



**VISILEAN**

Construction, simplified

EVOLVING  
DYNAMICS OF THE  
**REAL  
ESTATE**  
SECTOR IN INDIA



# Foreword

Post Covid-19 pandemic, India's real estate sector has rebounded strongly and is on track to reach \$1 trillion by 2030. Today, success is measured not just by the volume of construction but by speed, predictability, sustainability, and value creation across the project lifecycle.

Rapid urbanisation, rising incomes, and growing investment flows are driving demand across residential, commercial, and mixed-use developments. Yet, execution challenges persist—fragmented workflows, limited data integration, and stagnant productivity continue to constrain performance.

This report provides a comprehensive view of India's evolving real estate landscape, highlighting segment-specific growth trends, macroeconomic drivers, and structural inefficiencies. It also explores how Lean construction and technology-enabled platforms can enhance collaboration, improve schedule reliability, and optimise resources across complex projects.

Embracing smarter, technology-driven execution is essential for developers to remain competitive and deliver lasting value. I hope this report offers practical insights for industry leaders, investors, and practitioners seeking to navigate India's real estate sector with clarity and confidence.



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Dr. Bhargav Dave  
(Co-founder & CEO)

# Introduction

India's real estate sector has emerged from the pandemic with unprecedented momentum. After navigating the severe slowdown caused by COVID-19, the industry has rebounded to a market size of approximately \$200 billion and is on track to reach \$1 trillion by 2030, representing a 9% CAGR over the decade. The post-pandemic period has not only restored growth but also reshaped market confidence — \$3 billion in institutional investment flowed into the sector in H2 2023, an 88% jump from H2 2022, signalling a decisive vote of confidence from domestic and global investors.

**\$3 Billion**



**88%**

This growth is being driven by deeper structural forces. Rapid urbanisation, rising household incomes, and expanding foreign investment are accelerating demand for residential, commercial, and mixed-use developments across the country. As India approaches a major demographic and economic inflection point, cities are expanding rapidly and new development corridors are emerging.

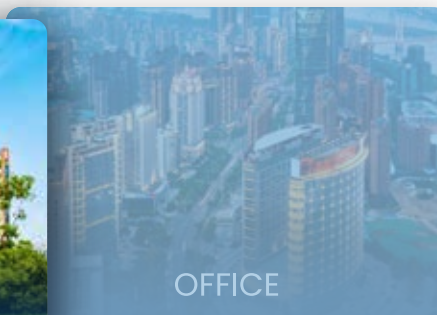
However, the scale and speed of this expansion are also exposing the limitations of traditional project delivery methods. While developers are launching more projects than ever before, coordinating complex developments across multiple stakeholders, trades, and timelines has become increasingly challenging.

This report examines the evolving dynamics of India's real estate sector, from segment-specific growth drivers to macro-economic forces such as urbanisation, income shifts, and foreign capital inflows.

# The Landscape

of India's Real Estate Sector

The real estate sector has a network of distinct segments, each driven by its own demand factors, investment flows, and changing consumer expectations. Residential, commercial, and office developments together form the backbone of this industry, but each is following a different growth trajectory.



## Residential Development Projects

Residential projects account for nearly 50% of the sector's total value, making them the single largest contributor to India's real estate economy. In 2024, India's residential real estate market recorded 302,867 residential units sold, an 11% rise from 2023, signalling strong end-user demand.

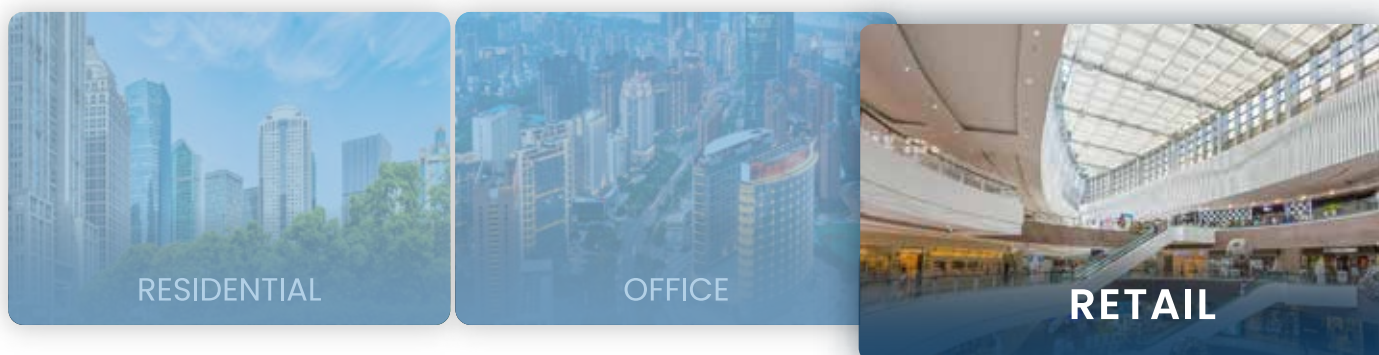
However, the composition of this demand is shifting. Affordable housing sales has declined by 14%, driven by rising land costs and subsidies, while luxury apartment sales surged by 18%, as High-Net-Worth Individuals (HNIs), and Non-Resident Indians (NRIs) increasingly view prime real estate as a stable wealth-preservation asset.



