ICRA ANALYTICS LTD

EPC Industry in India

Krishna Buildspace Limited

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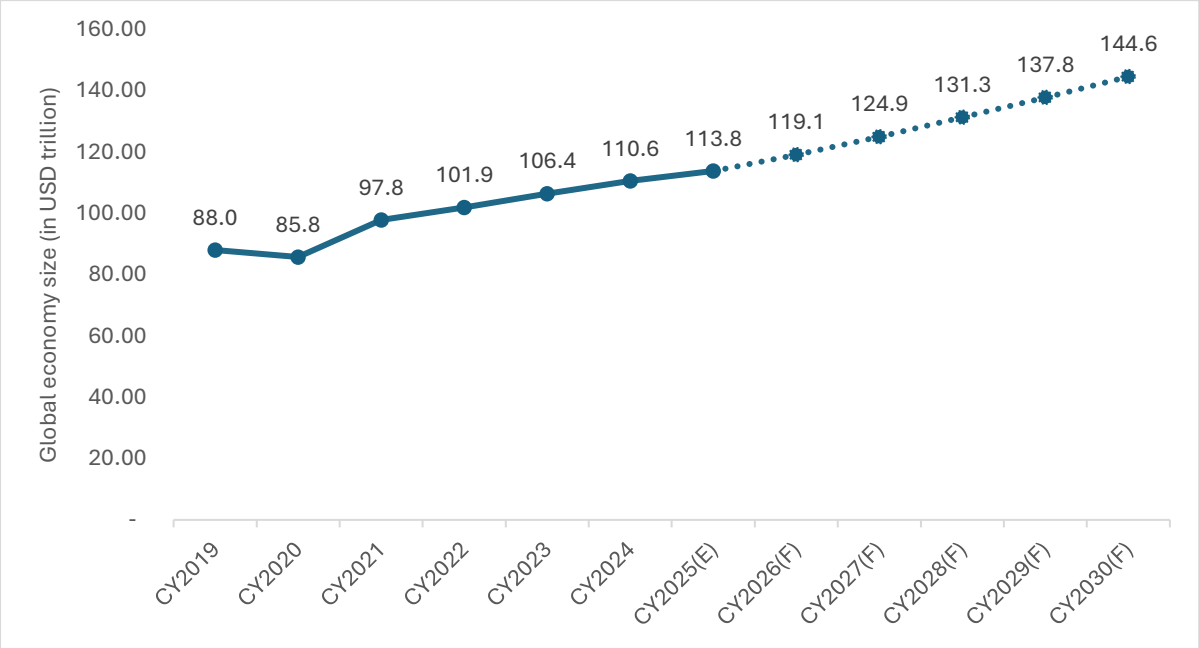
Contents

1. Global macroeconomic overview

According to the International Monetary Fund (IMF), the global economy is expected to reach a nominal value of USD 113.8 trillion

in CY2025, and further expand to USD 144.6 trillion by CY2030, reflecting a CAGR of approximately 5%. Despite facing multiple global headwinds, economic activity has shown remarkable resilience. This growth is being driven by factors such as rising employment, stable income levels, favorable shifts in demand-supply dynamics, and the strategic deployment of savings accumulated during the COVID-19 pandemic. Robust household consumption continues to support sustained expansion across major economies. Key sectors including healthcare, technology, logistics, and services have significantly contributed to job creation and wage growth. With inflation nearing target levels in several advanced economies, central banks are beginning to shift toward a more accommodative stance, indicating a potential move toward monetary policy easing.

Chart 1: Global economy growth and prediction till CY2030 (in USD trillion)



Source: IMF (WEO April 2025), ICRA Analytics
Note: F-Forecasted; data from CY2026-2030 are forecasted

The global economy is currently navigating a complex landscape shaped by multiple interconnected challenges, including geopolitical tensions, rising interest rates, elevated debt-to-GDP ratios and constraints on both monetary and fiscal policies, all of which are influencing global GDP growth. Key factors include:

- **Inflationary Pressures**: Global headline inflation is projected to decline to 4.3% in CY2025, continuing its downward trajectory from 5.8% in CY2024 and 6.7% in CY2023. Advanced economies are expected to reach their inflation targets of around 2% more swiftly, while emerging markets are likely to see relatively higher inflation, averaging 5.5%. This disinflation is primarily driven by the easing of earlier energy price shocks, reduced labour market tightness, and improvements in global supply chains. However, risks such as renewed commodity price surges, increased financial market volatility, and

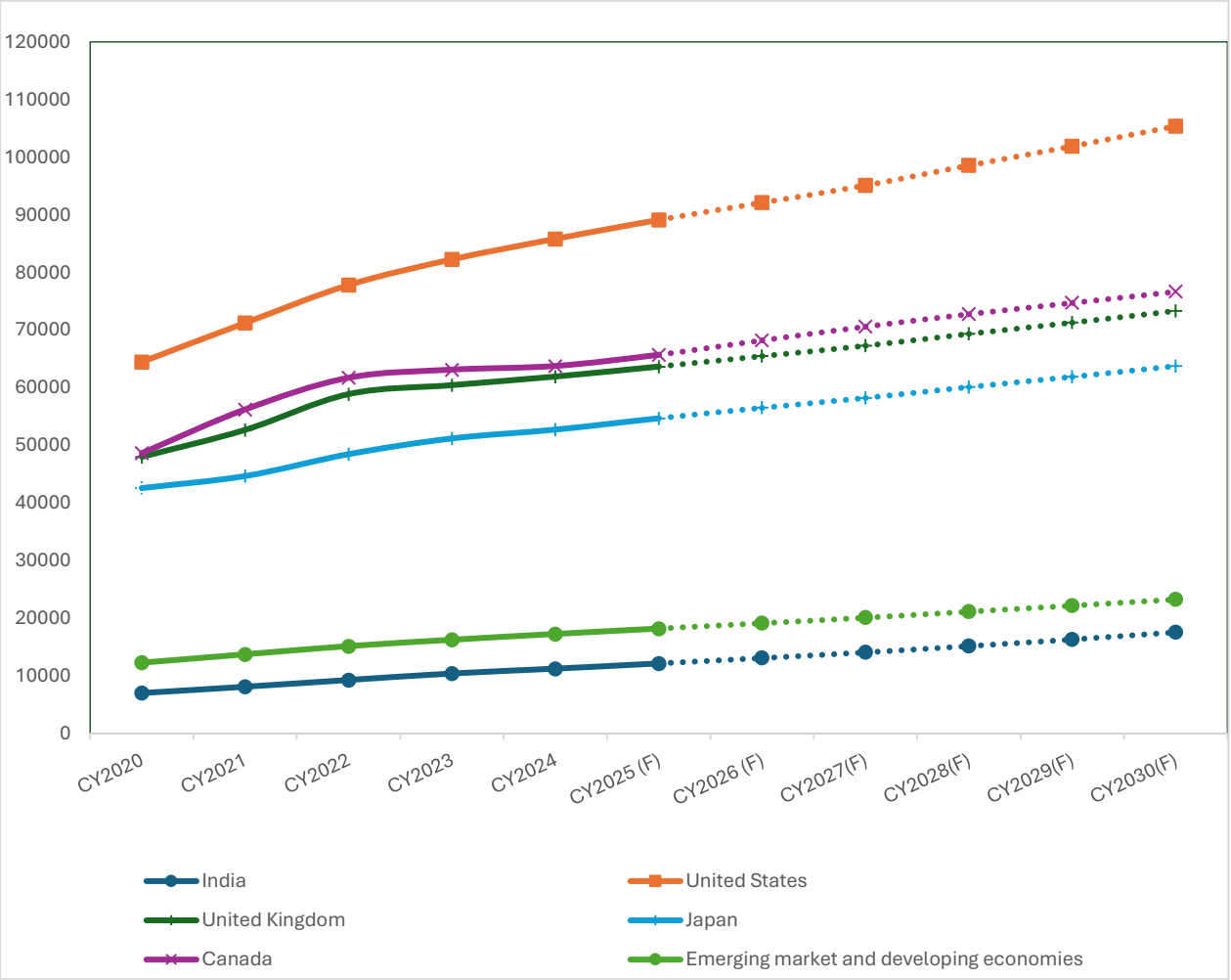
escalating geopolitical tensions—particularly in the Middle East, Ukraine, and the Taiwan Strait—could disrupt this progress.

- **Monetary and Fiscal Policies**: Following a period of aggressive tightening from 2022 to 2024, most central banks have begun easing their monetary policies. A return to a neutral monetary stance is anticipated by the end of 2025. On the fiscal side, while some economies are cautiously increasing support to stimulate growth, their capacity remains constrained by high debt levels. The key challenge is balancing short-term stimulus with long-term fiscal sustainability, including rebuilding fiscal buffers.
- **Financial Market Volatility**: In CY2025, financial markets have witnessed increased volatility, especially during the first half of the year. This instability has been largely fueled by aggressive tariff measures most notably by the United States and ongoing geopolitical tensions.
- **Geopolitical Crises**: Rising social unrest, driven by high inflation, increased taxation, and declining purchasing power, along with spillovers from ongoing conflicts and widening inequality, pose risks to economic growth. These factors may also impede the implementation of structural reforms across various economies.
- **Commodity Price Increases**: Climate-related disruptions, regional conflicts, and intensifying geopolitical tensions are contributing to rising commodity prices. These pressures are affecting global supply chains and leading to sustained increases in the costs of essential goods such as food, energy, and raw materials, threatening economic stability and complicating inflation management.
- **China's Property Sector**: A deeper-than-expected downturn in China's property market could lead to financial instability, weaken consumer confidence, and reduce household consumption. Given China's pivotal role in global trade, such a decline could have significant spillover effects on international markets. Efforts by the Chinese government to boost domestic demand may strain public finances, and targeted subsidies—particularly those aimed at supporting exports—risk escalating trade tensions with key trading partners.

As per the IMF's World Economic Outlook (April 2025 edition), global economic growth is projected to slow down from an estimated 3.3% in CY2024 to 2.8% in CY2025, before experiencing a modest recovery to 3.0% in CY2026. This rebound is expected as inflation continues to ease, real incomes improve, and financial conditions gradually stabilize. However, these projections are lower than those published in the January 2025 update, with downward revisions of 0.5% for CY2025 and 0.3% for CY2026. The revised outlook affects nearly all economies and is primarily attributed to the direct impact of recent trade policies, along with their indirect effects through global trade linkages, heightened uncertainty, and weakened economic sentiment.

1.1 Global Economies and Growth Trend:

Chart 2: GDP per capita, current prices (Purchasing power parity; international dollars per capita) of India and other countries



Source: IMF, ICRA Analytics
Note: F-Forecasted; data from CY2025-2030 are forecasted, emerging market and developing economies includes India, China, Saudia Arabia, Mexico, Vietnam and other developing economies.

Chart 3: Real GDP growth rate (annual % change) of India and other economies

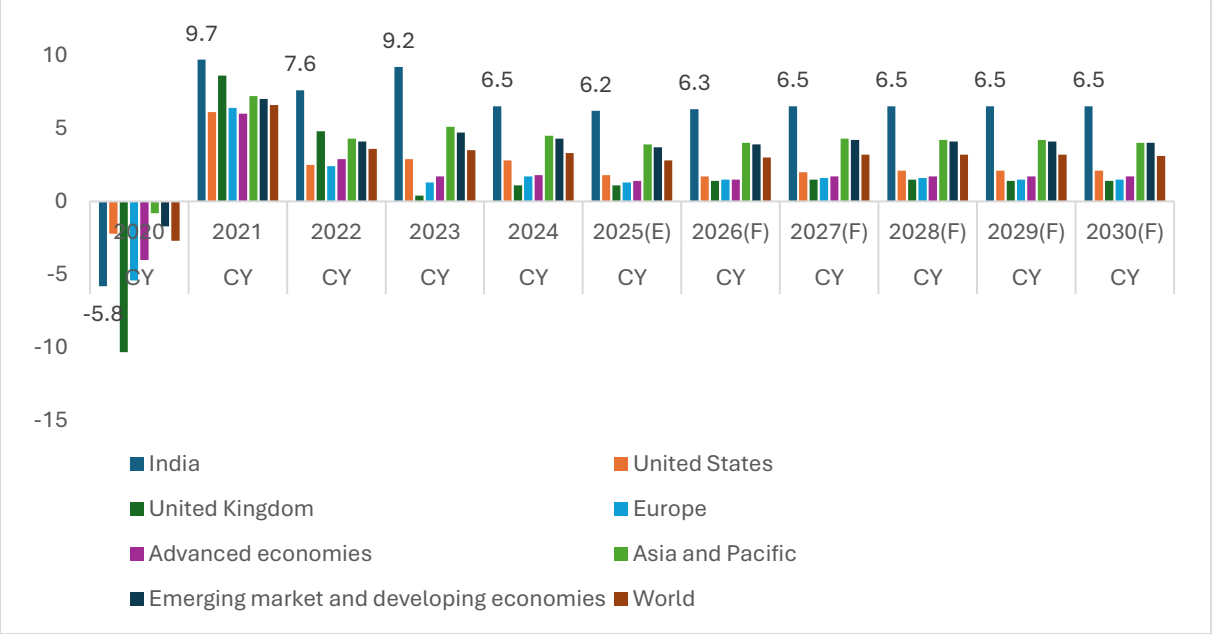


Table 1: Region-wise and country-wise economic review and outlook (Real GDP, Y-o-Y % change)

