

Constructing Our Future Volume III

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A Resilient Performance in the First Quarter of FY 25 continuing from previous FY Paves the Way for Sustained Growth

As we reflect on the First Quarter of FY 25 and the previous FY gone by, it is evident that India's Urban and Real Estate sectors have demonstrated remarkable resilience and growth, overcoming the challenges posed by the COVID-19 pandemic. Despite facing challenges such as insufficient infrastructure and regulatory hurdles, these sectors have made significant strides underpinned by strategic investments and policy reforms, contributing to India's position as the world's fourth-largest economy.

Urban Infrastructure: A Leap Forward

The Urban Infrastructure sector has seen substantial investments and policy reforms to enhance the quality of life in India's burgeoning urban areas. The government's commitment to developing future-ready infrastructure is evident in initiatives like the Smart Cities Mission, Pradhan Mantri Awas Yojana - Urban (PMAY-U), Atal Mission for Rejuvenation and Urban Transformation (AMRUT) 2.0 and Gati Shakti national master plan, which has made considerable progress in implementing systemic reforms. Furthermore, the establishment of an urban infrastructure development fund, overseen by the National Housing Bank, facilitated infrastructure development in tier 2 and tier 3 cities.

The PM Gati Shakti - National Master Plan for Multi-modal Connectivity is a transformative approach to economic growth and sustainable development. It is essentially a GIS-enabled digital platform that integrates the efforts of 24 ministries, including Railways and Roadways, to ensure integrated planning. The plan aims to enhance the last-mile connectivity of infrastructure, reduce travel time, and make Indian businesses more competitive by improving connectivity.

PM Gati Shakti addresses the traditional lack of coordination between departments, often leading to redundant work and wasteful expenditure. For example, roads would be dug up again for activities like laying underground cables or gas pipelines shortly after construction. The initiative aims to increase coordination



so that all such activities can be carried out simultaneously, saving time and resources. The initiative also includes infrastructure schemes like Bharatmala, Sagarmala, inland waterways, dry/land ports, UDAN, and various economic zones such as textile clusters, pharmaceutical clusters, defence corridors, electronic parks, industrial corridors, fishing clusters, and Agri zones. By spatially mapping these zones and providing integrated infrastructure planning, PM Gati Shakti aims to boost economic growth, attract foreign investments, and enhance India's global competitiveness in export markets

The PMAY-U was launched on June 25, 2015, to address the urban housing shortage among the Economically Weaker Section (EWS), Lower Income Group (LIG), and Middle-Income Group (MIG) categories, including slum dwellers. The scheme includes the Affordable Rental Housing Complexes (ARHCs) sub-scheme to provide affordable rental housing to urban migrants/poor in the industrial sector and non-formal urban economy.

As of February 2024, more than 1.19 crore houses have been sanctioned involving central assistance of Rs 1.99 lakh crore committed and more than Rs 1.5 lakh crore released under PMAY-U, with over 80 lakh houses completed and the rest in various stages of construction. The mission has been extended until December 31, 2024, to complete the already sanctioned houses.

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AMRUT 2.0, launched on October 1, 2021, continues, and expands on the original AMRUT scheme. It aims to provide universal water supply coverage through functional taps to all households in statutory towns and coverage of sewerage/septage management in 500 cities covered in the first phase of the AMRUT scheme. The total indicative outlay for AMRUT 2.0 is Rs 2,77,000 crore, including a central share of Rs 76,760 crore for the period from 2021-22 to 2025-26. The key objectives of AMRUT 2.0 include:

- Universal coverage of water supply
- Sewerage and septage management
- > Rejuvenation of water bodies
- Water conservation
- Promoting the circular economy of water

As part of AMRUT 2.0, 4,830 projects worth Rs 93,381 crores water tap connectionhave been approved, targeting 2.68 crore s and 2.64 crore sewer connections, among other infrastructure developments. 134 lakh water tap connections and 102 lakh sewer connections were provided as of December 2022. Central Assistance (CA) for AMRUT 2.0 projects is Rs 76,760 crore for five years. The total indicative outlay is Rs 2,77,000 crore, including a central share of Rs 76,760 crore.

AMRUT 2.0 focuses on sustainable urban development of infrastructure and service delivery improvements, including water supply and sewerage, contributing to public health and well-being through overall sanitation improvements such as over 72 lakh toilets being built in urban India as part of the Swachh Bharat Mission - Urban (SBM-U) efforts to achieve Open Defecation Free (ODF) status in urban areas.