## Office Development Projects

The office segment continues its robust recovery and expansion, with 49.95 million sq ft absorbed across 7 major cities in 2024, up 21% year-on-year from 41.97 million sq ft in 2023. Demand is driven by Global Capability Centres (GCC), which now number over 1600 in India, alongside strong leasing activity from IT, BFSI, and professional services. Cities like Bengaluru and Hyderabad are leading in pre-leased, high-grade office spaces designed to global corporate standards.

Hybrid work models have created a nuanced demand pattern: some companies are downsizing to cut costs, while others are upgrading to premium workspaces with superior amenities to attract and retain talent.



## Retail Development Projects

Retail leasing continues to grow, with 8.1 million sq. ft. leased across the top seven cities in 2024. This growth is driven by traditional retail demand, the expansion of IT and BFSI offices, GCCs, and rising consumer spending in urban India.

Mixed-use development projects are becoming increasingly popular as they align with global urban planning trends. These projects aim to shorten commute times and lower carbon footprints, making them an attractive option for communities.

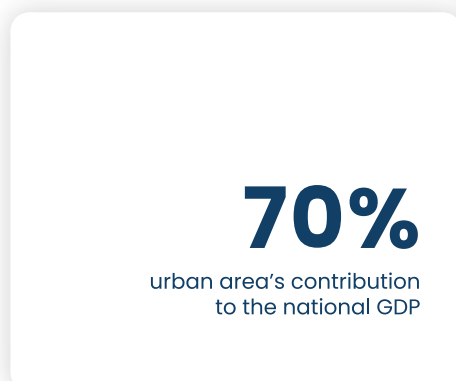
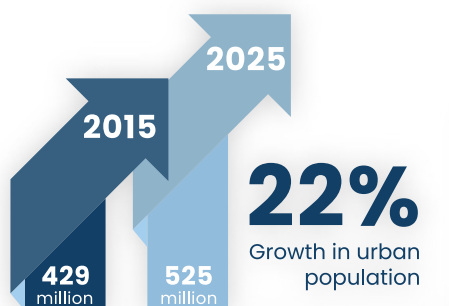
Developers are also focusing on maximising ROI per square foot by integrating retail with residential, office, and entertainment zones within the same footprint. Increasingly, buyers are gravitating toward integrated living ecosystems where homes, offices, schools, gyms, and retail facilities co-exist under a single master plan, creating both convenience and community.

