



Navigating the dynamics of real estate in India

Smart, sustainable and connected



February 2024

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Foreword



We are delighted to be a part of NAREDCO’s 16th National Convention, which aspires to bring together the real estate stakeholders, sector leaders, investors and various dignitaries associated with the sector. Set against the backdrop of this dynamic sector's growth, the conference aims to explore and shape its future. The event will cover crucial parameters such as the influence of regulations aimed at addressing issues faced by buyers, multiple finance options, integration of technology and sustainability, among others, providing a comprehensive overview of the current state and prospects of the real estate sector.

Over recent years, India's real estate sector has exhibited extraordinary resilience and is projected to grow at a compounded annual growth rate (CAGR) of 18.7 per cent from 2020 to 2030. The sector's trajectory from USD180 billion in 2020 to an estimated market size of USD1 trillion by 2030 is underpinned by government-led initiatives, technology integration, sustainability, investments and global collaborations. Notably, institutional investments have surged, marking a 37 per cent year-on-year increase in the first quarter of 2023. This financial influx indicates strong investor confidence in the Indian real estate market. These milestones extend beyond macroeconomic gains, ensuring a citizen-centric approach in the evolving real estate landscape.

Nestled within the broader narrative of India's

real estate growth, the residential and commercial segments emerge as integral components. Initiatives that enhance affordability and foster investment have catalysed the residential sector's expansion, while the flexible office model has emerged as a dynamic force in the commercial space, accommodating the changing preferences of its target consumers. Furthermore, keeping up with the recent trends, sustainability and technology are proving to be key drivers shaping the contours of India's real estate. The integration of technology has revolutionised the sector, from smart homes to data-driven insights while sustainability has influenced green-construction practices and energy-efficient designs. While challenges exist, India stands poised to navigate these by capitalising on opportunities and leveraging the momentum. The narrative, thus, emphasises the resilience and potential for growth in India's real estate sector.

This thought leadership report titled ‘Navigating the dynamics of real estate in India’ encapsulates the multifaceted themes permeating the sector. It provides a comprehensive view of the current landscape and aims to initiate meaningful conversations among stakeholders. The report intends to catalyse informed dialogue, fostering a deeper understanding of the opportunities and transformative trends shaping the sector.



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Executive summary

7.3%
to GDP of
India

Real estate sector's
contribution

**USD1
trillion**

Expected size of real
estate sector by 2030
in India

USD59.7 billion

of PE investment
expected by 2047

USD1.8 billion

of PE investment in
office stock, received
in 1H2023

15.5% Contribution
to GDP by
2047



Average property prices increased by

11% in 3Q2023

since 3Q2022

3 office REITs

&

1 retail REIT

as of March 2023



USD8.9 billion

fractional ownership market size in India by 2025

Burgeoning sub-segments such as data centres, healthcare, hospitality, co-living and co-working spaces are expected to drive investments.

Tier II and III cities are recognised as smart investments for the sector, driven by talent availability and affordability

The flexible office space stock in India is expected to cross 80 million sq. ft. by the end of 2025

There is rising demand for premium homes in tech-driven cities such as Pune, Chennai, Bengaluru and Hyderabad

The integration of technologies such as BIM, 3D printing, AI, blockchain, across the real estate value chain is transforming property discovery and financing to management and transactions.

PropTech start-ups collected investments worth **USD2.4 billion** between January 2021 and March 2023.

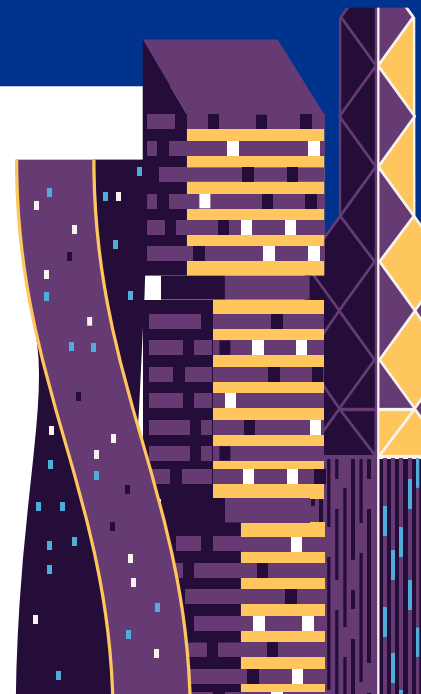
39% of total emissions are generated from building and construction.

28% emissions from operations

11% emissions from materials and construction

India ranked **#3** for the number of **LEED-certified green buildings** in 2022.

82% of **Grade A new office supply** as of September 2023 is **green certified**.





Real estate sector overview

India's real estate sector is a key contributor to economic growth, innovation and employment, with strong growth prospects