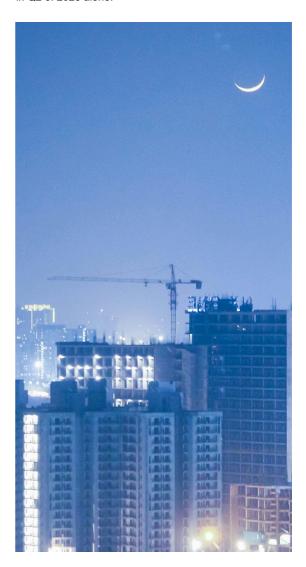
The Smart Cities Mission (SCM) has been a cornerstone of urban development, with 68% of the projects completed as of March 2023 with the presence of Integrated Command and Control Center (ICCC) acts as a "nerve centre" for operations management in 78 cities at Rupees 8,808 Crores, along with the completion of 721 Smart Roads projects worth 22,833 Crores, 531 Smart Water/ Wastewater projects worth Rs 38,447 Crores, 226 Public Private Partnership projects worth Rs 21,909 Crores. This mission has received a commitment of Rs 48,000 crore from the Union government, with states utilising 88.4% of the provided funds. Notably, 11 states achieved over utilisation. showcasing potential transformative urban development.

India's infrastructure sector is poised for growth with a committed investment of USD 1.4 trillion and robust GDP growth forecasts. This investment is seen as crucial for the nation's economic ecosystem, aiming to transition India from a developing to a developed status by 2047.

Real Estate Sector: Robust Growth

The Real Estate sector has witnessed a surge in demand, with the sale of luxury homes in India increasing by 130% in the first half of 2023 compared to the previous year. Organised retail real estate stock is expected to grow by 28% to 82 million sq. ft. by 2023.

Private Equity Investments in India's real estate sector stood at USD 4.2 billion in 2023, reflecting the sector's attractiveness to investors. FDI in the sector reached USD 56.03 billion from April 2000 to March 2023, with substantial private equity investments of USD 1.92 billion in Q2 of 2023 alone.



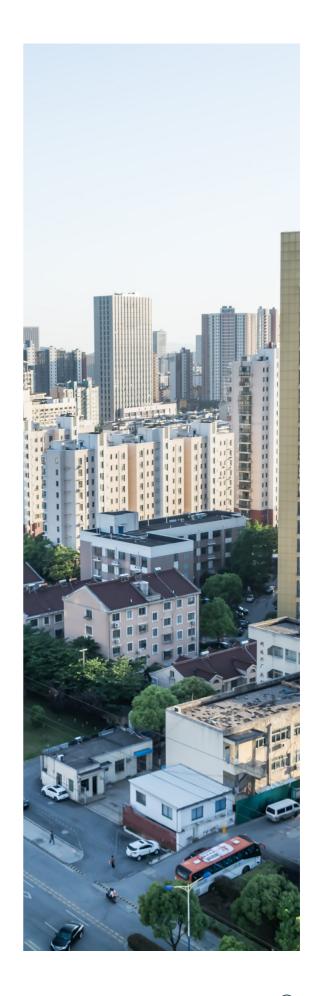


In 2023, **stable interest rates** set by the Reserve Bank of India fuelled growth in India's residential housing market, broadening access to homeownership for a larger population. Unchanged repo rates sustained sales momentum in the residential real estate sector, reflecting the stability of the market and its connection to the nation's economic health. **The RBI's optimistic 7% GDP growth forecast for FY24 signifies increased disposable income, driving the demand for homes** that match rising living standards in a thriving economy.

In 2023, housing sales surged to a new high in India's major cities, such as MMR, Pune, Hyderabad, and NCR. Approximately 476,530 housing units were sold, marking a remarkable 31% annual growth from the 364,870 units sold in the preceding year. The top 7 cities also experienced a 25% year-on-year increase in new property launches, rising from around 357,640 units in 2022 to approximately 445,770 units in 2023.

The Union Budget played a vital role in boosting the real estate sector by expanding the Affordable Housing Program, increasing PMAY allocation, and raising the income tax deduction limit for home loan interest, particularly benefiting the growing demand for affordable housing. Government-backed amendments to the Real Estate (Regulation and Development) Act (RERA) have significantly enhanced accountability and transparency. These changes safeguard the industry against fraud and delays, rebuilding trust in the real estate sector, which has steadily increased over the past two years. Affordable housing finance companies (AHFCs) are anticipated to witness a 30 percent growth in FY25, thus consolidating the positive trajectory established in the preceding two fiscal years. The sector experienced a period of subdued expansion from FY20 to FY22, followed by a noteworthy resurgence in FY23, marked by a 27 percent increase and continued the same momentum in FY 24.