Real GDP growth (Annual % change)	CY 2020	CY 2021	CY 2022	CY 2023	CY 2024	CY 2025(E)	CY 2026(F)	CY 2027(F)	CY 2028(F)	CY 2029(F)	CY 2030(F)
India	(5.8)	9.7	7.6	9.2	6.5	6.2	6.3	6.5	6.5	6.5	6.5
Advanced economies	(4.0)	6.0	2.9	1.7	1.8	1.4	1.5	1.7	1.7	1.7	1.7
United States	(2.2)	6.1	2.5	2.9	2.8	1.8	1.7	2.0	2.1	2.1	2.1
Europe	(6.0)	6.3	3.5	0.4	0.9	0.8	1.2	1.3	1.3	1.2	1.1
United Kingdom	(10.3)	8.6	4.8	0.4	1.1	1.1	1.4	1.5	1.5	1.4	1.4
Japan	(4.2)	2.7	0.9	1.5	0.1	0.6	0.6	0.6	0.6	0.5	0.5
Canada	(5.0)	6.0	4.2	1.5	1.5	1.4	1.6	1.7	1.6	1.6	1.5
Emerging market and developing economies	(1.8)	7.0	4.1	4.7	4.3	3.7	3.9	4.2	4.1	4.1	4.0
China	2.3	8.6	3.1	5.4	5.0	4.0	4.0	4.2	4.1	3.7	3.4
World	(2.7)	6.6	3.6	3.5	3.3	2.8	3.0	3.2	3.2	3.2	3.1

Source: IMF, ICRA Analytics
Note: E-Estimated for CY2025, F- Forecasted; data from CY2026-2030 are forecasted, Advanced Economies includes United States, Germany, France, Japan, United Kingdoms, Canada and other developed countries. Emerging market and developing economies includes India, China, Saudia Arabia, Mexico, Vietnam and other developing economies.

In 2025, global economic growth is being driven by strong domestic demand, resilient labour markets, and sectoral expansion across major economies. India's growth is fuelled by infrastructure development and rising consumer spending, while the United States benefits from technological advancements and a more accommodative monetary policy stance. The United Kingdom is undergoing a modest recovery, supported by trade activity and capital investments.

Emerging markets are gaining momentum through commodity exports, improved supply chain efficiencies, and prudent fiscal management, although they continue to grapple with structural and geopolitical challenges.

Global real GDP growth stood at 3.3% in CY2024, and is projected to slow to 2.8% in CY2025, followed by a slight recovery to 3.0% in CY2026. The sharp rise in trade tensions and persistently high levels of policy uncertainty are expected to significantly impact global economic activity. From CY2027 to CY2030, growth is forecasted to stabilize at around 3.1%, primarily supported by monetary policy easing and robust private consumption.

1.2 Outlook on key advanced economies

In CY2024, advanced economies recorded a real GDP growth rate of 1.8%, which is expected to slow to 1.4% in CY2025, then gradually rise to 1.5% in CY2026, and reach approximately 1.7% by CY2030, indicating a stable growth path. The United States posted a growth rate of 2.8% in CY2024, projected to decline to 1.8% in CY2025 due to policy uncertainty, trade tensions, and subdued demand. Growth is expected to ease slightly to 1.7% in CY2026, rebound to 2.0% in CY2027, and stabilize around 2.1% through CY2030.

In Europe, the region recovered from a low growth rate of 0.4% in CY2023 to 0.9% in CY2024, with a slight dip to 0.8% expected in CY2025, followed by an improvement to 1.2% in CY2026. Within the Eurozone, France grew by 1.1% in CY2024, with a projected slowdown to 0.6% in CY2025. Italy recorded 0.7% growth in CY2024, expected to ease to 0.4% in CY2025. Spain saw a strong expansion of 3.2% in CY2024, anticipated to moderate to 2.5% in CY2025. Meanwhile, Germany experienced a contraction of -0.2% in CY2024, with growth expected to remain flat in CY2025.

Compared to other advanced economies, the United Kingdom posted a growth rate of 0.4% in CY2023, which improved to 1.1% in CY2024. This growth is expected to be sustained at 1.1% in CY2025, with long-term projections indicating an increase to approximately 1.4% by CY2030.

1.3 Outlook on key emerging and developing economies

In CY2024, emerging and developing economies registered a real GDP growth rate of 4.3%, which is projected to decline to 3.7% in CY2025, followed by a slight recovery to 3.9% in CY2026. This slowdown is largely attributed to recent trade policies and tariff pressures that have weakened export competitiveness in several Asian countries. While domestic demand continues to offer some support, export-driven growth models, particularly in ASEAN nations closely integrated with global supply chains, are facing significant challenges. As a result, overall growth in emerging and developing Asia is expected to fall from approximately 5.3% in CY2024 to 4.5% in CY2025.

China's GDP growth stood at 5.0% in CY2024 but is forecasted to decline to 4.0% in both CY2025 and CY2026, despite ongoing policy support. The economy continues to be weighed down by a prolonged property market downturn, demographic headwinds, and renewed trade tensions, including U.S. tariffs.

India remains the fastest-growing major economy globally, with real GDP growth rising from around 7.6% in CY2022 to approximately 9.2% in CY2023. However, growth moderated to 6.5% in CY2024 as the post-pandemic surge in demand tapered off and the economy aligned with its underlying potential. According to the IMF, India is projected to grow by 6.2% in CY2025 and 6.3% in CY2026, supported by private consumption, especially in rural areas, and strong investment momentum. This projection is 0.3% lower due to elevated trade tensions and global uncertainty.

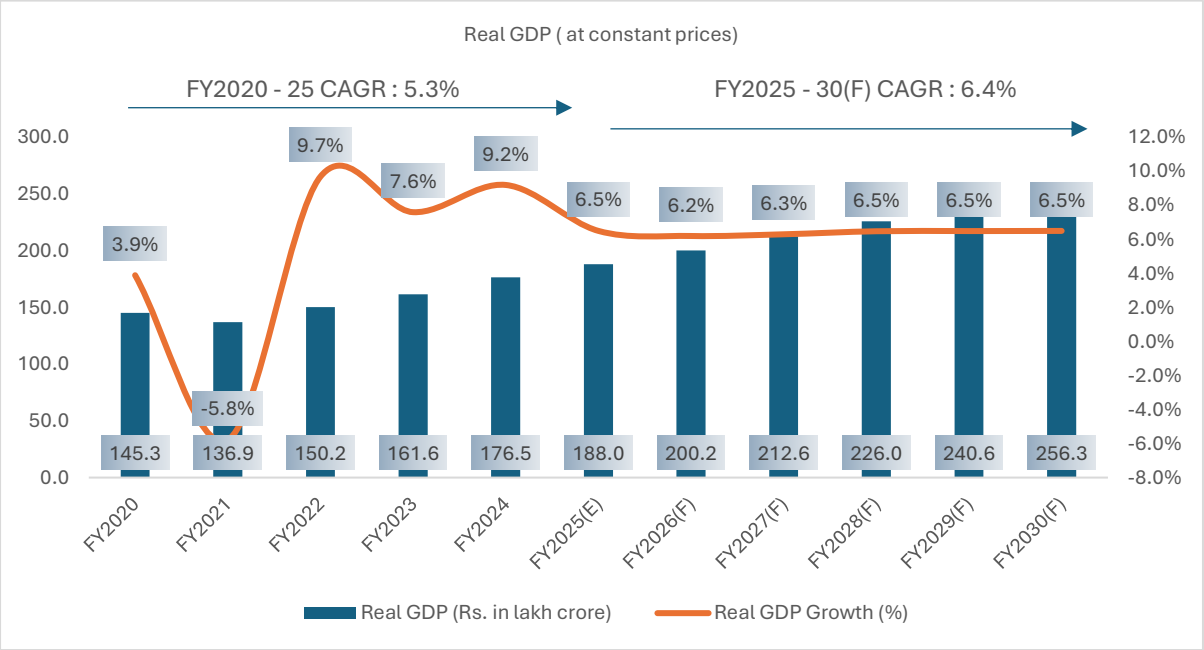
Growth is expected to remain stable, with forecasts indicating continued expansion of approximately 6.5% through CY2030, underpinned by structural reforms, infrastructure development, and demographic advantages.

2. Domestic Economic overview

2.1 Review and trend of India's historical GDP growth and outlook for FY2026

India's real Gross Domestic Product (GDP) for FY2025 is projected to grow by 6.5%, according to the Provisional Estimates (PE) released in May 2025 by the National Statistical Office (NSO) under the Ministry of Statistics and Programme Implementation (MoSPI). This reflects a slight upward revision from the earlier estimate of 6.4% published in January 2025. The GDP is now expected to reach INR 188 trillion. In comparison, India recorded a real GDP growth of 9.2% in FY2024, up from 7.6% in FY2023, marking the third consecutive year of growth exceeding 7.0%. This strong performance was primarily driven by robust domestic demand, a favorable demographic profile, and ongoing economic reforms. India's growing role in global trade, investment, and innovation, along with the government's focus on infrastructure and economic development, further supported this upward trajectory. Looking ahead, the International Monetary Fund (IMF) projects India to remain the fastest-growing major economy, with an expected annual growth rate of 6.5% from FY2028 to FY2031.

Chart 4: Historical trend and projection of Real GDP of India (INR lakh crore)- Base year (2011-12)



Source: RBI, IMF, ICRA Analytics
Note: F-Forecasted; E- Estimated
Data from FY2026-2031F are forecasted from IMF
FY2025(E) is the provisional Estimates released by the National Statistical Office (NSO)

The Reserve Bank of India (RBI) has maintained its real GDP growth projection at 6.5% for FY2026, aligning with the estimate for FY2025, and reaffirming India's position as the fastest-growing major economy globally. This follows a strong 9.2% expansion in FY2024.

For Q1 of FY2026, real GDP is estimated to grow by 7.8%, exceeding the earlier projection of 6.5%. The quarterly growth estimates for the remainder of the fiscal year are 6.7% in Q2, 6.6% in Q3, and 6.3% in Q4. These figures represent a 20-bps downward revision from the February forecast, primarily due to rising global volatility.

The agriculture sector continues to perform well, supported by adequate reservoir levels and strong crop yields, which are expected to boost rural demand. The manufacturing sector is

showing early signs of recovery, driven by improved business sentiment, while the services sector remains resilient.

On the investment front, momentum is building due to higher capacity utilization, sustained government infrastructure initiatives, and healthy balance sheets of banks and corporates. Easing financial conditions have further supported this recovery. While services exports are expected to remain stable, merchandise exports may face headwinds due to global uncertainties and trade disruptions.

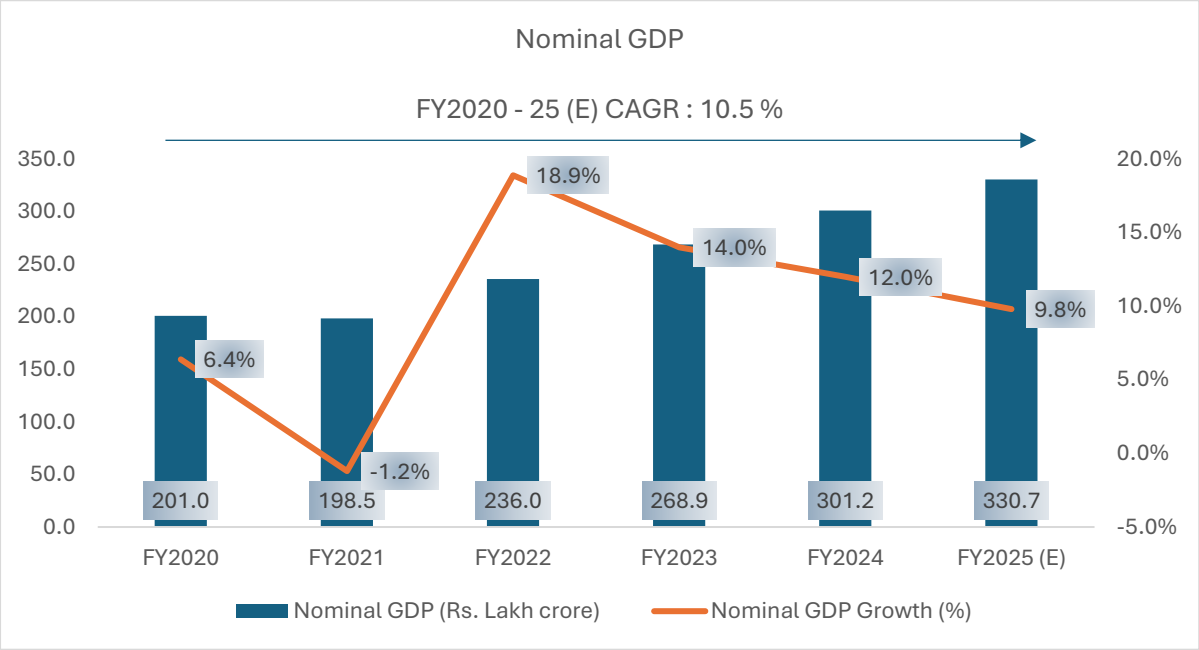
Looking ahead, the RBI forecasts real GDP growth of 6.7% for FY2027, indicating a continuation of the recovery trend.