# Macro Drivers

## Shaping the Sector's Growth

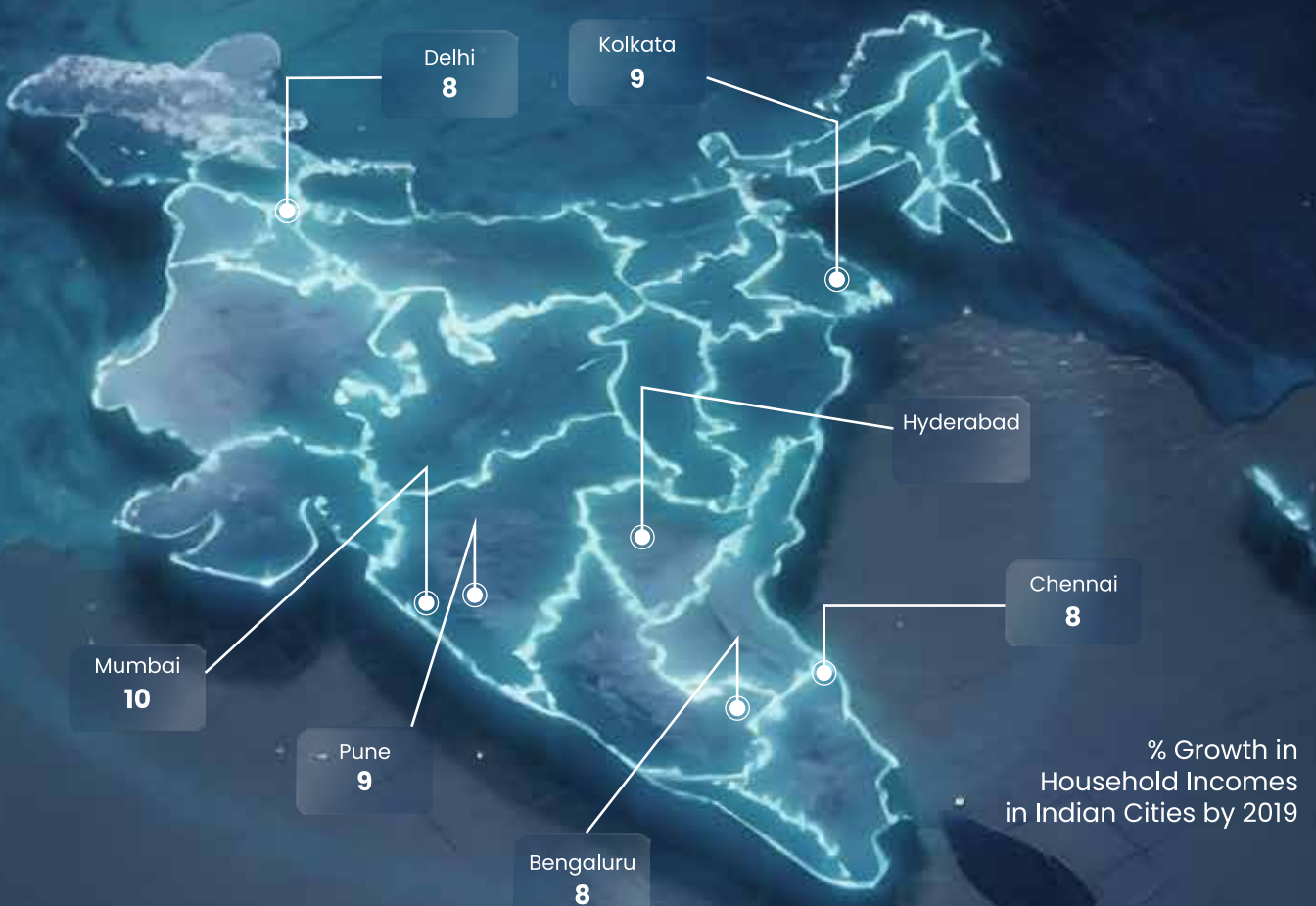
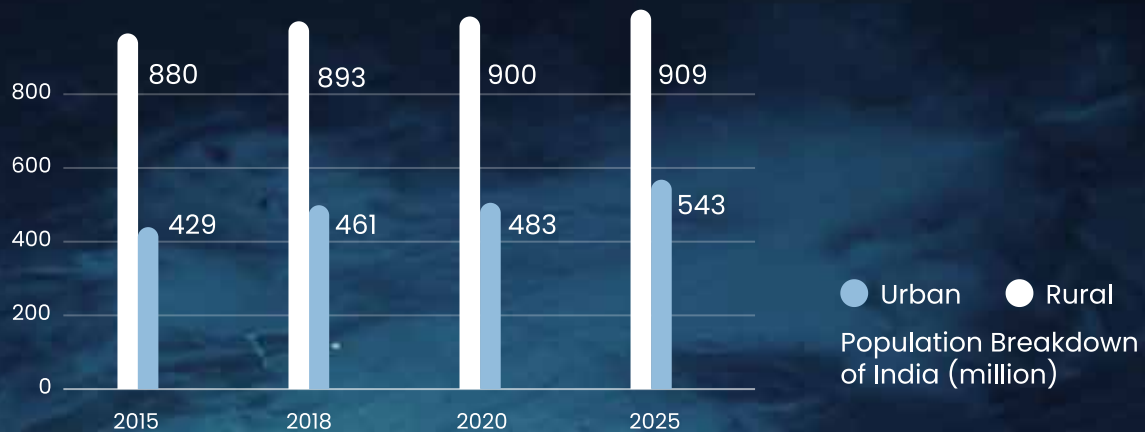
### 1. Rapid Urbanisation: The Growth Multiplier

India is urbanising at a pace rarely seen in its history. The urban population is projected to reach 525 million by 2025, up from 429 million in 2015 — a 22% increase in just a decade. This demographic shift is more than a matter of headcount; it represents a structural transformation of India's economic geography. Urban areas already contribute over 70% of the national GDP (World Bank, 2024), solidifying their position as the country's primary economic engine.



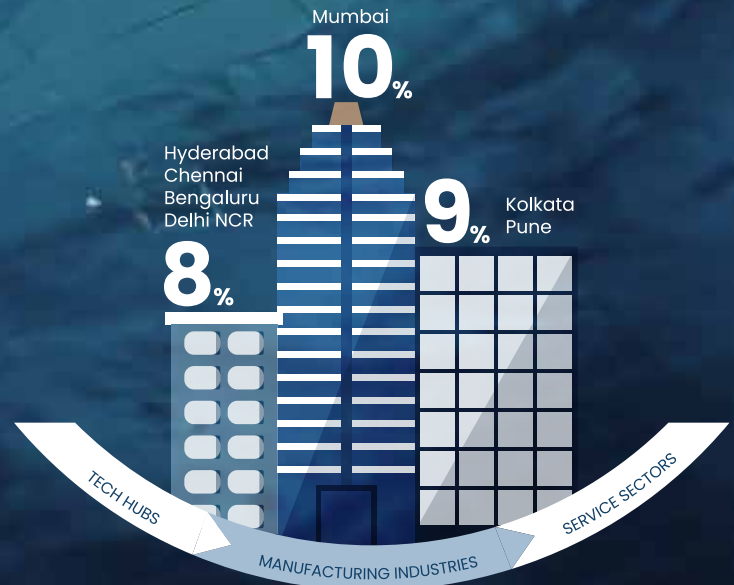
As economic activity becomes increasingly concentrated in cities, urban regions are expanding into multi-nodal economic clusters. This is driving demand for residential, commercial, retail, and mixed-use developments. Mega-urban corridors such as Delhi NCR, Mumbai Metropolitan Region (MMR), and Bengaluru–Mysuru are seeing large-scale land development, while Tier-2 cities like Indore, Lucknow, and Coimbatore are absorbing spillover demand due to improving infrastructure and the decentralisation of jobs.