The Indian real estate industry is expected to grow at a CAGR of 25.60% to reach USD 1.04 trillion by 2029, driven by a combination of factors, including rapid urbanisation, regulatory reforms, and changing consumer behaviours, as reported by Mordor Intelligence. The residential real estate market, in particular, is forecasted grow at a CAGR of 24.77% to reach USD 687.27 billion by 2029 propelled by rapid urbanisation, rise in demand for luxury and larger housing spaces driven by a need for better lifestyles and the realisation of the utility of larger homes after the pandemic and the government's push towards housing for all as there is a massive demand for affordable housing across the country.





Looking Ahead – Key Message

As we moved in FY 25, the overall focus on strengthening the Smart Cities Mission, empowering local governance, and prioritising effective project management. The vision for 2024-25 includes substantial policy reforms and investments in infrastructure, with an allocation of Rs 11.11 lakh crore (3.4% of GDP) in the interim Budget focusing on roads, railways, and urban infrastructure. Key allocations include Rs 2.72 lakh crore for roads and Rs 2.52 lakh crore for railways.

India's infrastructure sector, with a committed investment of USD 1.4 trillion and robust GDP growth forecasts, is poised to be the linchpin of its economic ecosystem. The convergence of domestic necessity, foreign investments, and strategic collaborations positions India's infrastructure upward, affirming a promising future for the nation's development.

Though there are challenges, such as project delays, the need for more efficient land acquisition processes and the requirement for improved infrastructure to support urban development, there are significant opportunities for growth in tier II and tier III cities, driven by the government's focus on urban infrastructure development and the Smart Cities Mission.

Emerging trends like Proptech innovation, co-living spaces and fractional ownership promise to open new opportunities in FY25 and beyond. We remain optimistic about the sustained growth of India's Urban and Real Estate sectors and look forward to our nation's continued progress and prosperity.





Realty this Quarter

MahaRERA Proposes Monitoring System for Housing Project Quality _

The Maharashtra Real Estate Regulatory Authority (MahaRERA) has unveiled plans for a grading system in real estate projects, introducing a consultation paper that proposes third-party inspections to ensure superior quality homes for buyers. While Section 14 (3) of the Real Estate

(Regulation and Development) Act already provides a defect liability period of five years, MahaRERA aims to elevate standards further, setting protocols and construction benchmarks to proactively prevent quality issues.

Solar rooftops compulsory in real estate projects in Assam _____

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Assam's progressive policy reflects a broader regional trend towards embracing renewable energy solutions. By mandating solar rooftops, the state aims to contribute to India's overall efforts in reducing carbon emissions and

promoting green energy. This initiative positions Assam as a key player in fostering a more sustainable future and aligns with global priorities regarding climate change.





IGBC launches India's first Net Zero Carbon rating system _

The Indian Green Building Council (IGBC) has been a driving force behind the proliferation of green building practices in India, enabling a substantial green building footprint of 10.42 billion square feet. Through its initiatives, IGBC has catalysed a market transformation, particularly in the adoption of green building materials and technologies. Continuously striving to promote sustainable practices, IGBC has launched India's first Net Zero Carbon rating system. This innovative initiative aims to facilitate the adoption of Net Zero concepts, thereby advancing market transformation towards total building sector decarbonization and accelerating the uptake of Net Zero principles across the country.

Budget Highlights in Real Estate and Housing

Focus on continuing investments on urban infrastructure with specific focus on mass transit housing or urban poor, women, youth and farmers





POLICY & REGULATORY LANDSCAPE

- · Housing For All
- Green and Sustainable Development Scheme for special assistance to states for capital Infrastructure



- Real Estate (Regulation and Development) Act
- Urban Infrastructure Development Fund
- · Impact of Interest Rates on Housing Loans
- Ease of Living / Quality of Life

BUDGET ANNOUNCEMENTS

- 1. PMAY (U) 2 Crore more houses in next 5 years
- 2. New Housing Scheme for Middle Class group
- Continuation of Special Assistance to states for capital Infrastructure - Urban Reforms
- 4. Metro and Namo Bharat for Public Transport

EXPECTATIONS FROM THE BUDGET

Boost to Public Transport, Housing for middle class and reform-linked capital Assistance to States

EXPECTED IMPACT

- Improved Accessibility to housing
- Boost to transit oriented development
- · Performance linked incentives to states



Sangam: Digital Twin Initiative

Digital Twin Initiative of the Department of Telecommunication (DoT) is the blueprint for the Future Infrastructure Planning. It symbolizes a collaborative effort towards reshaping the infrastructure planning and design by promoting a holistic approach to innovation, harnessing the power of technology and collective intelligence for sustainable and efficient solutions.