Table 2: Real GDP growth forecasted by Reserve Bank of India

Real GDP Growth (at constant 2011-12 prices)	FY2025				FY2025(E)	FY2026 (F)				FY2026 (F)	FY2027 (F)
Quarters	Q1	Q2	Q3	Q4	(E)	Q1 (E)	Q2 (F)	Q3 (F)	Q4 (F)	(F)	(F)
GDP at market prices (in %)	6.7	5.6	6.2	7.4	6.5*	7.8*	6.7	6.6	6.3	6.5	6.7

F- Forecasted; E- Estimated
Source: RBI, ICRA Analytics

Chart 5: Historical trend of Nominal GDP of India (INR lakh crore)



Source: RBI, ICRA Analytics
Note: E- Estimated
FY2025(E) is the provisional Estimates released by the National Statistical Office (NSO)

India's nominal GDP has demonstrated consistent growth from FY2020 to FY2025(E), rebounding strongly after the initial pandemic-induced contraction. Starting at Rs 201.0 lakh crore in FY2020, it is projected to reach Rs 330.7 lakh crore by 2025, reflecting a robust compound annual growth rate (CAGR) of 10.5% over the five-year period. The estimated 9.8% year-on-year increase in FY2025 further underscores the country's expanding economic base and rising income levels.

2.2 Review and trend of India's historical gross fiscal deficit (as a % of GDP) and outlook for FY2026

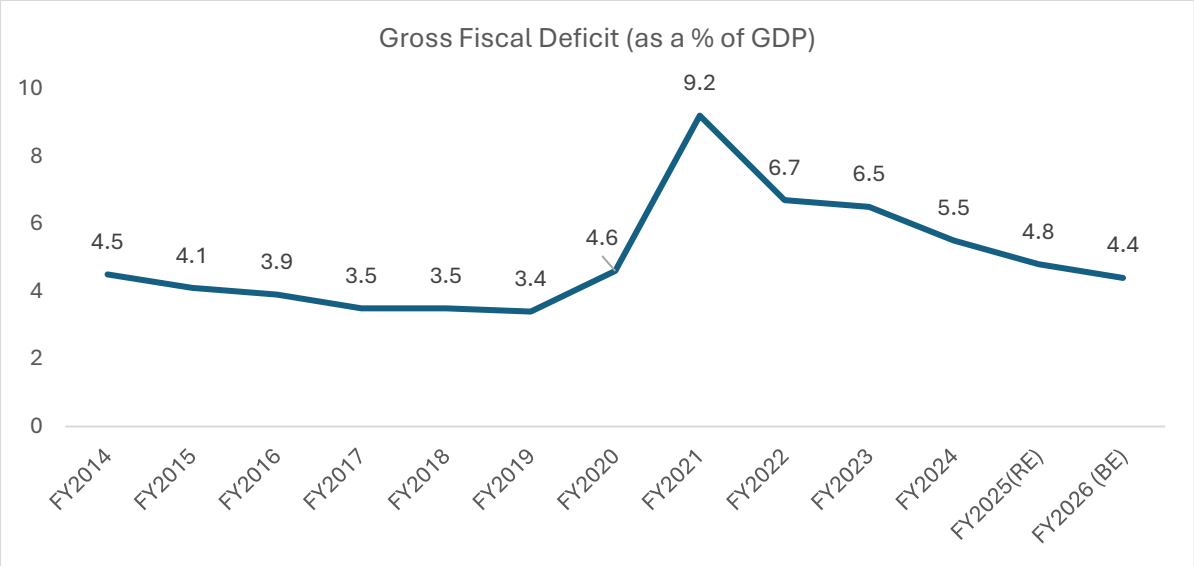
India's gross fiscal deficit (as a % of GDP) has shown notable variation over the past decade. Based on data from the Reserve Bank of India's Handbook of Statistics, the deficit remained below 4.5% during the period from FY2014 to FY2019, indicating a phase of fiscal consolidation.

In FY2020, the fiscal deficit increased to 4.6%, followed by a sharp rise to 9.4% in FY2021, primarily due to increased government expenditure and reduced revenue collections during the COVID-19 pandemic. This represented the highest fiscal deficit recorded in recent years.

Subsequent years saw a gradual reduction in the deficit. It declined to 6.5% in FY2023, and further to 5.5% in FY2024. The budget estimate for FY2025 places the deficit at 4.8%, with projections for FY2026 indicating a continued decline to 4.4%.

These figures reflect the fiscal trajectory of the central government in response to economic conditions and policy measures over the period.

Chart 6: Gross Fiscal Deficit (as a % of GDP)



Source: RBI, ICRA Analytics

2.3 Gross Value Added-Sector wise growth trend

Chart 9: Gross Value Added at Constant Basic Prices: By Economic Activity: Base Year 2011-12 (in Rs lakh crore)

	FY2015	FY2016	FY2017	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023	FY2024	FY2025
Services	59.2	64.3	69.5	73.8	79.1	83.6	77.0	85.2	93.8	102.5	110.1
Construction	8.4	8.7	9.2	9.6	10.3	10.4	10.0	11.9	13.0	14.4	15.7
Electricity, Gas, Water Supply & Other Utility Services	2.1	2.2	2.5	2.7	2.9	3.0	2.9	3.2	3.5	3.8	4.1
Manufacturing	16.8	19.0	20.5	22.1	23.3	22.6	23.3	25.6	25.2	28.3	29.5
Mining & Quarrying	2.9	3.2	3.5	3.3	3.3	3.2	2.9	3.1	3.2	3.3	3.4
Industry	21.9	24.5	26.5	28.1	29.5	28.8	29.1	31.9	31.9	35.4	37.0
Agriculture, Forestry and Fishing	16.1	16.2	17.3	18.4	18.8	19.9	20.7	21.7	23.1	23.7	24.8

Source: RBI, ICRA Analytics

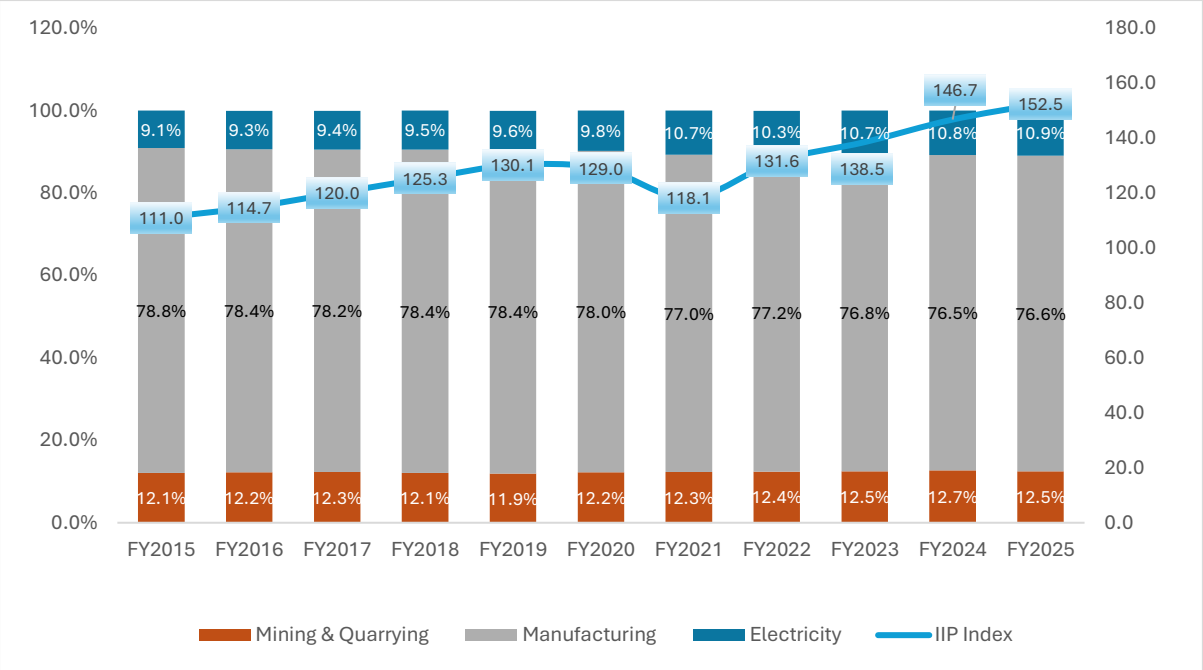
In FY2025, the industry sector recorded a Gross Value Added (GVA) of Rs 37.0 lakh crore, accounting for approximately 21.5% of India's total GVA of Rs 171.9 lakh crore. The services sector contributed the largest share, with a GVA of Rs 110.1 lakh crore, representing around 64.0% of the total. The agriculture, forestry, and fishing sector contributed Rs 24.8 lakh crore or roughly 14.4% of the total GVA.

From FY2024 to FY2025, the agriculture sector grew by approximately 4.6%, while the industry and services sectors grew by 4.5% and 7.5%, respectively. Over the ten-year period from FY2015 to FY2025, the industry sector registered a CAGR of 5.4%. This growth was primarily driven by the manufacturing sector and the electricity, gas, water supply, and other utility services sector, which posted CAGR growth rates of 5.8% and 6.6%, respectively.

The manufacturing sector alone contributed around 17.2% to India's total GVA in FY2025. Its year-on-year growth from FY2024 to FY2025 was approximately 4.5%. The sector has shown notable expansion in recent years, supported by India's emergence as a competitive global manufacturing hub and increased investment inflows into the sector.

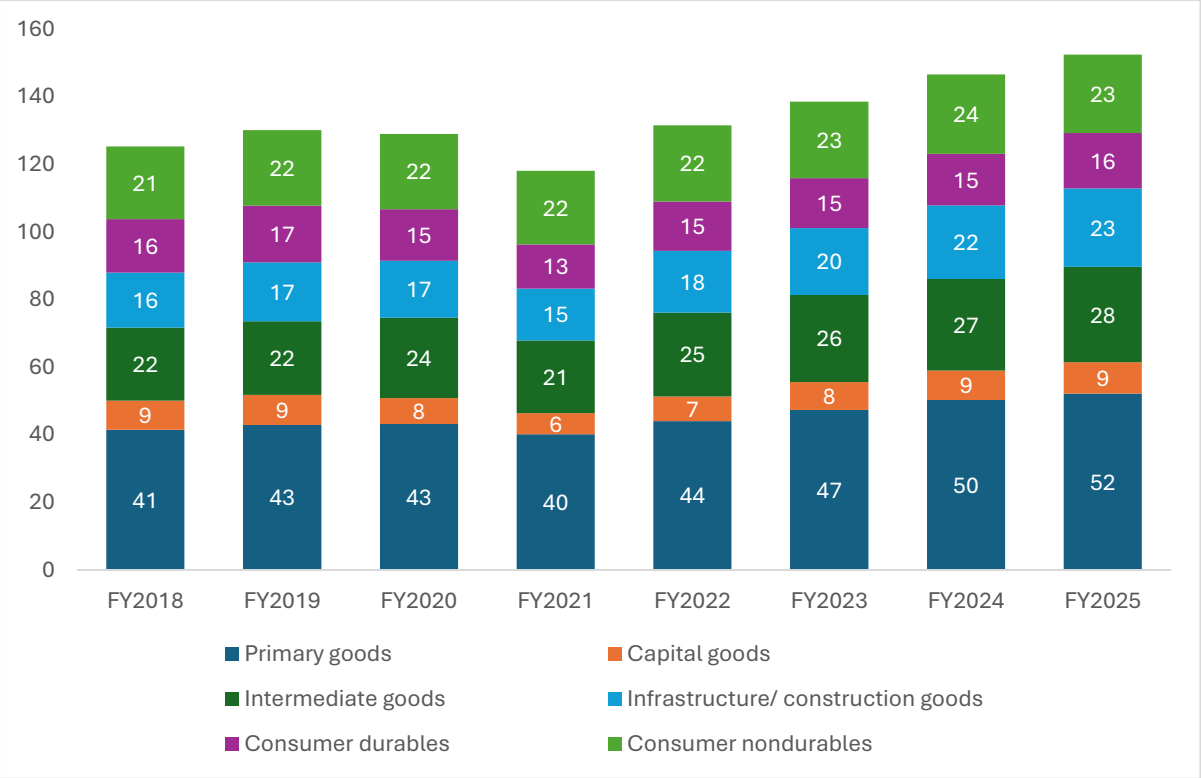
2.4 Review of IIP in India

Chart 10: Movement in Index of Industrial Production and its Components



Source: RBI, ICRA Analytics

Chart 11: Index of Industrial Production - Use-Based Classification of End user industry



Source: RBI, ICRA Analytics

In FY2025, India's Index of Industrial Production (IIP) recorded a year-on-year growth of 4.0%, slowing from 5.9% in FY2024. This deceleration was largely attributed to weaker performance in the mining and electricity sectors, a moderation in manufacturing growth particularly in export

driven industries ongoing global trade uncertainties, reduced capital expenditure, and subdued domestic demand.