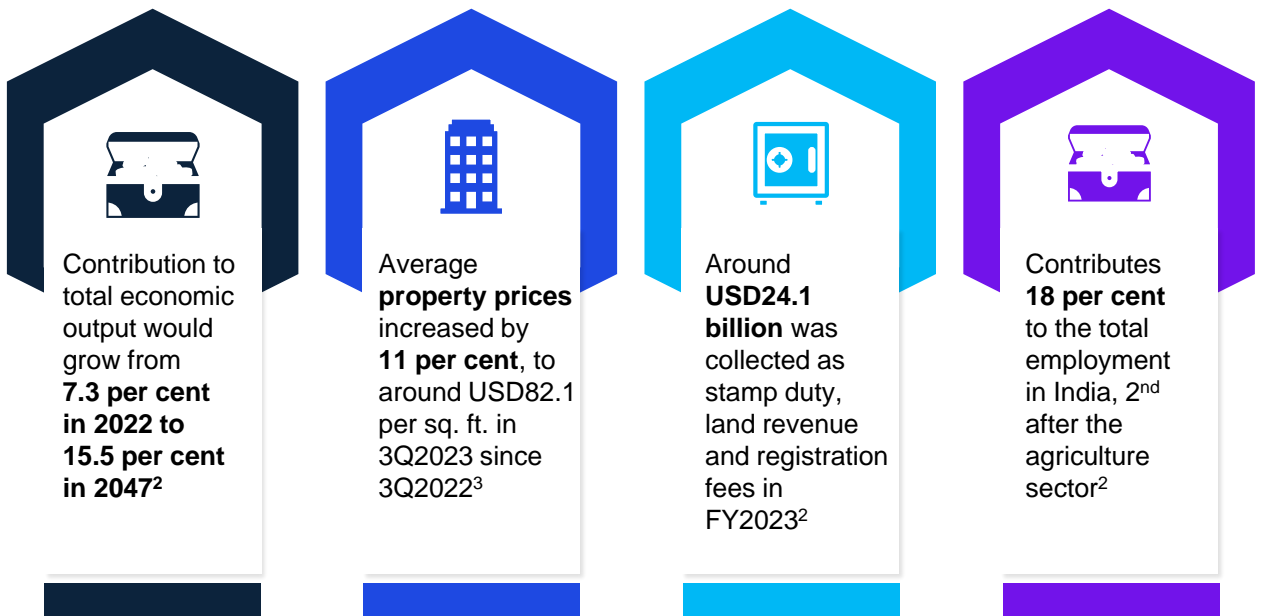
India's real estate sector has undergone significant transformations with investor-friendly FDI policies, increased transparency and various regulatory measures. These initiatives, including the Real Estate Regulation and Development Act (RERA), real estate investment trust (REIT) guidelines, benami transactions (prohibition) amended act and Goods and Services Tax (GST) have attracted global and domestic investments. Major metropolitan areas such as Delhi NCR, Mumbai, Pune, Bengaluru and Chennai dominate real estate construction, while Tier-II and III cities have substantial growth potential, largely driven by demand for affordable housing and infrastructure development.

The real estate sector contributes 7.3 per cent to India's GDP, which is expected to reach 13 per cent by 2025 and 15.5 per cent by 2047¹. The sector's projected value of USD1,000 billion by 2030 underscores its crucial role in the country's economic growth. Beyond financial impact, the real estate sector plays a pivotal role in job creation, government revenue and the growth of interconnected industries.

Indian real estate market size (USD billion)¹



1. Indian Real Estate Industry, India Brand Equity Foundation, November 2023



Drivers and challenges

Technology is a key driver of innovation and efficiency in the real estate sector. It helps create smart and sustainable buildings and enables better design, construction, management and marketing of properties. Some examples of technology trends are proptech, smart contracts, building information modeling (BIM), among others.

Sustainability is another important driver of growth. Real estate embraces sustainability through green certifications, energy-efficient designs, circularity, renewable energy sources and a growing market demand for eco-friendly spaces. Sustainability not only reduces environmental impact but also lowers operational costs.

The government has introduced various policies and reforms to support the growth. Additionally, infrastructure development projects such as the Smart Cities Mission and the development of industrial corridors are driving real estate growth in various regions.

- The real estate sector in India faces four major challenges: **attracting and retaining investors, accessing funds, developing infrastructure and bridging the skill gap.**
- These challenges affect the growth and development of the sector, which needs a steady inflow of capital, efficient financing sources, improved accessibility and livability as well as skilled and trained workforce.

Note: The currencies in INR have been converted into USD across the report, based on the current conversion rates

2. India Real Estate Vision 2047, NAREDCO and Knight Frank, August 2023

3. Real Estate Outlook 2024: Property rates projected to increase up to 15% but demand to remain steady, Mint, December 2023



The real estate sector is broadly categorised into residential, commercial and mixed-use segments

Residential real estate

The residential real estate comprises housing units such as apartments, villas and plots. It is one of the fastest-growing sectors in India driven by various factors and is expected to maintain strong growth in 2024, with sales projected to surge by 10-15 per cent y-o-y with 300,000 units⁴.



Commercial real estate

Commercial real estate caters to the needs of various businesses and industries. It comprises four main sub-segments: office spaces, retail, warehousing and data centres. Office spaces are the workplaces, while retail includes malls and shopping complexes. Warehousing is the storage and distribution of goods and materials for e-commerce, manufacturing and logistics. Data centres enable data processing, storage and communication.



Mixed-use developments

Mixed-use real estate refers to the development of integrated projects that combine residential, commercial and retail components, along with amenities such as parks, schools and entertainment zones.