Sangam: Digital Twin, an unparalleled venture, is a Proof of Concept distributed in two stages establishing collaborations by bringing all the stakeholders on one dynamic platform aiming to transform innovative ideas into tangible solutions, bridging the gap between conceptualization and realization, and paving the way for groundbreaking infrastructure advancements. First stage is Exploratory for clarity of horizon and creative Exploration to unleash potential. Second stage is for practical demonstration of specific use cases generated through collaborations. It uniquely combines Digital Twin Technology with advanced telecom sector data, aiming to drive both economic growth and social progress.

The outcome of the PoC may set a new benchmark in expediting and enhancing the decision-making, leading to a more nuanced and informed approach towards smart infrastructure and serving as a roadmap to scale and replicate successful strategies in future projects.

The initiative has a planned timeline till December 2024. Currently, three outreach programmes have been successfully conducted bringing together leaders, innovators, and stakeholders from various sectors to explore the diverse application and implication along with the submission of EoI. The detail stages of PoC are set to commence shortly.





Fireseide Chat with Industry Veteran



Mr. Rajeev Mittal

Managing Director, India & SAARC, Autodesk

How do you see the growth of the spatial visualisation market in India?

The combined value of the GIS and BIM markets presently stands at approximately US \$2 billion, with BIM contributing around 70 percent. With a current compounded annual growth rate (CAGR) of about 15 percent, the market is expected to double in size over the next five years. Despite this growth, there remains significant untapped potential, as highlighted by the "20-80 problem," where users typically utilise only a fraction of software capabilities. As industries serviced by GIS and BIM continue to evolve, both the user base and market value are expected to increase significantly.

What are the three trends you would watch out for in terms of building and spatial visualization?

While there are definitely more than three trends, the three I would pick out would be:

- Governments, large estate owners, and developers increasingly recognize the value of visualizing creations digitally, enabling faster problem-solving and proactive solutions.
- Investors, lenders, and public authorities now prioritize tools like BIM for quality and process assurance, highlighting the growing recognition of spatial visualization's value across different levels.
- There's a rising awareness among emerging talent entering the built space environment about the importance of spatial visualization skills for employability, benefiting both the industry and solution providers.

Source:

https://www.imarcgroup.com/india-geographic-information-system-market https://www.businesstoday.in/opinion/columns/story/making-cities-smart-why-india-needs-to-embrace-this-new-technology-to-rapidly-transform-its-urban-space-406419-2023-11-20



While BIM is being taken up over an increasing number of projects, it is still not as mainstream as it is in developed economies. What do you think are the key impediments to BIM adoption in India, both in Government as well as private sector?

The adoption of BIM has historically been hindered by entry costs, but this barrier is rapidly diminishing with the integration of cloud-based shared services, making BIM more accessible to promoters and contractors of all sizes. However, the main challenge persists in the economics of construction. While established promoters in the formal sector recognize the value of BIM, a significant portion of the construction industry remains semi-organised or unorganized constituting the bulk of construction activity in terms of volume. Convincing smaller contractors, especially those with short-duration projects of the benefits of BIM will take time but is feasible.

To contextualize, our flagship AutoCAD product took years to gain traction but is now indispensable in the design industry. Similarly, GIS took time to become mainstream. With the right support, we anticipate BIM following a similar trajectory—more de-facto, less de-jure.

What are three institutional changes you would suggest for improving uptake of spatial and building visualisation in India?

Advocating for the mandatory adoption of spatial and building tools through legislation may seem appealing, but history has shown that organic, voluntary adoption tends to be more effective than mandated approaches. Technology uptake often spreads through inspiration and emulation—when one organisation benefits, others are motivated to follow suit

To catalyze this process, it's time for national and state governments to revisit the concept of Spatial Data Infrastructure (SDI). Initially proposed in the early 2000s, the idea was ahead of its time. Now, with a focus on open data, interoperability, and stack creation, SDI is more feasible. Examples like GeoSpatial Delhi Limited demonstrate the potential for creating digital twins of cities through specialized agencies.