Despite the slowdown, all three core sectors continued to grow in FY2025, although at a more moderate pace compared to the previous year mining rose by 3.0% (down from 7.5%), manufacturing by 4.0% (down from 5.5%), and electricity by 5.2% (down from 7.1%).

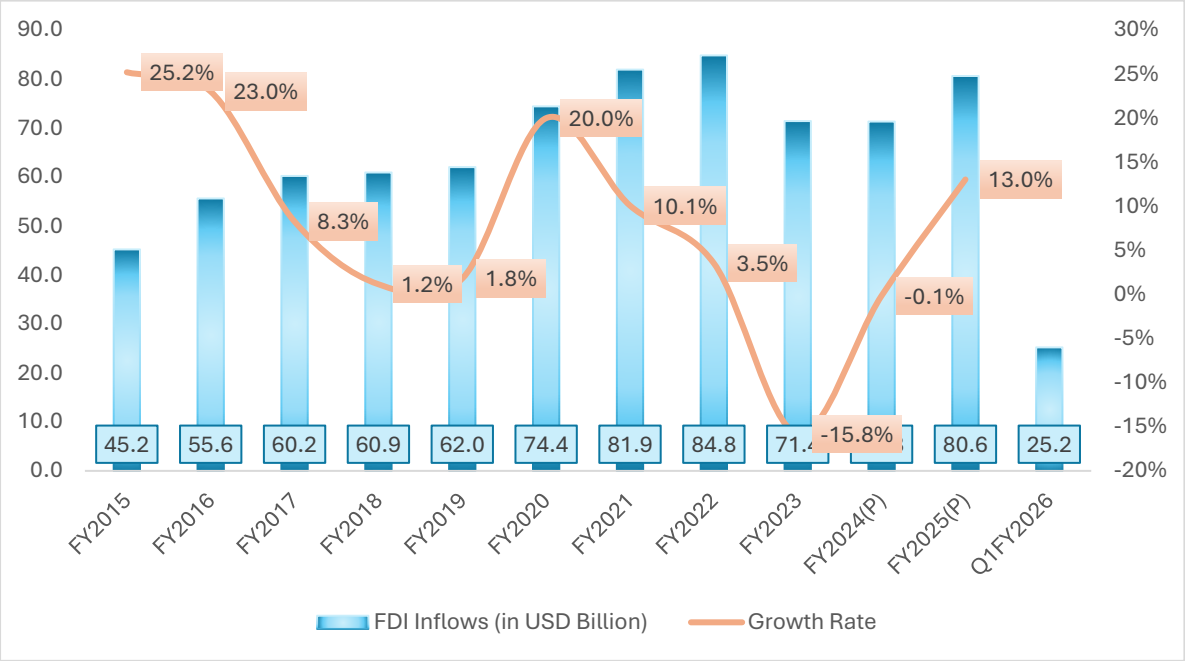
In September 2025, the IIP rebounded with a year-on-year increase of 3.1%, following a contraction in August. This recovery was mainly driven by a 4.1% rise in manufacturing output, supported by strong performance in electrical equipment, furniture, and other transport equipment. Mining and electricity also posted gains of 0.9% and 2.0%, respectively. Based on use-based classification, most categories showed improvement: consumer durables grew by 5.9%, consumer non-durables by 2.7%, and infrastructure/construction goods by 4%.

The positive momentum extended into October 2025, with the IIP registering a further year-on-year growth of 3.5%. This steady improvement underscores the resilience of India's industrial sector, despite persistent challenges in certain areas.

2.5 Growth Trend in Investment & Consumption Demand in India

2.5.1 Foreign Direct Investment (FDI) Trends and Strategic Shifts in India – FY2025

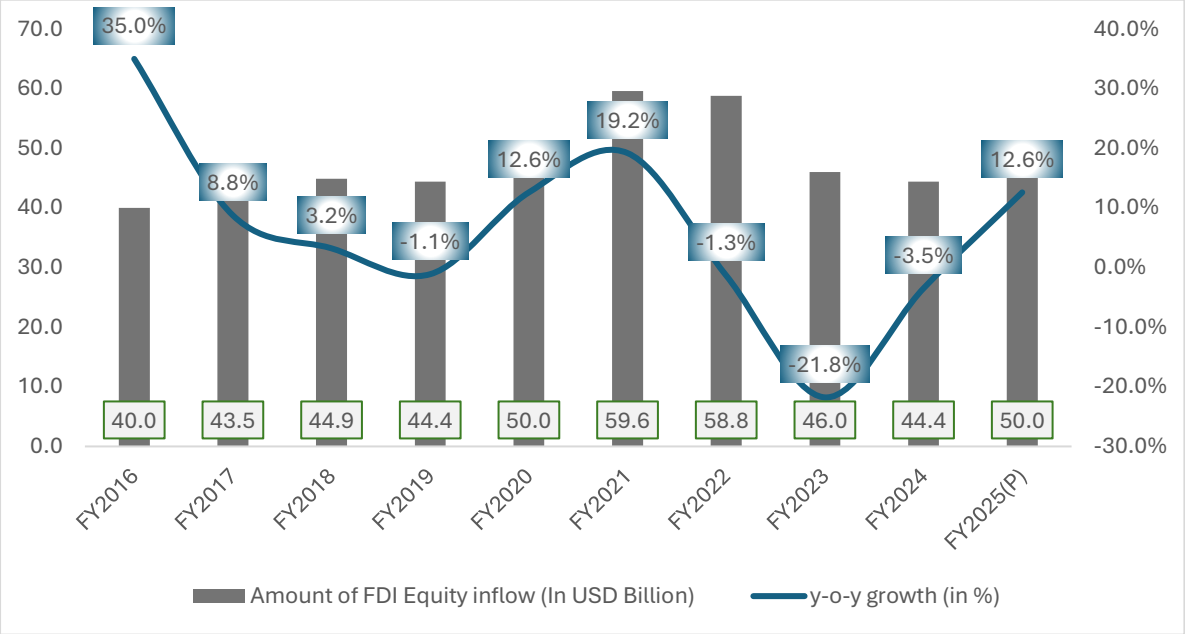
Chart 12: Amount of FDI inflow in India and y-o-y growth over the past ten years



Source: Department for Promotion of Industry and Internal Trade (DPIIT); ICRA Analytics
Note: P-Provisional data, Q1-Quarterly data for FY2026

In FY2022, India achieved a record-high Foreign Direct Investment (FDI) inflow of USD 84.8 billion, supported by proactive government measures and investor-friendly policies that boosted manufacturing and investment activity. By FY2025, FDI inflows moderated slightly to USD 81 billion, with Singapore leading as the top source, contributing USD 24.3 billion. Notably, Mauritius registered a sharp increase of 73.2%, while Japan and the Netherlands saw only marginal changes in their investment levels.

Chart 13: Amount of FDI Equity inflow in India and y-o-y growth over the past ten years



Source: DPIIT, ICRA Analytics.
Note: P-Provisional data

In FY2025, India's FDI equity inflows were recorded at USD 50.0 billion (provisional), marking a recovery from USD 44.4 billion in FY2024. This rebound occurred despite persistent global challenges, including supply chain disruptions and geopolitical tensions. The gross inward FDI registered a growth of 13.7%, while net FDI declined sharply by 96.5%, amounting to just USD 353 million. The decline in net FDI was primarily attributed to increased repatriation and outbound investments.

India's positioning as a global manufacturing hub has gained traction, supported by multinational corporations adopting diversification strategies such as 'China+1' and 'Europe+1'. These strategies aim to mitigate risks associated with geopolitical instability and supply chain vulnerabilities. The ongoing Russia-Ukraine conflict and rising tensions in the Middle East, particularly between Israel and Iran, have further reinforced the need for such diversification, with India emerging as a preferred alternative destination.

The prominence of emerging economies has increased in the aftermath of the US-China trade war, with India identified by the World Bank as a key beneficiary of the China+1 and Europe+1 strategies. Factors contributing to India's attractiveness include its large domestic market, improving infrastructure, and progressive policy reforms. These elements collectively position India as a viable global manufacturing hub over the medium term (3–5 years).

Key Drivers of FDI Growth in India

- **Production Linked Incentive (PLI) Scheme**: The PLI scheme, launched across 14 sectors with an initial outlay of Rs 1.97 lakh crore (USD 26 billion), received increased allocations in the Union Budget 2024. It has played a significant role in enhancing manufacturing output, employment generation, export performance, and overall economic growth.
- **Cost Competitiveness and Digital Infrastructure**: India offers a competitive cost structure, including low labour costs and affordable energy prices. Additionally,

advancements in digital infrastructure and balanced trade agreements have facilitated access to finance, technology, and global markets.

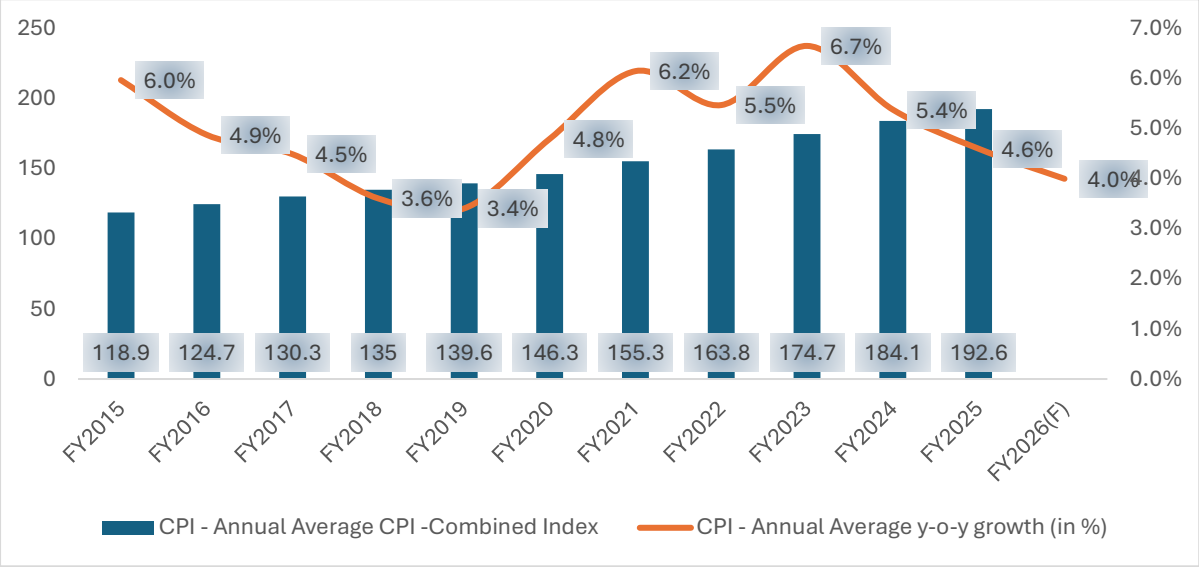
- **Infrastructure Development**: Large-scale initiatives such as Bharatmala, Sagarmala, and the Smart Cities Mission are reshaping India's logistics and urban infrastructure, thereby improving its global competitiveness.
- **Domestic Market Strength**: With private consumption accounting for 60% of GDP (compared to 40% in China), India's economy demonstrates resilience to external shocks. This robust demand base has attracted investments across sectors including electronics, automobiles, pharmaceuticals, capital goods, and defence.

These structural and policy-driven factors have collectively contributed to India's emergence as a competitive and reliable alternative manufacturing destination among emerging economies.