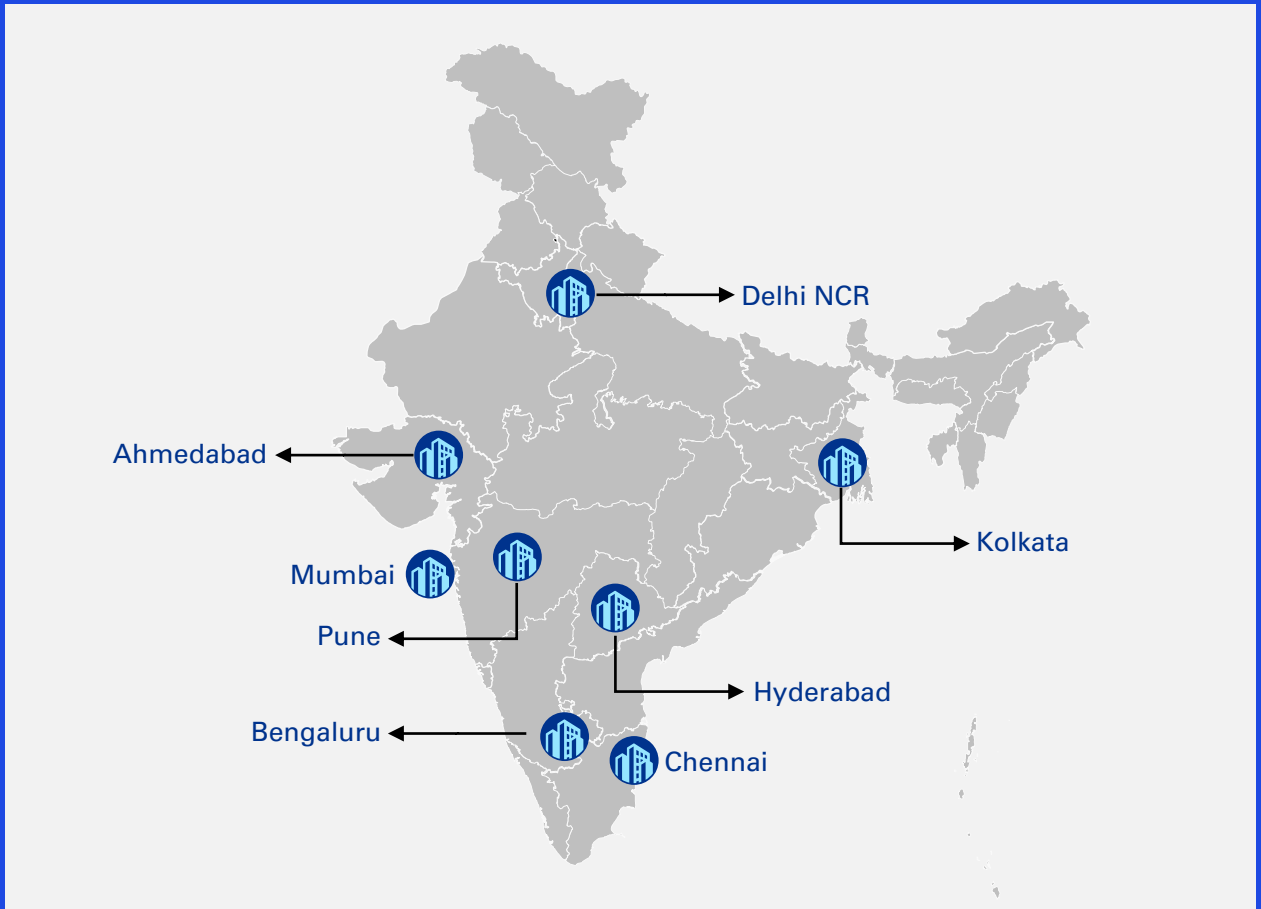


4. 2023: Year in review, JLL, December 2023





Real estate clusters in India



Growth drivers across clusters

- Major metropolitan cities namely Bengaluru, Chennai, Delhi NCR, Hyderabad, Kolkata, Mumbai and Pune are the top locations, owing to their business opportunities and economic significance.
 - These cities dominate the real estate sector, with high demand and supply of offices, retail and residential spaces.
- Among major cities, Bengaluru, Mumbai and Pune, witnessed a combined residential sale of 63 per cent in the 9M2023⁵.
- The influx of foreign investments has amplified the growth of real estate in India. Investor-friendly measures and supportive government policies are facilitating a more conducive environment for growth across states.
- The office space, with its diverse and growing occupiers, is a strong driver of real estate growth. The office space demand will continue to rise in 2024, led by flex offices, data centres, GCCs, manufacturing and technology firms.
- Retail space of about 23.8 million sq. ft. is expected to be operational in 2024-26 in the top seven cities, with Delhi NCR and Hyderabad accounting for about 51 per cent⁵.

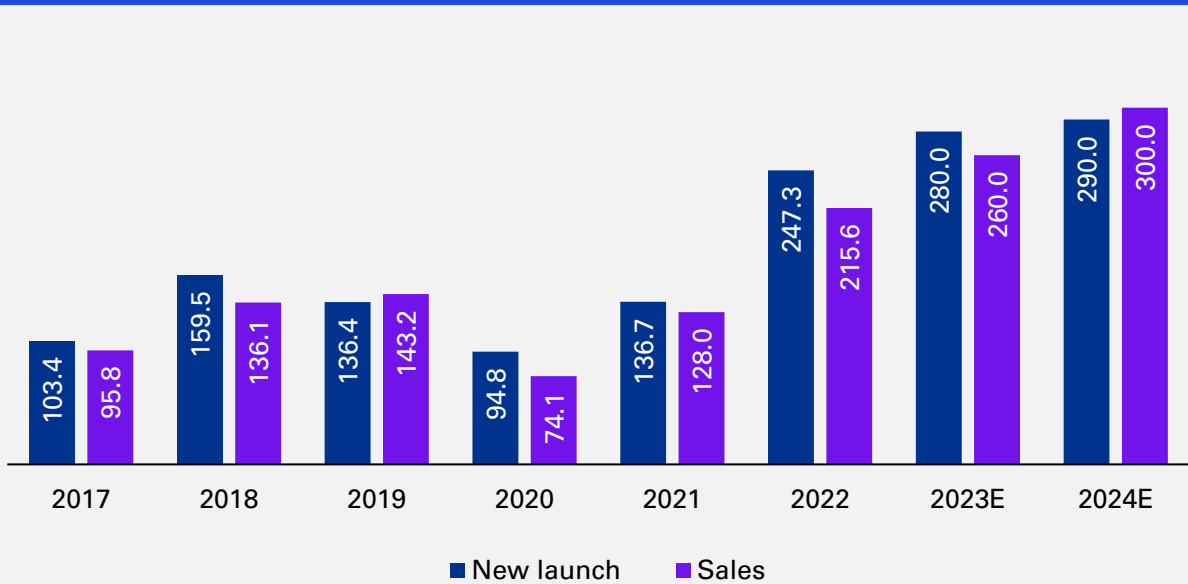
5. 2023: Year in review, JLL, December 2023



Residential real estate segment

Home buyers remain undeterred by rising inflation and borrowing costs

Number of residential units launched and sold (In thousands)⁶



Note: The data represented above is for calendar year

More than 60 per cent of the total residential units launched in the first three quarters of CY2023 came from Mumbai, Pune and Hyderabad. As homebuyers opted for larger homes, the luxury segment (costing more than USD0.4 million) saw an 83 per cent rise y-o-y with 14,627 units sold in 9M2023⁶.