Crucially, the driver of real estate growth is shifting from population growth alone to income growth — meaning urbanisation is now synonymous with higher purchasing power and more sophisticated housing and workspace requirements.



## 2. Rising Incomes and Lifestyle Upgrades

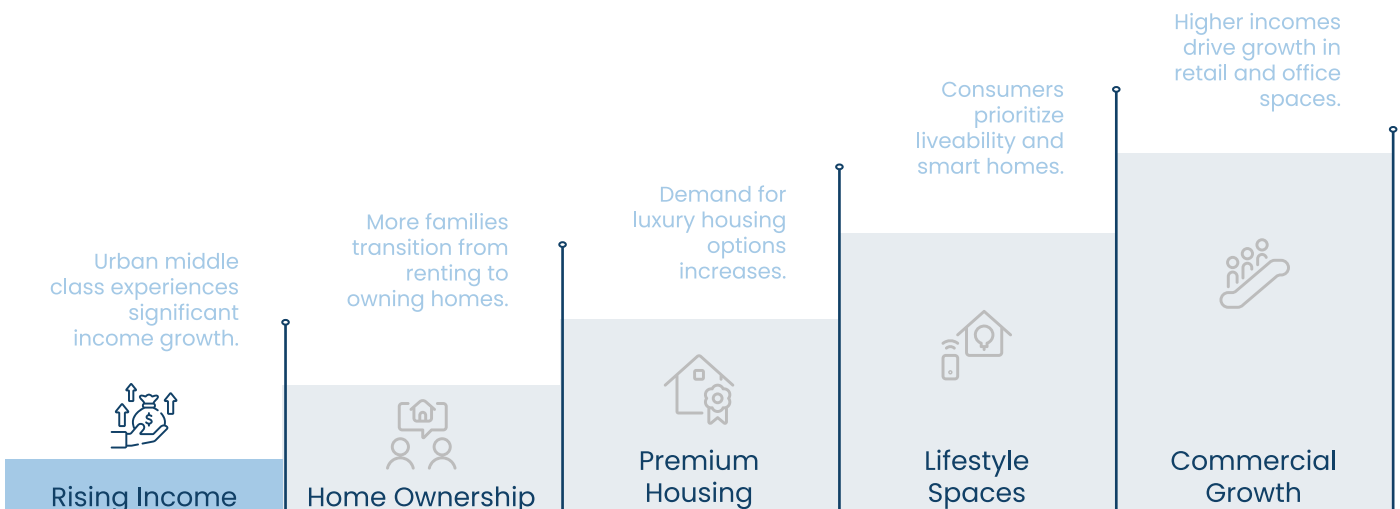
India's urban middle class is growing wealthier, and more aspirational. In 2024, Mumbai posted a 10% growth in household incomes, fuelled by the financial and services sector boom. Kolkata and Pune followed with 9% growth, while Hyderabad, Chennai, Bengaluru, and Delhi NCR each recorded 8% growth on the back of thriving tech hubs, manufacturing clusters, and service economies.



Factors of Growth in Household Incomes

This upward income mobility is reshaping demand patterns

- Homeownership Transition:** Rising disposable incomes are pushing more families from rental housing into ownership, especially in the mid-segment (₹50–80 lakh) range.
- Premiumisation of Housing:** The luxury segment is expanding, with buyers seeking gated communities, integrated townships, and branded residences that combine security, amenities, and location prestige.
- Lifestyle-Centric Spaces:** Urban consumers are prioritising liveability — smart homes, co-living spaces, and proximity to mixed-use hubs — over large but isolated apartments.
- Commercial and Retail Uptick:** Higher incomes boost discretionary spending, fuelling growth in malls, high-street retail, and entertainment complexes, alongside sustained demand for premium office spaces in CBDs and business parks.



### 3. Foreign Direct Investment (FDI) Trends: Global Capital Meets Local Opportunity

Foreign Direct Investment remains a decisive force in shaping India's real estate expansion. Construction is the third-largest sector attracting FDI in the country, underscoring its strategic role in economic growth. Between 2017 and 2022, the sector attracted an estimated USD 26.6 billion in FDI inflows, with capital concentrated in metropolitan and high-growth urban regions.

The year 2024 marked a milestone with USD 8.9 billion in institutional real estate investments across 78 deals, representing a 51% increase from 2023. Notably, foreign institutional investors accounted for 63% of this capital, signalling strong international confidence in India's market fundamentals.

Three key shifts define this wave of FDI

#### Diversification of Investment Focus

For the first time in years, residential assets overtook office assets in investment share, highlighting growing interest in India's urban housing market.