Institutional changes are necessary to facilitate this. Firstly, agglomeration bodies should consolidate diverse datasets generated by different departments. Secondly, open data protocols, already under consideration, must be mainstreamed across state governments to facilitate data sharing. Just as financial reporting protocols are standardized, geospatial data sharing should be as well.

Lastly, fostering adoption of building visualization should occur through practical demonstration, not legislation. Government construction activities, particularly within departments like Public Works, can lead by example. Implementing shared services, such as a BIM platform hosted on a private cloud, can demonstrate the benefits of these tools in practice. When the public sector adopts such practices, the private sector is more likely to follow suit, accelerating overall adoption rates.





Once upon a time, geospatial outsourcing used to be a major industry in India, in fact – it was one of India's first outsourcing industries. Do you see something like this happening with the building and spatial visualisation market as well? Like, India becoming a major in creating digital twins buildings and cities? Why/ why not? Do note that India does have a sizeable architectural outsourcing market.

Indeed, the success of the Indian geospatial outsourcing industry, with major clients like the United States Geological Survey (USGS) and British Ordnance Survey, significantly contributed to the growth of the talent pool in India for geospatial software. A similar trajectory could be envisioned for the development of a BIM outsourcing industry.

Given the substantial architectural outsourcing market already present in India, transitioning towards BIM outsourcing seems like a logical progression. Not only does it align with economic dynamics, but it also offers an opportunity to move up the value chain. In an outsourcing-based industry, staying competitive can be challenging as cheaper alternatives emerge. However, focusing on BIM outsourcing could facilitate value addition and elevate India's position in the global market.

Autodesk has had a long presence in India – even today, most people in the design industry swear by Autodesk products and it is generally thought that unless you've trained on an Autodesk product, you haven't trained for modern design industry at all. However, this was largely the helped by fact Autodesk had the single largest ubiquitous presence in the sector then. Now, with so many alternatives/ competitors what available. retains Autodesk as the preferred design engineering solution?

We're honored by the recognition. Our commitment to interoperability and empowering customers to choose their preferred software for building systems visualization remains steadfast. Our established track record and strong rapport with industry practitioners continue to bolster our position.

As you noted, there's a prevailing perception that proficiency with Autodesk products is essential for modern design. Hence, advancing up the value chain positions us as the most accessible avenue for practitioners to enhance their building visualization skills.





Urbanopedia: Real Estate Investment Trusts (REITs) in India

Real Estate Investment Trusts (REITs) are investment vehicles that allow individuals to invest in real estate without directly owning or managing properties. REITs typically own and operate income-generating real estate

assets such as commercial properties (office buildings, shopping malls, apartment complexes, hotels) and residential properties (apartment buildings, single-family homes).

Real Estate Investment Trusts (REITs)



Key features of REITs:

- > Dividend Income: REITs are required by law to distribute a significant portion of their income to shareholders in the form of dividends. This makes them attractive to investors seeking regular income streams.
- ➤ Liquidity: Unlike owning physical properties, investing in REITs provides liquidity as they are traded on major stock exchanges, allowing investors to buy and sell shares easily.
- > Diversification: REITs often hold a diversified portfolio of properties across different sectors and geographic locations, reducing investment risk compared to owning a single property.
- Professional Management: REITs are managed by experienced real estate professionals, alleviating the need for individual investors to handle property management tasks.
- > Transparency and Regulation: REITs are subject to regulatory requirements, including reporting standards and governance structures, providing investors with transparency and accountability.
- > Tax Benefits: REITs are generally exempt from corporate income taxes if they distribute at least 90% of their taxable income to shareholders, making them tax-efficient investment vehicles.





In India, there are several listed office-backed REITs, including:

- > Embassy Office Parks REIT: One of the pioneering REITs in India, it holds a portfolio of office properties across key Indian cities, including Bengaluru, Mumbai, Pune, and Noida.
- Mindspace Business Parks REIT: Another prominent office-focused REIT, it owns and operates a portfolio of high-quality office spaces located in prominent business districts of Mumbai, Pune, Hyderabad, and Chennai.
- > Brookfield India Real Estate Trust: This REIT focuses on acquiring, owning, and managing commercial real estate assets in India, including office spaces, hospitality, and retail properties.



PASSION

for providing solutions to help clients achieve their goals

RESPECT

for all and alternate viewpoints

INTEGRITY

of thoughts and actions

MASTERY

of our chosen subject to drive innovative and insightful solutions

US

representing the Primus collective, where each individual matters

STEWARDSHIP

for building a better tomorrow











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