6. 2023: Year in review, JLL, December 2023



Drivers of the segment

The growth of the residential segment is likely to continue with **focus on the launch of diversified projects** including **plotted developments, low-rise apartments, row houses and villaments.**

Developers are launching sustainable and tech-enabled projects for new-age consumers and creating holistic ecosystems with **social infrastructure and integrated townships.**

Pradhan Mantri Awas Yojana (PMAY) and other government schemes, along with financial benefits, make affordable housing more accessible. This has an impact on both, the builders and the buyers and leads to new patterns and preferences in the market. It also **increases the demand for housing** in different regions.

The segment's **growth is boosted by the rise of nuclear families, rapid urbanisation, higher income levels and favorable demographics.** Therefore, by the end of 2024, the residential sales are likely to be around **290,000-300,000 units** as the current growth trend is expected to continue⁷.



7. 2023: Year in review, JLL, December 2023





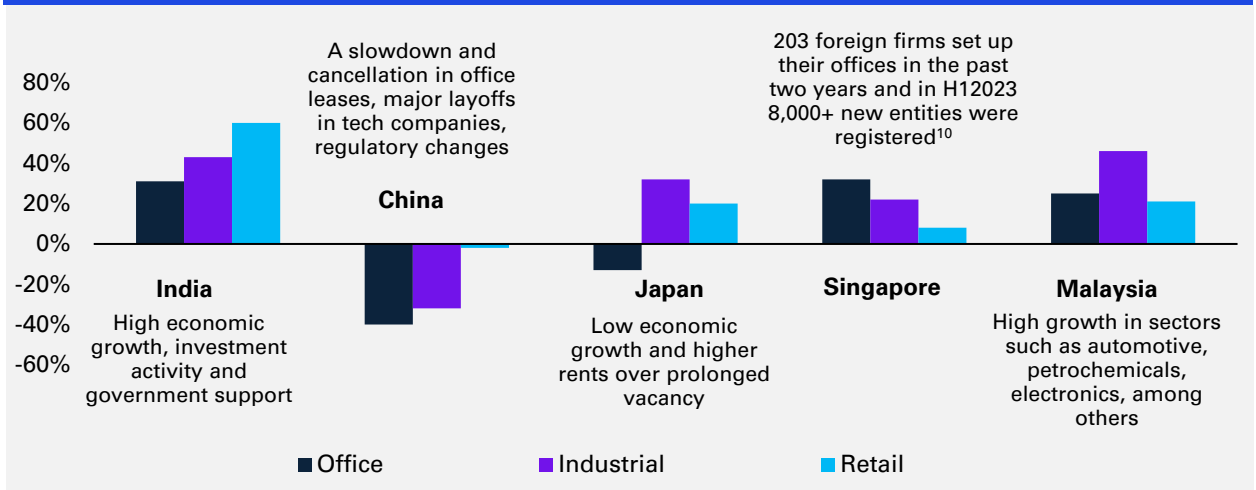
Commercial real estate segment



Demand for office spaces and leased retail spaces are largely driving the commercial real estate uptake

Delhi NCR holds a 26 per cent share in leased retail spaces. The region’s strategic location, vast consumer base and robust infrastructure make it an attractive destination. Emerging retail hotspots including Noida, Greater Noida and Faridabad are witnessing rapid commercial development. Further, retail space supply is expected to be boosted by the addition of several other projects getting operational in the near future⁸. With developers launching mega commercial centres, the future of NCR’s commercial real estate market looks spirited.

Occupiers demand net balance by sector and country⁹



Note: The above data is a directional representation of the occupier demand by sector/country

8. Commercial real estate in Delhi NCR soars, ranks second in Indian growth, Construction Week, June 2023

9. Global Commercial Property Monitor Q3 2023, RICS, October 2023

10. Singapore defies global slowdown in commercial real estate while Hong Kong, New York struggle to fill vacant skyscrapers, SCMP, June 2023

Location ¹¹	Net Office Absorption (%)		New Office Supply (%)		Avg. Office Rental (INR per sq. ft per month)
	(FY21)	(FY22)	(FY21)	(FY22)	
Bengaluru	32	22 ↓	28	28	78
Chennai	7	9 ↑	7	7	60
Hyderabad	27	23 ↓	28	23 ↓	58
Kolkata	2	2	0	0	52
Mumbai Metropolitan Region (MMR)	11	14 ↑	13	15 ↑	126
National Capital Region (NCR)	11	15 ↑	18	11 ↓	78
Pune	11	14 ↑	5	15 ↑	68

Note: The above data represents Grade A office developments. Net absorption means the additional new space that is occupied.



11. India office market, Anarock, June 2023



Real estate sector investment landscape



Capital appreciation and high rental yields are driving investments in the real estate sector

The real estate sector in India has witnessed a surge in investments in recent years, driven by factors such as a growing population, urbanisation and government initiatives. This trend is expected to continue, in line with the government's focus on affordable housing, infrastructure development and easing of regulatory barriers. Additionally, domestic and foreign investors are increasingly showing interest in the Indian real estate market, attracted by its size, growth potential, capital appreciation, rental yields and favourable policies.

Many international players are entering the market, either through joint ventures or direct investment, bringing in capital, expertise and technology. Overall, the growing investments in the real estate sector in India are a positive sign for the industry's future, as they provide much-needed capital for development, create employment opportunities and contribute to the country's economic growth.

According to the High-Powered Expert Committee (HPEC), the investment in urban infrastructure is anticipated to rise from 0.7 per cent of GDP in 2011-12 to 1.1 per cent by 2031-32¹². Furthermore, substantial growth potential

exists in Tier-II and III cities, along with rural areas, fueled by the increasing demand for affordable housing and infrastructure development.

The sector has witnessed noteworthy private equity (PE) investments in recent years, boosted by attractive returns. Investments are poised to reach USD59.7 billion by 2047¹³, indicating considerable potential for ongoing growth and development in the sector.

In 1Q2023, institutional investments in real estate were up by **37 per cent** y-o-y at **USD1.7 billion**, specifically led by **office assets**¹⁴.