2.6 Inflation scenario and interest rate movement

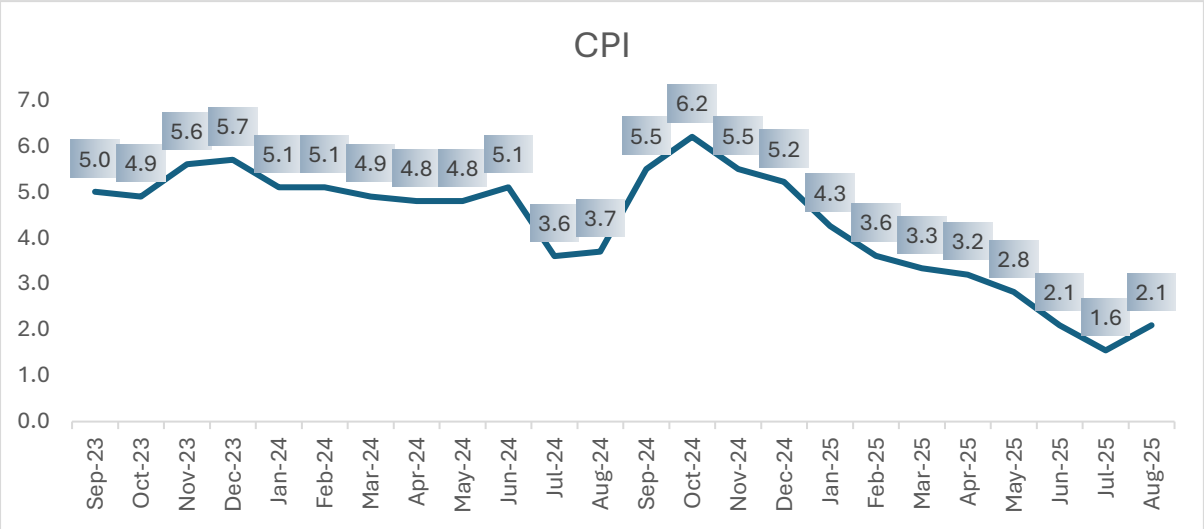
2.6.1 Review of inflation in India

Chart 7: Consumer Price Index trend over the past ten years, FY2016-FY2025



Source: RBI, MOSPI, ICRA Analytics

Chart 8: Monthly CPI trend over the past two years (in %)



Source: RBI, MOSPI, ICRA Analytics

Retail inflation in India, measured by the Consumer Price Index (CPI), which reflects the cost of everyday goods and services, has shown a consistent downward trend over the past three financial years. It declined from 6.7% in FY2023 to 5.4% in FY2024, and further to 4.6% in FY2025. This steady moderation underscores the combined effect of the Reserve Bank of India's calibrated monetary policy and the Government of India's targeted efforts to ease supply-side constraints and stabilize prices of essential commodities. The declining inflation has helped reduce cost-of-living pressures and fostered a more stable environment for economic growth.

In August 2025, In August 2025, India's year-on-year Consumer Price Index (CPI) inflation rose to 2.1 %, up from 1.6 % in July, a modest uptick of 46 basis points. This increase was largely driven by rising costs of kitchen staples such as vegetables, meat, fish, oils & fats, eggs, as well as personal care items. Despite the rise, the inflation rate remains comfortably within the Reserve Bank of India's tolerance band, leaving room for potential monetary easing later in the year if growth softens.

In July 2025, CPI inflation dropped to 1.6%, marking an eight-year low the lowest since June 2017, indicating strong economic stability. Food inflation—a key component—fell sharply to -1.76%, the lowest since January 2019. Rural areas recorded a food inflation rate of -1.74%, while urban areas saw a rate of -1.9%. This decline was driven by lower prices of pulses, vegetables, fruits, cereals, household items, sugar, confectionery, and eggs, supported by a favourable base effect.

In June 2025, CPI inflation declined to 2.1%, largely driven by a reduction in the food and beverage segment. Food inflation turned negative in June 2025 for the first time since early 2019, driven by a sharp year-on-year decline in prices across key categories. Vegetable prices fell by approximately 19%, pulses dropped by around 11.8%, and spices saw a reduction of nearly 3%. Additionally, other essential items such as meat and fish, cereals, and sugar also experienced price moderation, contributing to the overall easing of food inflation.

Government interventions have been pivotal in achieving these outcomes. Key measures include strengthening buffer stocks of essential food items and releasing them periodically into the open market, along with subsidized retail sales of staples like rice, wheat flour, pulses, and onions.

Additionally, the reduction of import duties on critical food items, enforcement of stricter stock limits to prevent hoarding, and lowering of GST rates on essentials have helped ease price pressures. Targeted subsidies—such as LPG support under the Pradhan Mantri Ujjwala Yojana and food grain assistance through the Pradhan Mantri Garib Kalyan Anna Yojana—have protected vulnerable households from rising food costs, ensuring that the benefits of reduced inflation reach those most in need.

Table 3: CPI inflation forecasted by Reserve Bank of India

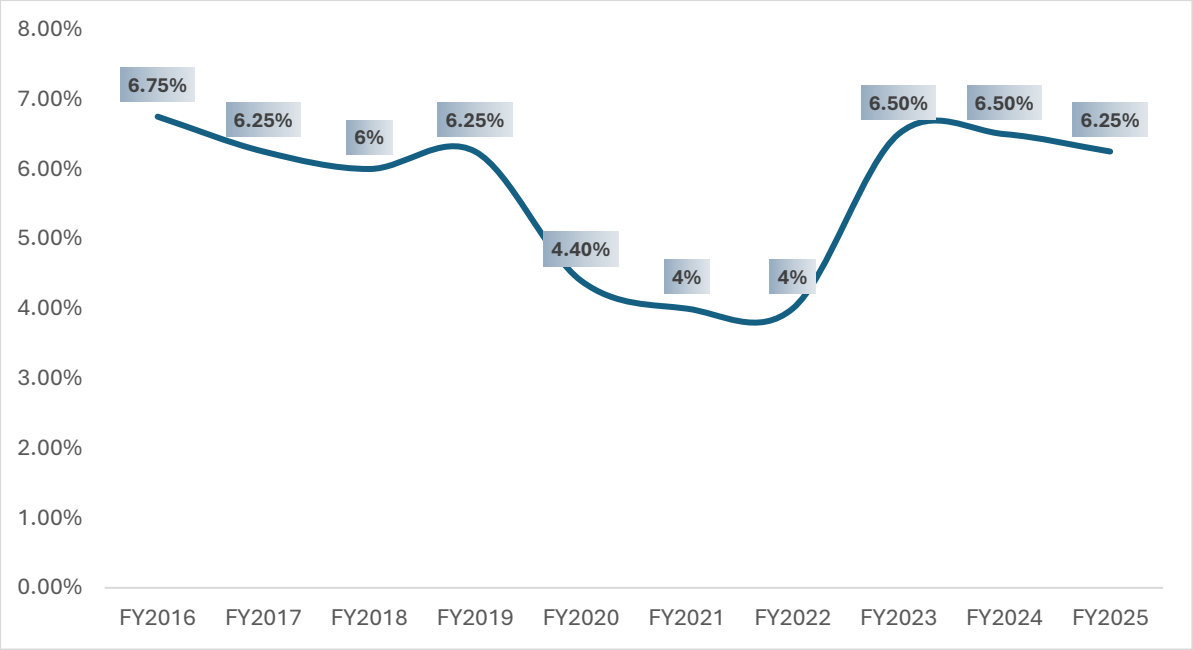
CPI Inflation	FY2026	FY2027
		Q1
% change	2.6	4.9

Source: MPC, ICRA Analytics

As of October 2025, the Reserve Bank of India (RBI) has revised its Consumer Price Index (CPI) inflation forecast for the fiscal year 2025–26 (FY2026) downward to 2.6%, from an earlier projection of 3.1%. This adjustment reflects a sustained decline in food inflation, robust agricultural output, and favorable monsoon conditions

2.6.2 Interest rate movement

Chart: Repo rate movement in India (on year, in percentage)



Source: CMIE, ICRA Analytics

Table: Recent Repo Rate Maintained by the Reserve Bank of India

Date	Repo Rate
RBI Repo Rate on 5-Dec-2025	**5.25%**
RBI Repo Rate on 1-Oct-2025	**5.50%**
RBI Repo Rate on 6-Jun-2025	**5.50%**
RBI Repo Rate on 9-Apr-2025	**6.00%**
RBI Repo Rate on 7-Feb-2025	**6.25%**
RBI Repo Rate on 6-Dec-2024	**6.50%**
RBI Repo Rate on 9-Oct-2024	**6.50%**
RBI Repo Rate on 8-Aug-2024	**6.50%**
RBI Repo Rate on 7-Jun-2024	**6.50%**
RBI Repo Rate on 5-Apr-2024	**6.50%**
RBI Repo Rate on 8-Feb-2024	**6.50%**

Source: RBI, ICRA Analytics

The Reserve Bank of India (RBI) published its Monetary Policy Report for October 2025 after the 58th meeting of the Monetary Policy Committee, which took place from December 3 to December 5, 2025. RBI has maintained the repo rate at 5.25%, adopting a neutral stance. This indicates a balanced strategy that fosters economic growth while safeguarding financial stability. Additionally, the report emphasizes strong domestic demand, favourable financial conditions, and a stable external sector, which together portray a cautiously optimistic perspective on the Indian economy.

On the international front, strong services exports and significant remittance inflows have provided a buffer against the merchandise trade deficit, maintaining the current account deficit at manageable levels. Additionally, enhanced system liquidity, reduced short-term borrowing costs, and stable foreign exchange reserves highlight the robustness of India's financial system.

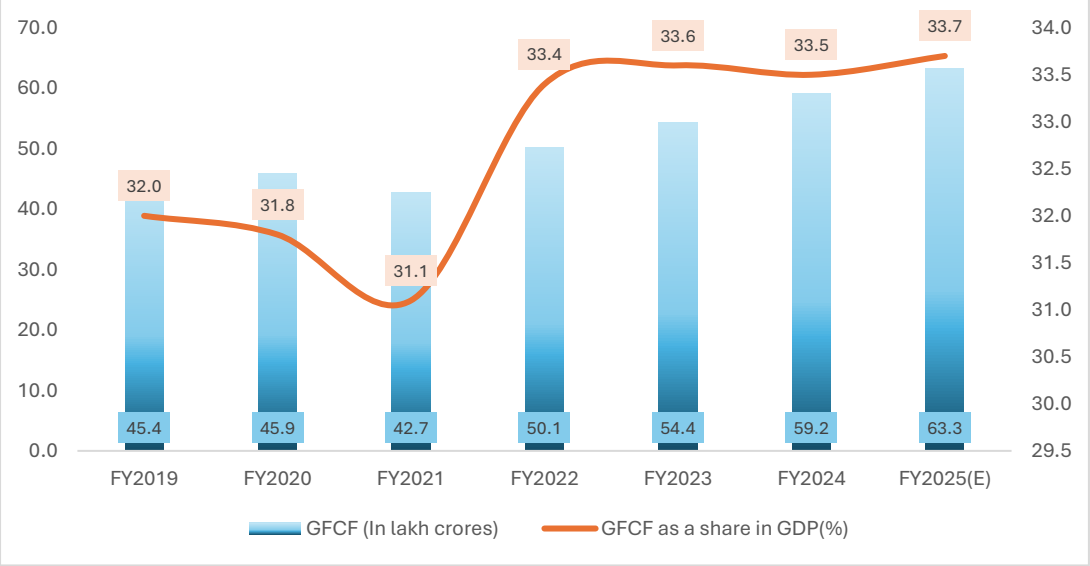
The RBI has reiterated its dedication to closely observe changing conditions and implement timely, measured actions to uphold macroeconomic and financial stability.

