the infrastructure and manages the system on behalf of the real estate developer. The required investment is made by the real estate developer and costs are bundled and eventually passed on to the customer as a value-add when the real estate is purchased.
Model 2: The SI procures hardware from the technology vendor and then integrates and sets up the infrastructure, and manages the system. The former funds the capital investment on hardware required for deployment of ICT and markets automation services to customers. Revenue generated from automation products is shared between the SI and real estate developer. The SI generate additional revenue by maintaining these systems.

### Technology provider
- **No investment**
- The SI procures hardware from the technology provider.

### System integrator
- **Full investment.** The SI integrates and sets up infrastructure and manages the system.
- Inflow of cash: Money paid upfront + monthly/annual fee for AMC.
- Markets automation services to customers.
- Percentage from SI.

### Real estate developer
- **No investment**
- The developer gets a certain percentage of the revenue that the SI generates by selling the automation products.

### Customer
- The customer pays upfront for automation products.
- An annual/monthly AMC charges is paid to the SI.

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**Making smart initiatives work**

The smart city initiative with an investment of INR70.6 billion is likely to drive development of real estate from existing focus cities of mega-metros and metros to a number of untapped cities. Proposed reduction of built-up area threshold from 50,000 sq.m to 20,000 sq.m and capital requirement from US$10 million to US$5 million will help to boost FDI with more projects qualifying and increasing the feasibility of implementing this capital-intensive proposition.

Provision and use of technology in smart townships and buildings is expected to face initial challenges. Customers accepting automation systems as comfort-enhancing features, coupled with their readiness to pay a premium, could be one such challenge. Moreover, given that a large part of this added service will be the responsibility of the technology provider, the real estate developer and technology provider will need to work hand in hand, since the reputation of the developer could largely ride on the performance of the technology provider. Furthermore, considering the wide demographic divide in India, with varied levels of education and technical skills, the comfort of using such technology may vary drastically from city to city. This will require a careful study to determine the profile of end users in order to provide suitable technology to them. Educating end users on the functions of such technology (as well as its benefits) during the initial phases would be an essential element in determining the success of such smart initiatives.
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Our mission
To carry forward our initiatives in support of rapid, inclusive and sustainable growth that encompasses health, education, livelihood, governance and skill development

To enhance the efficiency and global competitiveness of Indian industry and expand business opportunities in domestic and foreign markets through a range of specialised services and global linkages

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