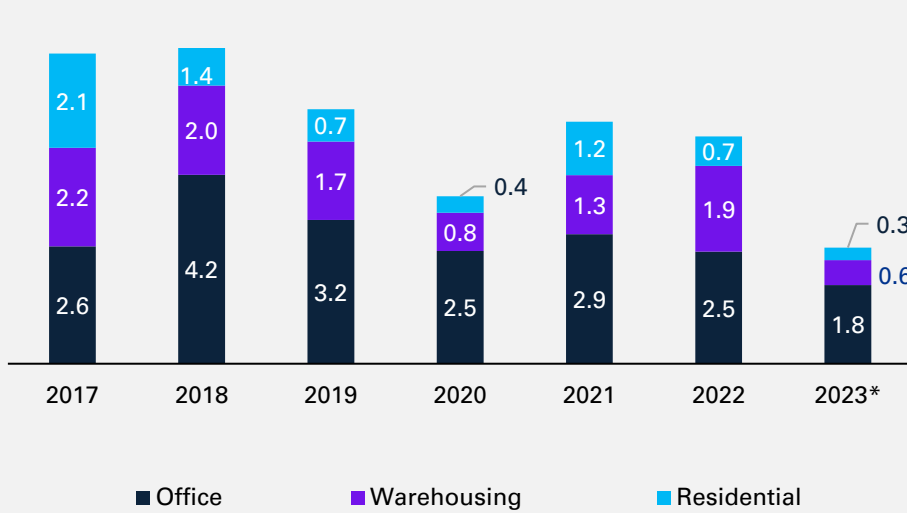
12. Demand for Grants 2022-23 Analysis, PRS Legislative Research, February 2022

13. Indian Real Estate Vision 2047, NAREDCO-Knight Frank, 11 August 2023,

14. Foreign inflows to Indian real estate rise to \$26.6 billion, The Economic Times, May 2023



PE investment in Indian real estate by segments (USD billion)¹⁵



Burgeoning sub-segments such as **data centres, healthcare, hospitality, co-living and co-working spaces** are expected to drive PE investments.

Note: Reflects investments till 25th June 2023

In addition to domestic and foreign investments, a higher number of **public-private partnerships (PPPs)** have been witnessed towards sustainable housing and urban development projects across India.

For instance, both, Goa and Odisha governments adopted PPP models to promote private participation in various development projects, such as residential complexes, industrial parks and airports.

The investment in the sector is promising due to increased focus on government support, sustainability and the integration of advanced technologies. Furthermore, changing business dynamics are creating new opportunities in the sector which may attract further investments.

15. Investments in Real Estate H12023, Knight Frank, June 2023





Real estate demand drivers

Economic growth in tier II and III cities is driven by government focus coupled with technology and sustainability

Government policies with relaxed regulations and incentives propelling supply and demand

Real Estate Regulation and Development Act (RERA) has brought about a raft of positive changes, promoting openness, accountability and investor trust and supporting long-term growth.

The Smart Cities Mission is a significant opportunity for real estate developers, as it aims to establish **100 smart cities across India**, driving the expansion of commercial hubs near those cities and creating demand for modern, eco-friendly, strategically located residential and commercial properties¹⁶.

The National Industrial Corridor Development Programme aims to enhance connectivity, promote urban development and boost the sector's investment, leading to overall socioeconomic development. The programme has a sanctioned corpus of **~USD1.2 billion, as of August 2023**¹⁷.



16. Smart Cities Mission, IndiaAI, accessed in January 2024

17. Government of India developing 11 Industrial Corridor Projects across the country in phased manner, PIB, August 2023



Rising demand in tier II and III cities

India's Tier II and III cities, such as Surat, Bhubaneshwar, Coimbatore, Vadodara, Indore, Chandigarh, Kochi and Visakhapatnam, are gaining prominence in the real estate sector. These cities have witnessed economic growth, improved connectivity and expanded metro networks. Tier II and III cities are recognised as smart investments within the sector, driven by **talent availability and affordability, attracting investments from both, startups and major corporations and industrial houses.**

Emergence of flexible office spaces

The flexible space stock in India is expected to **cross 80 million sq. ft. by the end of 2025** from the current stock of ~47 million sq. ft. Bengaluru, with ~14.6 million sq. ft., dominated India's flexible space stock as of 1H2022, followed by Delhi NCR, Hyderabad, Pune and Mumbai¹⁸.

Flexible office spaces find applications across varied industries such as light manufacturing units, e-commerce fulfilment centres, logistics, R&D and food and beverages, among others. They offer benefits such as the ability to scale up or down, cost-effectiveness, a conducive environment for innovation, shared amenities and customisation.

Demand for premium properties

The rising demand for bigger homes with premium amenities and support infrastructure, especially in the tech-driven cities of **Pune, Chennai, Bengaluru and Hyderabad** is driving the demand for the premium segment in the residential space.

Economic growth

India's economy is expected to continue growing at a rapid pace, with a GDP growth rate of around 6-7.1 per cent in the coming years¹⁹. This is expected to drive demand for real estate, particularly in major cities such as Mumbai, Delhi and Bengaluru.

Urbanisation

India's urban population is expected to grow to over 600 million by 2036, creating a significant demand for real estate in urban areas²⁰.

Technology adoption

The adoption of technologies in the real estate sector, such as virtual tours, online property listings, chatbots and digital payments are expected to drive demand in the sector.

Sustainability

There is a growing trend towards sustainability in the real estate sector, with increasing demand for green buildings and sustainable practices. This is driving growth in the sector, particularly in the office and retail segments.



18. CBRE - The Era of Flexibility in India, September 2022, CBRE, 21 September 2022

19. India's GDP to grow 6-7.1 pc during 2024-2026, growth prospects remain strong: S&P, The Economic Times, November 2023

20. The State of India's Urbanisation, IMPRI, July 2022



Technology integration within real estate

Transparency, data-driven insights and energy efficiency are among the key benefits of integrating technology

In the dynamic landscape of India's real estate sector, the transformative impact of technology is reshaping traditional paradigms. It becomes imperative to dissect the multifaceted ways with technological advancement not only augmenting but also redefining the sector. The relationship between technology and real estate in India is poised to propel the sector into new realms of efficiency and innovation. There are numerous benefits offered by technology in the sector.