- India's monetary policy over the last decade was characterized by gradual rate cuts prior to the pandemic, to support economic growth while managing inflation. The Reserve Bank of India (RBI) then cut rates significantly during the COVID-19 pandemic to stimulate the economy.
- However, the RBI then hiked rates in 2022 to tame price pressures and support the rupee. Rates were kept around 2022 levels in 2023 and 2024.
- The rbi repurchase rate ended 2024 at 6.25%, compared to the end-2023 value of 6.50% and the figure a decade earlier of 7.50%. It averaged 5.85% over the last decade

Conclusion: In the present scenario, India's repo rate trajectory reflects the RBI's cautious balancing act between fostering economic growth and containing inflationary pressures. After a series of rate hikes since 2022 to tame high inflation, the central bank has largely maintained a status quo through FY2024–25, signalling a "wait-and-watch" approach amid easing headline inflation, volatile global crude prices, and evolving global monetary policy trends. With CPI inflation moderating below the RBI's tolerance threshold and growth remaining resilient, the scope for future rate cuts is gradually opening up. However, the timing and extent of any change will remain highly data-dependent, guided by inflation stability, fiscal discipline, and global economic conditions. Overall, India's repo rate movement underscores the RBI's commitment to ensuring financial stability while supporting a sustainable growth path

2.7 Overview of gross fixed capital formation (GFCF) in India

Chart 9: India's Gross Fixed Capital Formation (GFCF)(in INR Lakh crores) and share of GDP (in %) FY2019-FY2025

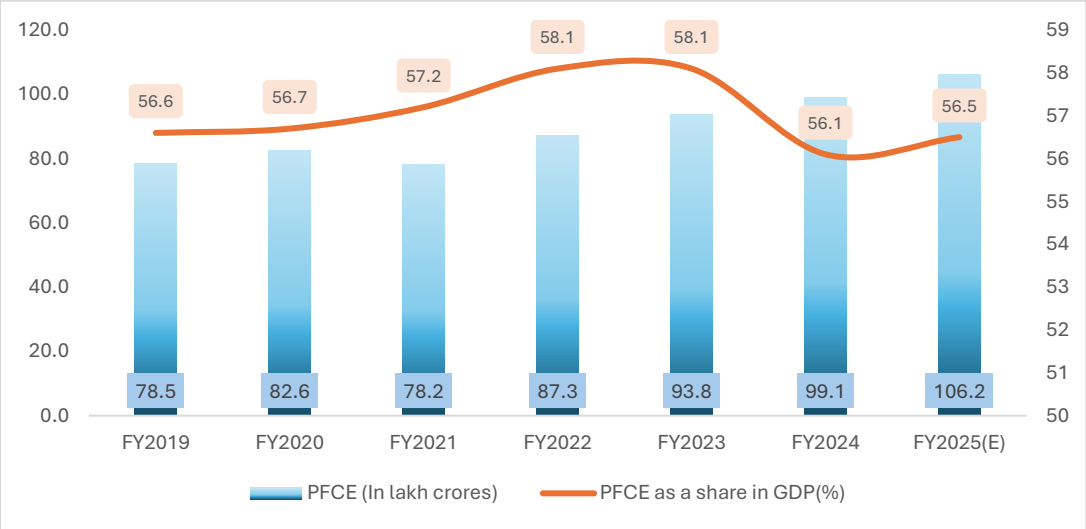


Source: RBI, ICRA Analytics
Note: E- Second Advanced Estimate

India's Gross Fixed Capital Formation (GFCF) has expanded from INR 45.4 lakh crore in FY2019 to INR 63.3 lakh crore in FY2024 at a CAGR of ~ 5.7%. The GFCF to GDP ratio increased to 33.7% in FY2025 from 33.5% in FY2024. The GFCF experienced a moderation in growth by ~7.1% in FY2025 from ~8.8% in FY2024. This indicates a rise in investments, mainly led by government spending on infrastructure and growth in domestic consumption.

2.8 Overview of private final consumption growth in India

Chart 10: Private Final Consumption Expenditure (PFCE) (in INR lakh crore) and its share of GDP (in %)



Source: RBI, ICRA Analytics
Note: E- Second Advanced Estimates

Private Final Consumption Expenditure (PFCE) at constant 2011–12 prices rose from Rs 93.8 lakh crore in FY2023 to Rs 99.1 lakh crore in FY2024 and is projected to reach Rs 106.2 lakh crore in FY2025. Despite this growth, PFCE as a share of GDP slightly declined from 58.1% in FY2022 to 56.1% in FY2023, before stabilizing at 56.5% in FY2025. This upward trend is driven by factors such as a growing middle class, rising disposable incomes, easier access to credit, and supportive government schemes like PMAY and Ayushman Bharat. Technological advancements and digital payment adoption have further boosted consumer spending. As private consumption forms a major part of GDP, its growth has significantly contributed to overall economic expansion, with the PFCE growth rate accelerating from 5.6% in FY2024 to 7.2% in FY2025.

India's rising per capita disposable income (up ~8.1% YoY) is fuelling both consumption and investment. This is reflected in the 7.3% growth in PFCE, showing households are spending more on goods and services. Meanwhile, cost of living has remained stable with inflation around 5.2%, allowing real income to grow. Simultaneously, household investments have rebounded to 6.5% of GDP, indicating financial confidence. Together, these trends show a strong correlation: higher income is driving consumption and savings, supported by manageable inflation signalling a healthy and balanced economic trajectory.

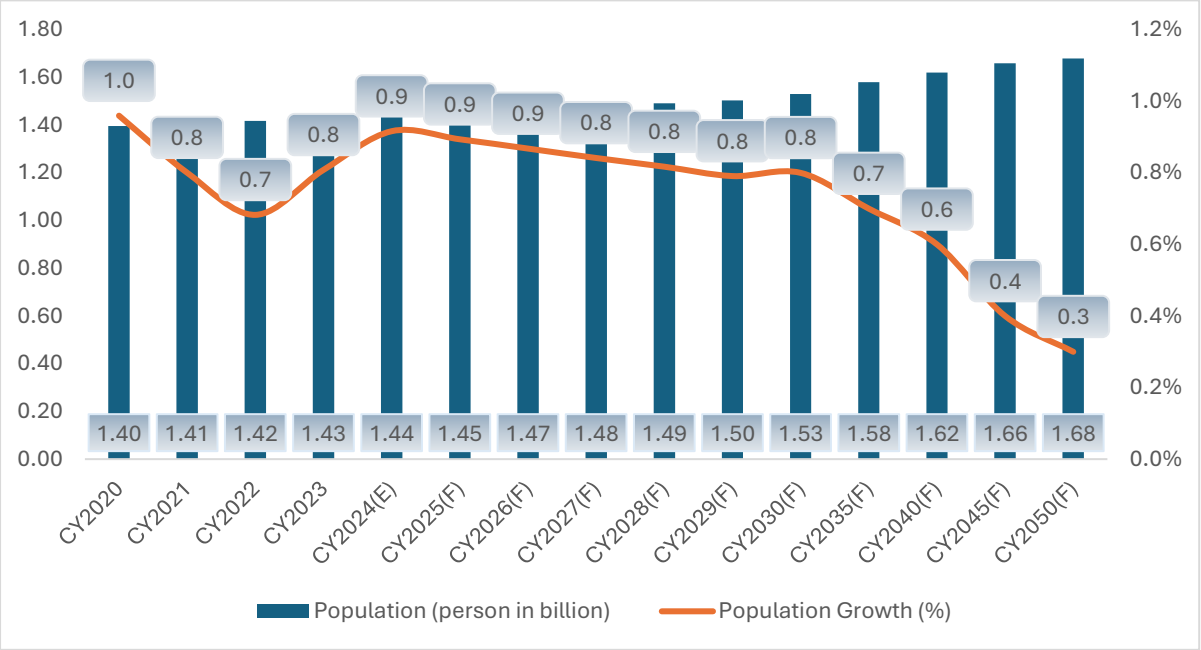
2.9 Overview of key fundamental growth drivers for India

2.9.1 Demographic overview of India

India, ranking seventh globally in terms of land area, had an estimated population of 1.44 billion as of calendar year 2024 (as per IMF estimates), making it the most populous country in the world and representing 17.8% of the global population. As reported by the World Population Review, India's demographic profile is significantly younger, with a median age of 28 years, lower than China and the United States (38 years), and Japan (48 years). With its rapidly expanding population and growing focus on skill development, literacy, and education, India is well-positioned to evolve into a leading global economic powerhouse.

2.9.2 Population growth trend and outlook

Chart 11: India's population trend and forecast (persons in millions) with y-o-y growth (in %)



Source: IMF, World Population Prospects: The 2024 Revision, ICRA Analytics

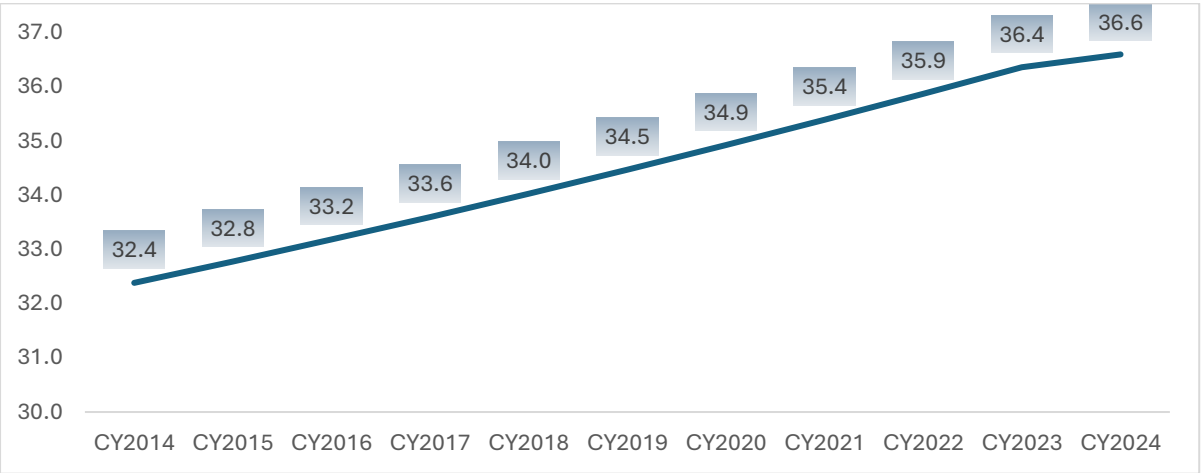
In CY2024, India surpassed China to become the world's most populous nation, with a total population of 1.44 billion. Over the last decade, the country's population growth has decelerated considerably, primarily due to factors such as rising urbanization, enhanced educational attainment, and declining poverty levels. Looking ahead, India's population is expected to expand at a more measured pace registering a growth rate of 0.9% in both CY2025 and CY2026 and moderating to 0.8% in CY2027. This rate is projected to fall further to 0.7% by CY2035 and 0.6% by CY2040.

India is witnessing a steady rise in the number of households per square kilometre, particularly in urban and semi-urban regions. This growing density reflects rapid urbanization and migration, placing increasing pressure on existing infrastructure such as housing, transportation, water supply, and sanitation systems. Simultaneously, the country's declining age dependency ratio driven by a larger working-age population signals a demographic dividend. With fewer dependents per worker, economic productivity has the potential to rise, but it also shifts infrastructure demands.

The convergence of these trends creates a dual challenge and opportunity. On one hand, higher household density strains physical infrastructure, demanding smarter urban planning, vertical housing solutions, and expanded public services. On the other hand, a younger, economically active population increases demand for employment hubs, efficient transit systems, and modern amenities. If managed well, this demographic shift can support sustainable growth by aligning infrastructure development with the evolving needs of a concentrated, productive population.

2.9.3 Rise in urbanization

Chart 12: India's Urban population (% of total population), CY2014-CY2024



Source: World Bank, Worldometer, ICRA Analytics

In CY2024, India's urban population rate reached 36.6%, driven by factors such as expanding economic opportunities, improved access to education & healthcare and ongoing infrastructure development. According to the World Bank, India's urban population is projected to grow to approximately 40% by CY2036 and is expected to contribute nearly 70% of the country's GDP.

However, rapid urbanization is placing increasing pressure on existing infrastructure including housing, transportation and essential public services underscoring the urgent need for modern, well-planned systems to support sustainable growth. The World Bank estimates that around 70% of the infrastructure required by CY2047 still needs to be built, necessitating an investment of USD 840 billion by CY2036, which averages to USD 55 billion annually, or 1.2% of GDP. Currently, only 50% of the required investment has been met, with an average annual investment of 0.6% of GDP, indicating a significant gap that must be addressed through increased funding from both public and private sectors.

To encourage private investment, the Government of India has launched several initiatives, including the Viability Gap Funding Scheme (VGF), updated concession agreements, and policies that promote Public Private Partnerships (PPPs).

To ensure sustainable urbanisation, India must focus on urban planning and increased investment in metropolitan areas. The government has already initiated several measures to address the challenges posed by rapid urbanisation, including the following:

- **Smart Cities Mission:** It aims at promoting sustainable and inclusive urban development in 100 cities across the country.
- **Jawaharlal Nehru National Urban Renewal Mission (JNNURM):** It aims at providing financial assistance to the urban local bodies for infrastructure development.
- **Pradhan Mantri Awas Yojana (PMAY):** It aims at providing affordable housing to urban residents, particularly for the low-income groups.