#### Emergence of New Asset Classes

Investors are targeting digital infrastructure, warehousing, student housing, and healthcare real estate as urban demand becomes more service-driven.

#### Platform Commitments and REIT Expansion

Over USD 2.4 billion in platform deals have been announced for deployment over the next 3–5 years. The launch of new Real Estate Investment Trusts (REITs) is improving market transparency and liquidity, making India more attractive to long-term global capital.

Looking ahead, continued FDI inflows will not just increase construction volumes but also raise quality standards, introduce global sustainability benchmarks, and accelerate technology adoption in project delivery — from BIM-led planning to green building certification.

#### Impact of FDI on Construction Industry



**FDI FLOW INCREASES**



Construction Volume Increases



Quality Standard Improves



Sustainability Benchmarks Introduced



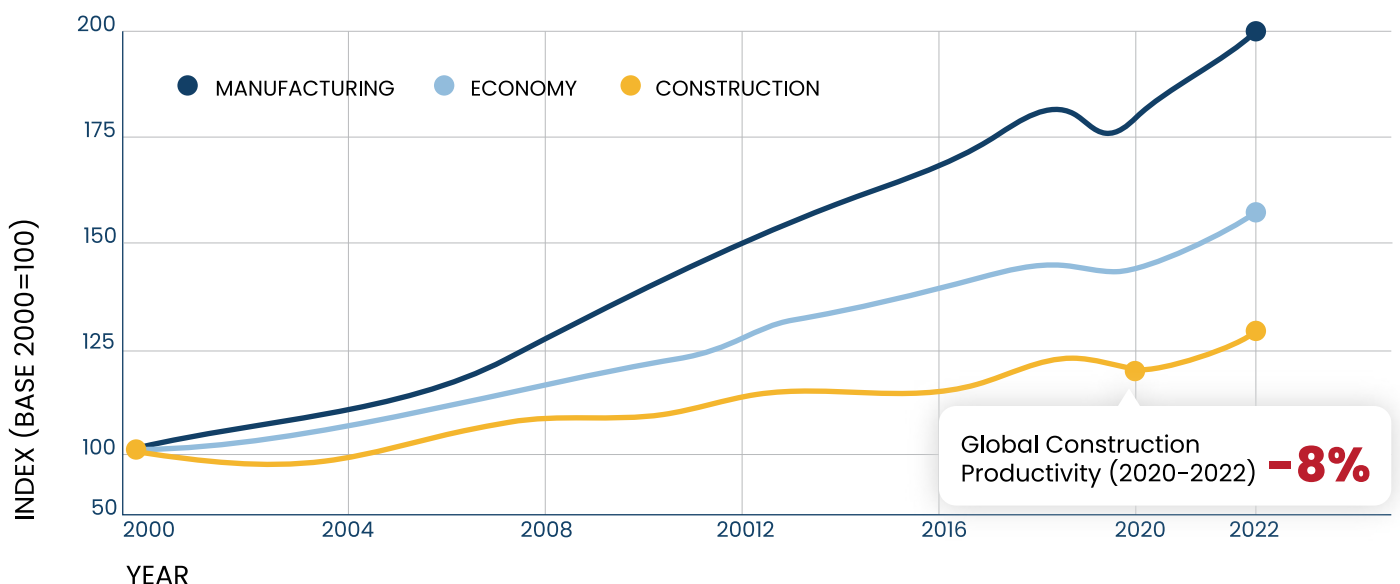
Technology Adoption Accelerates

# The Hidden Challenge

Productivity and Margin Erosion

India's real estate sector is experiencing record-breaking demand, investment and urban growth. Yet, beneath this momentum lies a paradox: while the industry builds more projects, it has remained largely stagnant.

Between 2000 and 2022, construction productivity in India grew by just 10% (0.4% annually). In contrast, the overall economy expanded by 50% and manufacturing output nearly doubled. More recently, global construction productivity itself fell by 8% (2020-2022) signaling an industry-wide crisis. But the story is uneven: some countries, most notably China, more than doubled their productivity over the same period, pulling up the global average. Their progress highlights what is possible when construction is treated as a production system rather than a loose collection of contracts.



**+10%**Construction  
Productivity  
in India**+50%**Economic  
Growth**+90%**Manufacturing  
Growth**-8%**Global  
Construction  
Productivity**ROOT CAUSES**

Fragmented Industry | Low Technology Adoption | Skilled Labour Shortage  
 Poor Project Management | Lack of Standardisation

## Why Does India Lag Behind?

Academic studies and research offer a lens into the structural inefficiencies embedded in Indian construction, revealing why productivity has remained stagnant despite rising demand and technology availability:

**01****Schedules are only built for compliance and not for execution**

In most projects, schedules are produced months in advance to satisfy tendering or contractual requirements, rather than to reflect site realities. They look neat on paper but quickly unravel once variability, trade dependencies, and unforeseen constraints come into play. Research shows that under such systems, fewer than half of planned tasks are completed as scheduled, leading to a cycle of firefighting, rework, and constant rescheduling. The absence of a collaborative, pull-based approach means there is a chronic gap between what is planned and what can realistically be delivered. (Dave 2013)