- Technology fosters transparency in property transactions, crucial in the Indian market to overcome accountability and trust issues among consumers.
- Tech-driven analytics can provide regional insights, acknowledging the diverse economic conditions and market dynamics across different regions in India.
- Adoption of technology promotes energy-efficient practices in buildings, aligning with India's focus on sustainable development.
- Digital platforms showcase residential and commercial properties in diverse locations, fostering inclusivity and attracting interest from investors/buyers within India and globally.

Other benefits

- **Improved tenant experiences:** customised services, seamless communication
- **Enhanced safety and security:** enhanced access control, emergency response
- **Improved asset management:** better tracking, maintenance and performance monitoring of assets, optimising their lifespan and maximising returns on investment
- **Future-proofing investments:** integrating technology ensures that commercial properties remain relevant and adaptable to future technological advancements, protecting long-term investments
- **Competitive advantage:** embracing technology gives real estate businesses a competitive edge by offering innovative solutions, attracting tenants and staying ahead in a rapidly evolving sector



India's landscape fostering technology integration

Proptech start-ups proliferation

- The Indian real estate sector has witnessed a surge in proptech start-ups, focusing on innovative solutions, such as AI-driven analytics, blockchain-based transaction platforms and others.
- Increasing interest from **venture capital firms** in proptech start-ups also indicates growing confidence in the potential of technology integration in the Indian real estate sector.
 - Proptech start-ups raised **USD2.4 billion in funds between January 2021 and March 2023**. This includes 69 early-stage startups raising USD145 million and 39 growth-stage enterprises raising USD2.3 billion²¹.

Digital transformation

- Government initiatives, such as **Digital India campaign**, are fostering a conducive environment for the integration of technology in the real estate sector.
- Digital transformation initiatives streamline administrative processes, supporting the sector's transition towards a more tech-savvy and efficient ecosystem.

Emergence of proptech hubs

- **Cities such as Bengaluru and Hyderabad** have become hubs for proptech innovation, hosting a burgeoning community of start-ups and technology firms that are revolutionising the Indian real estate landscape.
- These hubs serve as catalysts to foster an ecosystem where technology solutions are developed in response to the specific needs of the Indian market.



21. The rise of Proptech in India: Revolutionising the real estate landscape, Aurum Proptech, July 2023



Integration of technology across the real estate value chain provides multifaceted benefits to developers and occupiers

The sector is undergoing a digital transformation, with technology playing an increasingly significant role in every stage of the value chain. From property search and marketing to transaction and management, the integration of technology is transforming the way properties are bought, sold and managed in India. This trend is driven by the growing demand for convenience, efficiency and transparency in the real estate market, as well as the availability of advanced technologies.

Value chain	Supportive technologies	Case examples
Designing 	<ul style="list-style-type: none"> Building information modeling (BIM) facilitates comprehensive 3D modeling and visualisation of commercial properties, aiding in design, construction and maintenance phases. 	<ul style="list-style-type: none"> An Indian start-up launched 3D metaverse platform, a first of its kind, leveraging high-definition 3D models for visualisation.
Procurement 	<ul style="list-style-type: none"> Property e-auction is a transformative tool that is emerging as a convenient and progressive alternative to traditional auctions. It allows buyers and sellers to navigate the complexities. 	<ul style="list-style-type: none"> Delhi Development Authority (DDA) launched an e-auction of 453 properties till October 2023, including commercial estate plots, group housing and other related plots²². The authority has incorporated a QR code in its advertisement for easy accessibility to property information.
Construction 	<ul style="list-style-type: none"> 3D printing has the potential to transform construction practices by accelerating the construction process and augmenting overall build quality. This technology can significantly reduce labour, material costs and health hazards and make construction more customisable. 	<ul style="list-style-type: none"> A manufacturer of sustainable construction materials collaborated with a startup to build 3D printed security pavilion. It is built and developed to provide a unique visual appeal to visitors entering the building.
Delivery 	<ul style="list-style-type: none"> Blockchain technology is bringing more security and efficiency to land records management, property transactions and smart contracts. This technology can help reduce transaction times and improve overall transparency. 	<ul style="list-style-type: none"> One of the state property registration departments in India is adopting blockchain technology to prevent the duplication of online property agreement files and cater to seamless property transactions.
Maintenance 	<ul style="list-style-type: none"> Facility management software enables predictive maintenance, reduced downtime and enhanced lifespan of building systems and components. 	<ul style="list-style-type: none"> A cloud-based facility management platform in India integrates with various third-party systems to provide a holistic view of the property's operations. The platform includes asset management, preventive maintenance, work order management and analytics, which enable real-time monitoring and resource optimisation.

22. DDA launches e-auction of over 450 properties, registrations, Times of India, 19 October 2023





Growing demand for sustainability

Adoption of renewable sources, waste reduction measures and retrofitting of buildings are accelerators of sustainability

Sustainability has become a top priority for the real estate sector worldwide. This sector accounts for around 39 per cent of global carbon emissions (28 per cent from operations and 11 per cent from materials and construction)²³, making it crucial to take immediate action towards decarbonisation throughout the entire value chain. To overcome this, there is an increased focus on green certified buildings in India, where 82 per cent of Grade A new office supply as of September

2023 is green certified²³. India is the third-largest contributor of greenhouse gas emissions globally and has implemented strict measures to reduce its CO₂ emissions, aiming to achieve a net-zero target by 2070²³. The real estate sector relies heavily on fossil fuel energy for both, constructing new buildings and maintaining old ones. Therefore, real estate companies must view their operations through a climate lens and adopt alternative practices that align with sustainability goals.

Sustainable practices



Increasing adoption of **renewable energy sources**, particularly solar power, to meet a portion of energy needs in properties, aligning with India's push towards a cleaner and more sustainable energy mix.