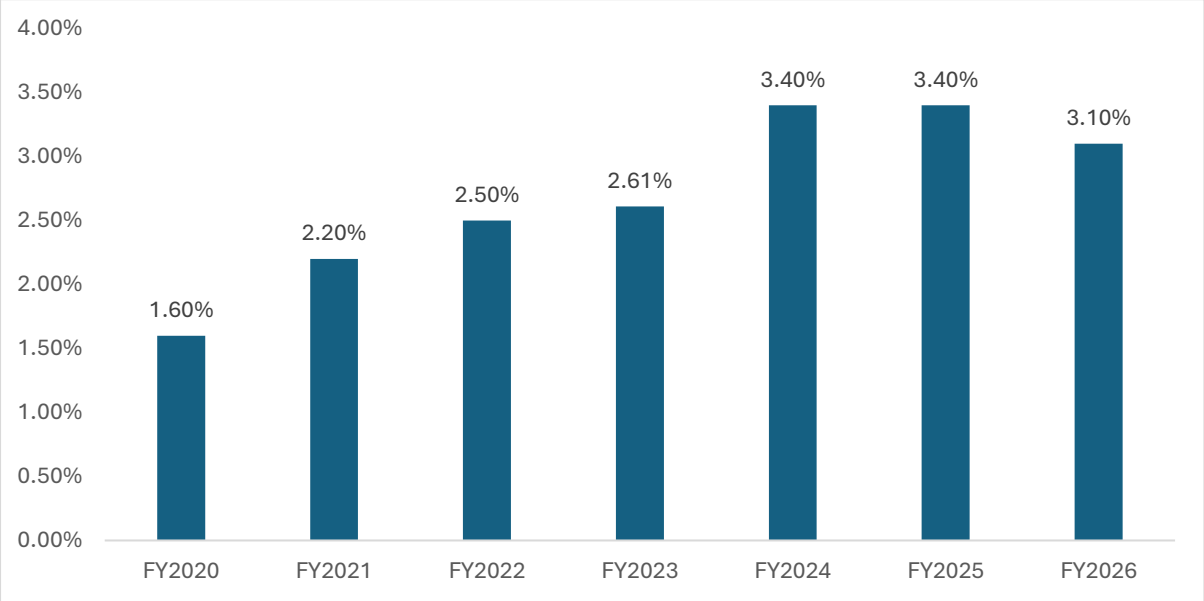
2.10 Budgetary expenditure on infrastructure

India's infrastructure and construction capital expenditure (CapEx) plays a crucial role in shaping the country's economic trajectory, enhancing connectivity, stimulating growth, and generating employment. Recent government spending trends reflect a continued focus on infrastructure development as a driver of long-term economic progress.

For FY2025–26, the Ministry of Road Transport and Highways has been allocated INR 2,873.3 billion, representing a 2.4% increase from the previous year's allocation of INR 2,805.2 billion.

The budget for the National Highways Authority of India (NHAI) has increased to INR 1,878 billion, up from INR 1,693.7 billion in FY2024–25, while the railway sector's budget has risen sharply to INR 2,652 billion, a 41% increase compared to FY2025. Additionally, INR 250 billion has been earmarked for the Maritime Development Fund to foster private sector participation and strengthen maritime infrastructure. These budgetary allocations, coupled with supportive policy measures and tax proposals, highlight the government's comprehensive strategy to enhance India's infrastructure, promote economic growth, and lay a strong foundation for sustainable development.

Chart 13: India's CapEx % change of GDP, FY2020 to FY2026



Source: Ministry of Finance, ICRA Analytics

This growth was mainly driven by government initiatives like PM Gati Shakti, National Infrastructure Pipeline (NIP), National Monetization Pipeline (NMP) and other programs boosting the connectivity and economic growth.

India's National Infrastructure Pipeline (NIP), with an outlay of Rs 111 lakh crore, is a cornerstone of the country's infrastructure-led growth strategy. A substantial share of this investment is channelled into EPC (Engineering, Procurement, and Construction) projects across transport, energy, and urban development, driving robust activity in the construction sector. These projects are not only creating employment but also improving logistics and supply chain efficiency, thereby enhancing overall productivity. The streamlined execution and increased private sector participation are boosting investor confidence and accelerating project delivery. With inflation

under control and infrastructure quality improving, the NIP is fostering both consumption and savings. Ultimately, it supports India's ambition to become a USD 5 trillion economy by laying the foundation for long-term, inclusive, and resilient growth.

2.11 Concluding remarks:

In FY2025, the Indian economy experienced robust growth, supported by strong performance across key high-frequency indicators of domestic activity. Despite global and domestic challenges, resilient macroeconomic fundamentals and a healthy demand environment particularly in consumption and investment played a pivotal role. Government-led capital expenditure remained strong throughout FY2025 and into early FY2026, fuelling expansion in manufacturing and industrial sectors.

Inflationary pressures eased significantly, with headline inflation dropping to 1.6% in June 2025 the lowest since February 2019. The Reserve Bank of India projects average inflation at 3.7% for FY2026, indicating continued price stability. This moderation has helped stabilize costs across sectors. On the fiscal front, GST collections hit a record Rs 2.37 lakh crore in April 2025, up 12.6% from the previous year, driven by tax reforms including digitization, rate rationalization, and improved compliance enhancing revenue buoyancy and supporting sustained capex.

The industry and services sectors remained key growth drivers, with services contributing over 55% to Gross Value Added (GVA), led by construction, utilities, and select manufacturing segments. India retained its position as the fastest-growing major economy, with the IMF projecting it to become the third-largest globally by 2027.

The Indian rupee remained stable, backed by macroeconomic strength, a narrowing fiscal deficit, and rising foreign exchange reserves reaching USD 697.9 billion by June 2025, covering over 11 months of imports. This stability was reinforced by easing inflation and proactive government measures. As global uncertainties persist, India enters FY2026 with a strong growth outlook and a resilient economic foundation.

3. Overview on EPC Sector in India

3.1 Overview on EPC sector in India

The Engineering, Procurement, and Construction (EPC) sector is a cornerstone of India's infrastructure and industrial growth, spanning key areas such as power, oil & gas, transportation, water resources, institutional construction and urban development. EPC services provide a comprehensive solution by integrating engineering design, procurement of materials and equipment, and actual construction work. This integrated approach makes EPC a preferred contracting model for large-scale infrastructure and energy projects in India, offering benefits like timely execution, cost predictability, and a single point of accountability for project developers.

In the Indian context, one of the major advantages of the EPC model is the transfer of significant risks from developers to contractors. Challenges such as labour shortages, fluctuating material costs, regulatory bottlenecks, safety incidents, and stringent timelines are managed by EPC contractors. This allows developers to concentrate on financing, regulatory compliance, and strategic planning. However, this risk transfer often comes at a premium, as contractors include contingency costs in their bids. Despite this, the demand for EPC contracts continues to rise, driven by government initiatives like the National Infrastructure Pipeline (NIP), Smart Cities Mission, and the expansion of renewable energy capacity.

India's increasing focus on public-private partnerships (PPP) has further accelerated the adoption of EPC models in sectors such as highways, metro systems and energy transmission, where efficiency and predictability are critical. While EPC contracts simplify project execution, they also necessitate strong oversight to ensure quality and compliance. To safeguard developer interests, third-party audits and independent engineering consultants are frequently engaged to validate contractor designs—especially in high-value projects where even minor design errors can lead to significant financial or operational setbacks.

Additionally, Indian developers are exploring alternative contracting structures like Cost-Plus and Hybrid EPC models to strike a balance between flexibility and accountability. These hybrid models are gaining popularity in dynamic sectors such as renewable energy, where frequent fluctuations in material prices demand a more adaptable approach.

3.1.1 Scope of Services Offered & Differentiation

A typical EPC project in India encompasses the entire lifecycle from design and civil works to equipment procurement, installation, and commissioning ultimately delivering a fully operational facility to the client. Most EPC firms offer integrated, customized solutions tailored to specific client needs, often adopting a consultative approach that blends technical proficiency with project-specific requirements.

EPC contractors in India generally provide comprehensive services across both infrastructure and industrial domains. Their scope typically includes:

1. Engineering & Design

- Conducting feasibility studies, preparing basic and detailed engineering plans and validating designs.
- Creating construction drawings and coordinating across multiple disciplines such as civil, structural, mechanical, electrical, and instrumentation.

2. Procurement

- Selecting and managing vendors, negotiating with suppliers and finalizing contracts.
- Procuring bulk materials, overseeing logistics and ensuring quality through inspections and controls.
- Managing specialized procurement of long-lead critical equipment like turbines, boilers, transformers and heavy machinery.

3. Construction & Civil Works

- Executing civil and structural works, mechanical installations, electrical and instrumentation setups and utility systems.
- Preparing the site and ensuring infrastructure readiness.
- Maintaining strict safety standards, mobilizing labour and adhering to best practices in project management.

4. Commissioning & Handover

- Conducting pre-commissioning and commissioning tasks, including systematic testing and trial operations.
- Officially handing over the project as a fully functional facility.
- Ensuring the project meets contractual performance criteria related to output capacity, efficiency and quality standards.

Differentiation within India's EPC industry is primarily driven by technological capabilities, execution efficiency and effective risk management.

- Top-tier EPC contractors set themselves apart by specializing in high-growth sectors such as renewable energy, metro rail systems, oil and gas pipelines, and smart urban infrastructure. Major players like L&T and Tata Projects have a broad presence across roads, railways, power, oil & gas, and water segments.
- Firms with robust in-house design and engineering capabilities offer enhanced quality assurance and faster delivery timelines. Others focus on cost efficiency and effective procurement processes, leveraging long-standing supplier relationships to negotiate favorable terms.
- A growing differentiator is the integration of digital technologies, including Building Information Modeling (BIM), AI-powered project management platforms and IoT-based monitoring systems. These tools significantly improve execution accuracy, transparency and operational efficiency.
- Sustainability and adherence to green construction norms are also emerging as key differentiators, especially as India intensifies its focus on renewable energy and environmentally responsible infrastructure development.

Together, these factors not only strengthen the competitive edge of EPC companies but also align them with the evolving priorities of developers and government-led initiatives.

3.1.2 Types of EPC Contracts, Key Segments in an EPC Contract & Other Attributes

3.1.2.1 Types of EPC Contracts

EPC contracts in India are designed to strike a balance between cost certainty, operational efficiency and project flexibility, depending on the project's complexity, nature and client-specific requirements. Broadly, the following types of EPC contracts are commonly used:

- **Lump Sum EPC Contract:** In this model, the contractor commits to delivering the project at a fixed price, regardless of the actual costs incurred during execution. It is ideal for projects with a clearly defined scope, predictable timelines, and minimal variability in design or resource needs. Residential developments are a typical example, where developers prioritize budget control and cost predictability.
- **Unit Price EPC Contract:** This structure links payments to the actual quantity of work completed, making it suitable for projects where the scope is not fully established at the outset. It offers greater flexibility in resource deployment and pricing. Road construction projects often adopt this model due to varying material requirements influenced by site conditions.
- **Cost-Plus EPC Contract:** Under this arrangement, the client reimburses the contractor for actual project expenses along with a pre-agreed fee or margin. It is preferred for projects with evolving or uncertain specifications, providing contractors with financial protection while allowing clients to maintain oversight. This model is commonly used in R&D intensive projects or pilot infrastructure initiatives where frequent scope changes are expected.
- **Design and Build EPC Contract:** This integrated model places both design and construction responsibilities with the EPC contractor, ensuring better coordination between engineering and execution. It helps reduce project timelines, minimize design-execution conflicts, and improve overall efficiency. Large infrastructure projects like airports and metro systems often utilize this structure for seamless delivery.
- **Turnkey EPC Contract:** The most comprehensive form, turnkey contracts require the contractor to deliver a fully functional, ready-to-operate facility. This model is widely used in sectors such as energy, power generation, and water supply, where performance benchmarks must be met at handover. For clients, it minimizes operational risks and ensures immediate usability of the facility.

3.1.2.2 Key Segments / Components in an EPC Contract

Essential Elements of an EPC Contract

Parameter	Description
Project Scope	Encompasses engineering specifications, design details, and construction requirements. A clear scope ensures all stakeholders understand the final deliverables and specifications.
Budget and Cost	Typically involves lump sum agreements where the contractor fixes the project cost upfront. The EPC contractor assumes financial risk if costs exceed the budget, providing cost certainty to the owner.
Timeline	EPC projects have strict timelines, with penalties for delays to ensure on-time delivery. Timely completion is crucial for maintaining market share and reputation.
Responsibilities & Liabilities	Defines roles, responsibilities, and liabilities of both contractor and project owner. Includes warranties, maintenance clauses, and liability for defects or damages, aiding risk management and smooth project execution.

An EPC contract in India is not a single, uniform entity; it is typically divided into multiple segments or sub-components, which may be further subcontracted. Each segment carries its

own scope, responsibilities, deliverables, interfaces, and risk allocation. The key segments generally include:

1. Preliminaries / Mobilization / Site Establishment

- Activities include site clearing, preparation, temporary structures, access roads, site offices, utility setup and accommodation (if required).
- Financial elements such as mobilization advances, security deposits and performance guarantees are also covered.