**02****Information bottlenecks and breakdowns**

One of the most under-recognised forms of waste in Indian construction is the unreliable flow of information. Drawings arrive late or incomplete, approvals get stuck in hierarchical workflows, and critical updates remain buried in chat groups or spreadsheets. The Transformation-Flow-Value (TFV) framework, as discussed by Koskela and reinforced by Dave, highlights that information flow is as vital as material flow. Without timely and accurate information, even the best-designed plans collapse, leading to cascading delays across trades and suppliers. (Dave 2014)



## 03 Limited BIM integration in the construction process

Although Building Information Modelling (BIM) adoption is growing, its use in India remains largely confined to design visualisation and clash detection. In many projects, BIM becomes a sophisticated drawing tool rather than a live production cockpit. Unless BIM is linked directly to production control, with tasks, constraints, and progress updates mapped against the model, its potential to reduce errors, improve collaboration, and streamline handoffs remains unrealised (Dave 2014). The result is that BIM's promise of integration rarely reaches the field.



## 04 Fragmented supply chains amplify risks

Construction supply chains are deeply fragmented, dominated by subcontractors and small firms with limited scope. This structure makes coordination fragile and information flow difficult, often resulting in inefficiencies, mistrust, and adversarial practices between stakeholders. Without integrated systems for collaboration and production control, synchronisation breaks down, bottlenecks emerge, and projects suffer from reduced reliability and wasted resources (Dave 2015).



## 05 Lack of data-driven decision making

Many project decisions in Indian real estate are made reactively, based on incomplete or outdated information rather than data-backed insights. Research shows that this lack of informed decision-making is a critical productivity killer: it leads to late reversals, frequent rework, and missed opportunities to optimise flow. By contrast, when decisions are anchored in transparent, real-time project data, through tools like BIM-integrated production control or collaborative planning, the latency and variability in execution are reduced dramatically (Dave 2014).



# Lean Construction Technology

## How Does Lean Construction Technology Enable an Efficient Production System for Construction?

The transformation of India's construction industry requires more than fragmented tools or ad-hoc digitalisation. What is needed is an integrated system that incorporates Lean principles directly into project execution. Lean construction technology offers this capability: a structured digital environment where collaborative planning, reliable workflows, and real-time data come together. By shifting the focus from reactive management to proactive production control, these platforms tackle not just symptoms of inefficiency but the root causes of delays, waste, and cost overruns.

### 01 **Digital Lookahead and Constraint Management**

Instead of static schedules, Lean-enabled platforms create dynamic Lookahead Plans that expose constraints early and resolve them collaboratively before they stall work. This systematic visibility ensures that site teams are not reacting to crises but proactively sequencing reliable work. Research shows that such planning methods can dramatically improve workflow reliability and reduce the frequency of last-minute clashes.

### 02 **Real-Time Progress Tracking and Accountability**

Field updates flow directly into the system through mobile applications, eliminating lag in reporting. Dashboards reflect live status across trades, highlighting delays, progress percentages, and resource use in real time. This continuous feedback loop empowers managers to intervene instantly rather than waiting for weekly reviews. Projects adopting such systems have consistently seen reduced administrative overheads and tighter control over execution.

## 04 Waste Elimination and Continuous Improvement

Lean systems ensure waste is not only identified but systematically removed. By capturing instances of rework, idle labour, or delays, teams can analyse recurring issues and prevent them from resurfacing. This focus on continuous improvement, supported by retrospective dashboards, enables projects to sustain efficiency gains over time rather than treating them as one-off wins.

## 03 Seamless Office-to-Field Communication

Rather than scattered chats, phone calls, or email chains, all task updates, approvals, and design revisions are recorded in a structured, traceable platform. This not only accelerates decision-making but also provides a digital audit trail that supports transparency and compliance. In practice, response times for site queries shrink from days to hours, keeping project momentum intact.



## 05 Visual Dashboards and Predictive Analytics

Integrating BIM with Lean production control transforms data into a live, visual cockpit. Managers and trades can see readiness, progress, and constraints directly on the model, turning the BIM environment into a decision-support hub. Predictive analytics built on this data highlight risks before they escalate, allowing teams to act early and maintain stable project flow.

## 06 Compliance, Quality, and Safety by Design

In the Indian context, regulatory frameworks like RERA mandate timely delivery, transparency, and buyer protection. Lean construction technology directly supports compliance by providing timestamped, auditable records of progress, approvals, and deviations. Equally, safety protocols and quality checks can be embedded into daily workflows, ensuring they are tracked with the same discipline as schedule performance.