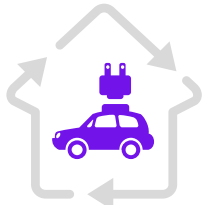


Implementing **waste reduction measures and water-efficient technologies** and practices, such as rainwater harvesting to minimise the environmental impact while promoting responsible water use.

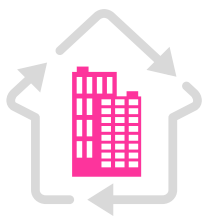
23. Sustainable real estate: An opportunity to leverage, KPMG and Colliers, November 2023



Integration of **circular economy principles** in construction and maintenance, emphasising the reuse and recycling of materials to promote a sustainable and resource-efficient real estate sector.



Promotion of **sustainability in transportation**, such as electric vehicle charging stations and bike-sharing facilities, to reduce the carbon footprint associated with commuting to and within commercial developments.



Retrofitting existing buildings by replacing or upgrading equipment, systems and materials with low-emissions and energy-efficient alternatives, as well as installing smart controls and sensors to monitor and improve energy use.

Heating, ventilation and air conditioning (HVAC) systems consume **over 50 per cent of the energy** used in buildings. Therefore, retrofitting measures such as chiller sequencing, using low-approach cooling towers, installing variable frequency drives and auto tube cooling systems can be implemented to reduce energy consumption. To ensure energy efficiency in buildings, smart lighting and LED light fixtures can also be used²⁴.



Implementing sustainability across the value chain

Sustainability is being implemented across the value chain in the sector. For instance, sustainable building designs use green materials, maximise natural light and ventilation; sustainable financing uses green bonds, green loans and sustainability-linked loans; sustainable construction adopts practices such as using recycled materials; sustainable operations implement practices such as using energy-efficient appliances, adopting waste management strategies; sustainable communities are created by incorporating green spaces, pedestrian and cycling infrastructure and public transportation facilities.

24. Sustainable real estate: An opportunity to leverage, KPMG and Colliers, November 2023



International and domestic sustainability frameworks drive healthy, efficient and cost-saving green buildings

Frameworks driving sustainability

- The government has launched various initiatives to foster sustainable development, such as the Green Rating for Integrated Habitat Assessment (GRIHA) rating system for assessing the environmental performance of buildings and tax incentives for developers who adopt sustainable design principles.
- Moreover, the Bureau of Energy Efficiency (BEE) and the Ministry of Power have been implementing energy efficiency programmes and the Indian Green Building Council (IGBC) has been partnering with central and state agencies to advance the green building movement.

Green Rating for Integrated Habitat Assessment (GRIHA)

- GRIHA, created by The Energy and Resources Institute (TERI) in 2007, measures parameters including energy use, waste and renewables to assess building sustainability.
- GRIHA v2019 added lifecycle, cost and water analysis and gave more weight to user feedback and experience.
- The rating system has 10 categories with 100 points and five extra points for innovative projects. The rating goes from 1 to 5 stars, with 5 being the best and the certifications last for five years²⁵.

Leadership in Energy and Environmental Design (LEED)

- The certification measures building performance.
- LEED has upgraded to v5 with a focus on climate action, quality of life and ecological conservation and restoration.
- Certifications depend on the credits earned on various criteria and need to be renewed every three years.
- India stands in third position among the top 10 countries for LEED Green Building in 2022.
- India awarded LEED certification to a total of 323 projects in 2022, covering 10.5+ million gross square meters (gsm) of space²⁶.

WELL building standard

- Helps developers focus on the health, wellness and safety of occupiers.
- The rating system matches design, policy and built environment with health and wellbeing.
- WELL-certified projects get points for features, some of which use natural elements such as air and water to comfort occupants.
- WELL-certified office buildings boost employee productivity by 8-10 per cent with a better indoor environment²⁵.

- The Surat Diamond Bourse (SDB) building inaugurated in 2023 is the world's largest office complex with over 67 lakh square feet of floor area
- A platinum-rated building by Indian Green Building Council (IGBC) for its ecological standards
- The building design is energy-efficient and allows ample sunlight for diamond sorting and grading
- Procurement of Lakha red granite was done locally keeping carbon emissions in mind
- The building design considers various aspects such as microclimate, solar control, wind analysis and energy performance²⁷

25. Sustainable real estate: An opportunity to leverage, KPMG and Colliers, November 2023

26. India Ranks Second in the World for Green Building, GBCL,

February 2023

27. Green building concept, SDB, as accessed in December 2023

Sustainability initiatives across select countries

Canada

Initiated a community buildings retrofit initiative that enables local governments and non-profit groups to upgrade public facilities with energy efficiency, lower operational and maintenance expenses and cleaner energy alternatives²⁸.

Denmark

Launched a subsidy scheme for improving energy efficiency in public buildings that targets buildings owned by regional and municipal authorities that have poor energy performance ratings or use oil or gas for heating²⁸.

Spain

Upgrading public administration offices by implementing energy-efficient and renewable energy systems in buildings and banning boilers that run on fossil fuels²⁸.



Italy

A Kyoto fund for boosting the energy efficiency of public buildings was initiated. The buildings had to guarantee a minimum of two levels of improvement in the building's energy efficiency score²⁸.

Greece

Through the Electra scheme, public buildings are encouraged to adopt energy-efficient technologies, such as LED lighting, insulation and efficient heating and cooling systems. The aim is to reduce energy consumption and lower carbon emissions²⁸.

Australia

The government of Australia collaborated with a Netherlands-based company and launched a sustainability-based tool. The tool helps customers identify and implement strategic actions in their commercial property to improve the environmental outcomes of their building operations according to the National Australian Built Environment Rating System (NABERS) Energy²⁹.



A sustainable residential building in Sydney, Australia

- One of Australia's most self-sufficient mixed-use urban developments, is notable for its extensive sustainability initiatives.
- The building produces its energy from a tri-generation plant on the premises, which uses natural gas to power 'green transformers' that provide electricity, heat and air conditioning.
- The water recycling programme makes use of natural sources such as rainwater along with other sources such as garden irrigation to produce recycled water, enabling residents of the towers to use recycled water for the 50-70 per cent of non-drinking activities.
- It is estimated that the sustainability features of the building lead to 20-25 per cent less energy consumption compared with a conventional building of similar size.

28. ADBI Working Paper Series, ADB, July 2022

29. CommBank's new Green Buildings Tool to help commercial building owners, Commonwealth bank, July 2023



Drivers of future growth

Varied factors are anticipated to fuel the real estate sector growth

Real Estate Investment Trusts (REITs)

Four REITs were listed in India as of May 2023, comprising **three office REITs and one retail REIT**. The REITs have seen an increase in investment in office spaces, which have grown from 24.8 million square feet in March 2019 to 74.4 million square feet in March 2023, a three-fold expansion³⁰.

By transferring income-generating properties to a REIT, developers unlock capital to expand portfolios and contribute to urban development.



Fractional ownership

This investment model provides high appreciation potential, easy tracking and diversification benefits. The market size in India was USD5.4 billion in 2020 and is projected to **reach USD8.9 billion by 2025**³¹.

The demand for fractional ownership is expected to continue to grow, driven by the rise of hybrid working models and the need for cost-effective and agile office solutions.



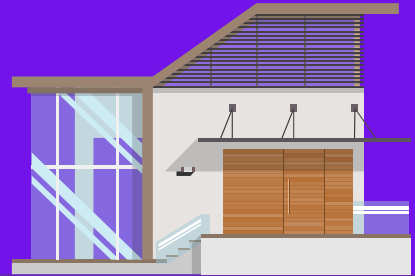
30. Indian REITs drive growth in commercial real estate market, Construction world, May 2023

31. Fractional ownership is unlocking new opportunities for investors in real estate, Financial express, October 2023



Enhanced usage of next-gen technologies

Further integration of next-gen technologies, encompassing IoT devices, automation systems and energy-efficient designs, will reshape the real estate landscape. For instance, Robotics Process Automation (RPA) will be used to create more efficient and cost-effective processes, such as automated property inspections or automated lease renewals; drones will be used to create more detailed and accurate 3D models of buildings or to provide real-time monitoring of construction sites; quantum computing will be used to create more sustainable and efficient buildings by optimising energy usage and reducing waste.



Increasing demand for data centres

In India, the demand for data centres is expected to grow at a CAGR of 48 per cent between 2020 and 2023³². As a result, many real estate developers in India are now investing in data centre projects, either through greenfield developments or brownfield conversions of existing buildings. Investments are expected to reach USD5 billion by 2025³². Overall, the growth of data centres in India is expected to contribute significantly to the country's real estate sector, both, in terms of investment opportunities and the development of digital infrastructure.



32. India data centres likely to reach 1,700 MW capacity, attract \$5 billion by 2025, Economic Times, 19 May 2023



Way forward

Focus areas for stakeholders to contribute to a more sustainable and resilient built environment, while enhancing competitiveness

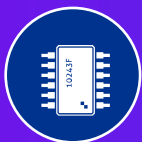
The growth trajectory of India's real estate is surrounded by a set of challenges that demand mitigation strategies; foremost among these challenges is the persistent issue of regulatory complexity, which varies across states and makes project approvals a cumbersome process.

By strategically acting on the below parameters, the real estate sector in India can navigate challenges, capitalise on opportunities and contribute meaningfully to the country's sustainable and tech-driven growth.



Sustainability integration

Prioritising sustainable construction practices, incorporating green building designs and renewable energy sources to align with global environmental goals.



Technology adoption

Embracing emerging technologies such as Building Information Modeling (BIM), IoT, AI, among others, to enhance operational efficiency, streamline processes and stay at the forefront of innovation.



Public-Private Partnerships (PPPs)

Fostering collaboration between government bodies and private enterprises to address infrastructural challenges, streamline regulatory processes and encourage sustainable development.



Upskilling programmes

Collaborating with educational institutions and industry bodies to establish upskilling programmes for professionals in the real estate sector, ensuring a skilled workforce capable of navigating evolving demands.



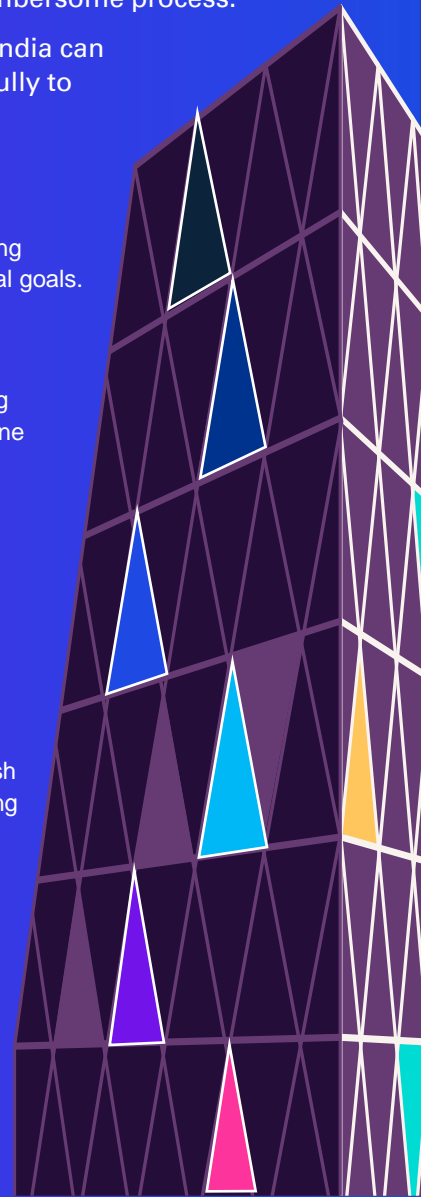
Digital collaboration platforms

Implementing digital collaboration tools and platforms to streamline communication among stakeholders, foster transparency and reduce transactional complexities.



Inclusive development projects

Prioritising inclusive development projects that contribute to social and economic well-being, creating spaces that cater to diverse needs and demographics.



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