# Case Study

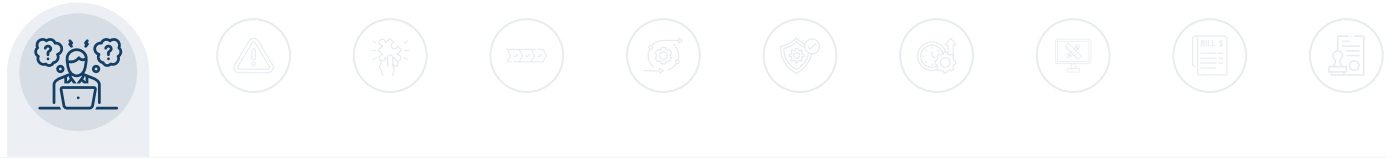
A Leading Real Estate Developer with VisiLean

## Background

A leading real estate development firm, established in 2003, partnered with VisiLean to streamline their project delivery across its expanding portfolio. Over the years, the firm has built a reputation for timely, qualitative, and innovative execution of both residential and commercial projects.

With projects in hand worth a thousand crores (approx. 1.55 billion dollars), they were looking for a user-friendly construction management tool to collate their workflow on a single platform. Through a simplified solution, production management for their ultra-modern projects would be streamlined. Moreover, they wanted to provide speedy resolution to their project site problems which used to delay in absence of real-time onsite documentation.





## The Complexity

The firm sought a solution to streamline their daily project progress updates and overall construction management. They primarily used Microsoft Project® for all their planning needs. From the master schedule to detailed lookahead plans, everything was created and extracted from this MSP® file. However, since MSP® only allowed activity scheduling, their team looked for an integrated solution. They aimed to improve planning and coordination for better on-site results. Other aspects like cost and resource management, as well as quality, design, and approval workflows, were handled through Excel®, WhatsApp®, and Google Forms®. This collection of disconnected tools and data severely constrained the team's ability to manage their projects effectively.



## The Challenges

1. Disconnect between site and head office because of no real-time updates on the construction projects.
2. Lack of clear visibility across the portfolio of projects to review the delayed tasks and track the progress of the projects.
3. Labour intensive processes of data entry delayed the task updates on the MSP plan which hindered the project schedule.
4. Manual compilation of Daily Progress Reports from scattered data on various digital platforms was extremely time consuming.
5. Difficulty in managing numerous databases and paper reels containing crucial project information.
6. Multiple third-party apps used for addressing point-based solutions in silos.
7. Absence of simultaneous view for Planned vs Actual check of project status to action task delay



## The Solution

VisiLean was deployed across their high-end residential and urban housing projects. With a systematic platform in place, they wanted to ensure uniformity in the flow of their construction work. Their modern projects, such as Midtown, Altia, Infinity, Elite, Heights, Plotting, the Head Office, and Facility Management Projects, consist of an average of 7 to 8 majestic towers each.



## The Planning

VisiLean, as a single source of truth, links the master plan with the production level plan for the teams on the ground. Further, this integration of data takes place on a live platform. Their teams found VisiLean easier to plan and control production on site instead of consolidating and verifying data from multiple MSP® and Excel® files. The collaborative planning window in VisiLean is used to visualise the flow of work across locations, as well as effectively map and monitor constraints.



## The Execution

With a simple-to-use Mobile App, VisiLean LiveSite gives the power and flexibility to the teams on the ground. Task status and quantities are updated in real-time from site. The engineers and suppliers can also attach images for validating task completion or raising an issue, and more at the same time.



## Quality and Safety Management

As a part of their integrated project management system, VisiLean's auto-triggered checklists are being used to integrate quality and safety approvals within the execution workflows. These checklists are also utilised for facility management for timely maintenance, upkeeping of assets and equipment in the building.



## Design Management

Design management workflows were also tracked through the platform. External architects and consultants were granted controlled access, allowing them to update the availability and status of design documents required for site execution.



## The Monitoring & Control

VisiLean enabled them to tailor the dashboards for creating cost reports using custom fields. These comprehensive reports demonstrated the live status of planned vs actual costs to understand the current status of the budget against the scope. Such transparency is useful in tracking the budget expenditure to make informed decisions based on the progress of work. Further, other dashboards have been personalised for tracking delays and their reasons. Here, individual attention is given to tracking delayed activities based on project, location, responsible owner, and trade to enlist and understand performance and productivity challenges. This clear visibility of data is useful in taking timely steps for its resolution.



## Integration of BOQ (Bill of Quantities)

Managing the costs against the BOQ items became very swift for them on the VisiLean platform. While importing the MSP® plan, user-defined fields hosting the quantity, item, and rate data were automatically extracted on VisiLean. Instead of re-entering the data, they'd simply classify the details underneath the quantities and customised field of cost tab for monitoring the progress and budget of the entire project.



## Legalities & Government Approvals

They successfully extended the use of VisiLean to effectively track all legal proceedings pertaining to dispute resolution, payroll management and other regulations, all under the same roof. An auto-triggered checklist helps as a reminder on sanctioned date for these legal compliances. This saves them from filling static spreadsheets in isolation. VisiLean has been instrumental in helping them manage all the government compliances such as OC, RERA, and others in a single place. With approvals duly addressed, it prevents any penalties being levied on the projects and ensures work does not come to halt on any of their sites.

## What benefits did the firm obtain through VisiLean?

**1** Unified portfolio management of all their projects.

**2** Unique section for constraints management, improving trade coordination.

**3** Customised dashboards on VisiLean for in-depth analysis of all projects.

**4** Auto-generated Daily Progress Reports (DPR) reducing manual work & time spend.

**5** Real-time task updates on their integrated schedule directly from the site.

**6** A standout deployment of VisiLean for resource management, FM, design management, legal compliances, BoQ, QSM, and counting.

**7** Collaboration among all stakeholders on a single integrated platform.



## How has VisiLean achieved this?

VisiLean's Support team conducted individual training sessions for their stakeholders and the onsite workforce to help them gauge the usage of the tool as per their work profile. These multiple sessions entailed a detailed understanding of the web-based platform and the VisiLean LiveSite app, for onboarding 6 projects at once on the platform. As the projects matured over the platform, VisiLean's support was constantly available to them for resolving any raised queries on priority. This has led to proven success across their impressive portfolio of 12 projects in a quick span of two months. Evidence of this achievement is shown in the widespread usage of the system, with almost 150+ VisiLean LiveSite users documenting real-time project progress from site. Over 1000+ checklists have been meticulously digitalised on VisiLean to eliminate the use of paper reels

### OUTCOMES DELIVERED

**150+**

LiveSite users  
real-time progress  
from site

**1k+**

Checklists  
digitalised

**12**

Projects  
onboard in  
2 months

**6**

Projects  
onboarded  
at launch

# 80%

Time saved on project management processes; proven across 12 projects in under 2 months with



**VISILEAN**  
Construction, simplified

## OLD PROCESS



Overall time spent was 15 - 18 hrs/week



Planner spent 2 hrs/week to update the plan



Construction Manager spent 2-3 hrs/week to register hindrances



7-10 hours for manual report creation

## PROVEN RESULTS

## NEW PROCESS



Overall time spent was 1-3 hrs/week



Live updates 24x7 from site with LiveSite app



Dedicated task-based constraints log to document site hindrances in real-time



Auto generated reports through **VisiLean**

# Emerging Technologies

Shaping the Future of Construction

While Lean construction methods provide the foundation for reliable delivery, technology is the accelerator that can redefine how projects are conceived, planned, and executed. Several innovations are already transforming global construction practices and hold immense potential for India's real estate sector:

## 01

### Digital Twins for Real-Time Asset Intelligence

Digital Twins extend BIM into operations by creating a dynamic, real-time replica of the physical asset. These models integrate live data from IoT sensors, project schedules, and operational systems, enabling predictive maintenance, energy optimisation, and post-handover facility management. For developers, Digital Twins bridge construction with long-term asset performance, unlocking new lifecycle value.



## 02

### Advanced BIM Integrated with Lean Workflows

BIM adoption in India is still design-centric, but the real breakthrough comes when BIM is integrated with Lean production control. Research by Dr. Bhargav Dave demonstrates that connecting tasks, constraints, and progress updates directly to BIM models transforms them into live production dashboards. This integration reduces decision latency, improves transparency, and makes flow reliability visible across trades.



# 03

## Internet of Things (IoT) and Smart Sensors

IoT-enabled devices allow construction teams to capture real-time field conditions, from tracking equipment utilisation and monitoring material deliveries to measuring concrete curing or worker safety compliance. When connected with project management platforms, IoT data ensures decisions are grounded in live site realities rather than lagging reports.



# 04

## Artificial Intelligence and Predictive Analytics

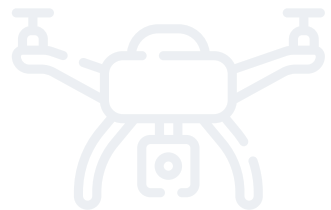
AI-driven analytics can identify emerging risks, forecast schedule slippages, and optimise resource allocation. By learning from historical project data and real-time progress updates, AI enables proactive interventions that reduce delays and prevent cost overruns. Predictive analytics particularly strengthens compliance with regulations such as RERA by ensuring early visibility into potential risks.



# 05

## Robotics, Drones, and Automation

Drones are increasingly used for site surveys, progress monitoring, and safety inspections, providing high-frequency visual data at low cost. Robotics are gradually making repetitive construction tasks faster and safer. Combined with Lean workflows, these tools contribute directly to waste reduction and productivity gains.



# Conclusion

## Seizing the Success with Smarter Execution

India's real estate sector stands at a decisive crossroads, fuelled by robust urbanisation, rising incomes, and record-breaking investments. While the opportunity is immense, the path forward demands more than just capital or scale. It demands agility, precision, and innovation in execution.

From luxury housing in metro cities to emerging opportunities in Tier-2 towns, from office space expansions to integrated retail ecosystems, developers are under growing pressure to build faster, better, and more sustainably. The biggest challenge? Persistent inefficiencies and stagnant construction productivity quietly erode margins.

As this report has shown, technology adoption is no longer optional—it's a strategic imperative. Forward-looking players embrace platforms that enable leaner, more predictable, and collaborative construction. Those who don't risk falling behind in a hyper-competitive market.