2. Design / Engineering

- Encompasses basic and detailed design, engineering drawings, specifications, calculations, vendor documentation and interface design.
- Includes design reviews, safety and proof consultants and third-party audits.
- Coordination with statutory approvals like environmental clearances, land acquisition and utility relocation.

3. Procurement / Supply / Logistics

- Covers sourcing, vendor selection, issuance of purchase orders, vendor management, quality checks, logistics, freight handling, customs (for imports), storage and insurance during transit.
- Includes factory acceptance tests and pre-shipment inspections.

4. Civil Works / Structural / Architectural Works

- Involves earthworks, foundation laying, structural framing, architectural finishes and other civil-related ancillary works.

5. Mechanical / Electrical / Instrumentation / Telecommunications (M/E/I)

- Installation of mechanical systems, piping, ducting, plumbing, HVAC, electrical wiring, instrumentation, control systems, SCADA and telecom infrastructure.

6. Equipment Installation & Commissioning

- Includes erection of heavy machinery, alignment, calibration, trial runs, performance testing and final commissioning & integration.

7. Testing & Quality Assurance / Quality Control (QA/QC)

- Involves inspections, material testing, non-destructive testing, sample analysis, third-party audits and compliance with relevant codes & standards.

8. Interface & Integration Activities

- Coordination and integration of civil, mechanical, and electrical works, vendor packages, system handovers and interfacing with existing infrastructure or networks.

9. Construction Supervision, Monitoring & Reporting

- Covers progress tracking, periodic reporting, site supervision, safety management, environmental compliance and documentation.

10. Milestone / Stage Payments & Payment Terms

- Payments are linked to the achievement of specific milestones or deliverables, including provisions for retention, adjustments and withholdings.

11. Defects Liability / Warranty / Guarantee Period

- Post-completion period during which the contractor is obligated to rectify any defects or performance issues.

12. Operation & Maintenance / Performance Guarantees (if applicable)

- If included, defines the contractor's responsibilities for operations and maintenance, along with performance metrics and guarantees.

13. Change Orders / Variation Handling

- Procedures for managing scope changes, additional work, variation pricing, approvals, and time extensions.

14. Risk & Liability Allocation / Insurance / Indemnities

- Allocation of risks such as force majeure, design flaws, delays, and site conditions; includes insurance coverage (works, third-party, all-risk) and indemnity clauses.

15. Termination / Default / Compensation / Liquidated Damages

- Specifies conditions for contract termination (due to default or convenience), compensation mechanisms and valuation of incomplete work.

16. Dispute Resolution / Arbitration / Governing Law

- Outlines mechanisms for resolving disputes (negotiation, mediation, arbitration), along with applicable laws and jurisdiction.

17. Miscellaneous Provisions

- Covers force majeure, changes in law, confidentiality, intellectual property rights, security, subcontracting, public notifications and owner/authority obligations (e.g. land handover, utility shifting).

3.2 EPC Model Usage Pattern: Brief Insight on Key Industries / Segments Utilizing EPC Model

The Engineering, Procurement, and Construction (EPC) model is widely embraced across India's infrastructure and industrial sectors due to its turnkey nature, cost predictability, and streamlined project delivery. It is particularly favoured for capital-intensive, time-sensitive projects where clients seek single-point accountability for design, procurement, and construction.

- **Power and Energy Sector:** The power sector spanning thermal, hydro, solar, wind and nuclear energy remain the largest adopter of the EPC model in India. EPC contracts are instrumental in ensuring timely and cost-effective execution, especially for large-scale generation and transmission projects. For instance, in April 2025, Patel Engineering was declared the L1 bidder for the USD 86.5 million, 240 MW HEO hydroelectric project in Arunachal Pradesh, underscoring the continued reliance on EPC frameworks in hydropower development.

Renewable energy developers increasingly opt for EPC contracts in solar parks, wind farms, and hybrid projects due to their ability to ensure regulatory compliance, efficient execution, and guaranteed performance outcomes. The sector's recovery has been fuelled by rising infrastructure investments, expanding rural and industrial electrification, and growing energy demand leading to a notable increase in Gross Value Added (GVA) from power EPC activities.

Government initiatives further support this growth. In September 2024, the Solar Energy Corporation of India (SECI) announced an equity infusion of Rs 180 billion (USD 2.16 billion) to expand renewable capacity by 2030. The rise in GVA is also driven by the adoption of digital project management tools, energy-efficient infrastructure and renewable integration. Programs promoting solar-powered irrigation and green power corridors have further accelerated EPC-based execution across India's evolving energy landscape.

- **Oil, Gas, and Petrochemicals:** This sector remains one of the most EPC-intensive in India, with contractors playing a pivotal role in designing, constructing and commissioning complex infrastructure such as refineries, petrochemical plants, pipelines, LNG terminals and offshore facilities. Leading EPC firms like Engineers India Limited (EIL) and L&T Hydrocarbon Engineering dominate this space through large-scale domestic and international projects. For example, in March 2025, EIL secured two Project Management Consultancy (PMC) contracts in the Middle East worth USD 88 million, highlighting the global demand for Indian EPC expertise.

  Domestically, EPC activity is set to surge with Indian Oil Corporation (IOC) announcing a Rs 1.66 lakh crore (USD 19.9 billion) investment plan over five years. This includes expanding refining capacity to 98.4 million tonnes by 2028, extending pipeline networks to 22,000 km and increasing petrochemical output to over 13 million tonnes by 2030. IOC is also investing Rs 2.5 lakh crore (USD 30 billion) in energy transition initiatives aimed at achieving net-zero emissions by 2046. These developments are expected to deepen EPC involvement in refinery upgrades, green hydrogen, biofuels and carbon capture projects positioning Indian EPC firms as key players in the global energy transition.

- **Transportation and Urban Infrastructure:** India's transportation and urban infrastructure sectors increasingly rely on the EPC model for roads, highways, airports, metro systems and smart city projects. The National Highways Authority of India (NHAI) continues to award major expressway and road projects under EPC mode to ensure quality and timely delivery. Metro rail projects in cities like Delhi, Mumbai, Pune and Bengaluru also adopt EPC frameworks for integrated design-build execution, enhancing coordination and efficiency.

  In March 2025, the Andhra Pradesh Metro Rail Corporation (APMRC) approved EPC-based implementation for the Vizag and Vijayawada metro projects, projected to save Rs 20 crore per project by engaging general consultants. This approach aligns with funding and procedural standards of multilateral agencies such as JICA, KfW, AFD and AIIB reinforcing EPC's role in delivering cost-effective, globally benchmarked infrastructure.

- **Water and Waste Management:** Projects under the Jal Jeevan Mission, AMRUT and Smart Cities Mission are increasingly executed through EPC contracts to ensure efficient delivery of water supply, sewage treatment and waste management systems. The turnkey

nature of EPC ensures comprehensive design, installation and commissioning aligned with government timelines for urban and rural development.
Specialized EPC firms in water resource management deliver end-to-end solutions, including the design, procurement, construction and commissioning of Water Supply Schemes (WSS). These schemes typically feature underground and overhead tanks, ensuring effective water distribution and storage.

- **Industrial, Metals, and Mining:** India's industrial, metals and mining sectors are experiencing robust EPC-led growth, driven by the Aatmanirbhar Bharat initiative and a focus on domestic manufacturing and value addition. EPC models are increasingly used for developing steel plants, mineral beneficiation units, smelters and processing facilities due to their ability to deliver integrated, time-bound execution.
  In August 2025, L&T's Minerals & Metals division secured a major EPC contract from Hindustan Zinc Limited (HZL), part of the Vedanta Group, for a 250 KTPA Leaching, Purification & Cellhouse facility and a 125 KTPA Jarosite Circuit at the Debari Smelter Complex in Rajasthan. The facility will produce Special High Grade Zinc Cathodes (99.995% Zn). The project scope includes design, engineering, procurement, installation, commissioning, utilities, ETP RO-ZLD systems, plant electrics, instrumentation and automation. This contract reinforces L&T's long-standing partnership with HZL and highlights the EPC model's critical role in enhancing capacity, operational efficiency and technological advancement in India's industrial and mining sectors.

3.3 Key Criteria for Selection of an EPC Contractor

Key Determinants in Selecting an EPC Contractor	
Track Record and Project Experience	The contractor's past portfolio plays a decisive role, with emphasis on the scale and complexity of projects successfully executed and currently in operation.
Financial Strength & Creditworthiness	A contractor's financial backing is crucial, typically assessed as a multiple of the overall project value. Strong credit ratings reflect the ability to manage large investments and mitigate financial risks.
Quality of Execution & Timely Delivery	Proven capability in delivering projects to the required quality standards within agreed timelines is a key factor in evaluation.
Adoption of Advanced Techniques & Design Expertise	Use of modern construction methods, digital tools, and innovative design solutions helps ensure smoother workflows and timely project delivery.
Reliability & Contractual Bankability	Elements such as risk allocation, availability of insurance cover, warranties, and guarantees determine the overall dependability of the contractor from a financing and contractual standpoint.

The Indian EPC sector predominantly adopts a single-stage, two-part bidding process, designed to ensure fairness, transparency and competitiveness in project awards. This begins with a technical qualification phase, where bidders are evaluated on their past performance, execution capabilities, technical expertise and adherence to regulatory and safety norms. Only those meeting these technical criteria proceed to the financial evaluation stage, which focuses on financial strength, revenue stability and adequacy of working capital.

Traditionally, contracts especially in public sector projects have been awarded using the Lowest Bidder (L1) approach, prioritizing cost competitiveness. However, recent years have seen a gradual transition toward weighted evaluation models that combine technical and financial scores. This shift is particularly evident in complex projects such as metro systems, renewable energy parks and hydroelectric plants, ensuring that contractors with proven expertise and advanced capabilities are chosen rather than simply the lowest-cost bidder.

Another significant trend is the integration of technology requirements in tenders. Agencies like CPWD, NHAI, and Metro Rail corporations now mandate the use of Building Information Modeling (BIM), Digital Twins and smart monitoring tools, aligning Indian projects with global best practices. Additionally, the rise of Public-Private Partnerships (PPP) has transformed the contract awarding process, as EPC contractors are increasingly assessed not only on construction capabilities but also on their ability to deliver lifecycle performance and maintain service-level commitments.

On the industry front, tendering has become highly competitive and globalized. Indian EPC firms are aggressively bidding for projects in regions such as the Middle East, Africa, and Southeast Asia, while foreign players are actively participating in Indian infrastructure tenders. This heightened competition, coupled with stricter technical and performance-based requirements, is reshaping the structure and awarding mechanisms of EPC contracts in India.

- **Technical Qualification:** The first stage focuses on evaluating the bidder's technical capabilities and eligibility. Key criteria include the contractor's experience in executing similar projects within the relevant industry, along with a proven track record of completing projects of comparable scale and complexity. The availability of skilled personnel, machinery, and appropriate technology is also assessed to ensure the contractor can meet the project's requirements.
  Some projects may give preference to domestic firms or joint ventures with Indian partners to support local capacity development. Compliance with safety, environmental, and quality standards outlined in the bid documents is mandatory. Only those bidders who meet all technical requirements proceed to the financial evaluation stage.
- **Financial Qualification:** The second stage examines the financial strength and stability of the contractor to ensure the project's long-term viability. Important factors include the contractor's average annual turnover over the past three financial years, which reflects revenue consistency and a positive net worth as specified in the bid documents to establish financial credibility. Certain tenders may also require a minimum working capital threshold, verified through audited financial statements. Bidders must submit these documents to confirm their financial standing before moving to the final evaluation.

Once the technical and financial qualifications are completed, the contractor is selected through a **structured evaluation process**. In most cases, the **Lowest Bid (L1) Method** is applied, where the contract is awarded to the technically qualified bidder who submits the lowest financial bid.

For more complex projects, a **Weighted Average Method** may be used. In this approach, both technical scores and financial bids are assigned specific weightages and the bidder with the highest combined score is awarded the contract.

This systematic evaluation ensures that only contractors with proven technical capabilities and sound financial standing are entrusted with the execution of large-scale infrastructure projects under the EPC model.

3.4 State-Wise Capital Expenditure Outlook and Budgetary Outlay by the Central and State Governments

India's EPC (Engineering, Procurement, and Construction) sector stands to gain significantly from the surge in capital expenditure at both central and state levels. For FY2025–26, the Union Government has allocated Rs 11210 billion towards infrastructure development amounting to 3.1% of GDP representing a record investment that underscores its commitment to fast-tracking project execution across key sectors such as roads, railways, power and renewable energy. At the state level, the cumulative capital outlay across 26 states is projected to rise from Rs 8700 billion in FY2024–25 (Revised Estimates) to approximately Rs 10200 billion in FY2025–26 (Budget Estimates). Leading contributors like Uttar Pradesh (16.3%), Gujarat (9.4%), Maharashtra (8.3%), Madhya Pradesh (8.1%), and Karnataka (6.7%) collectively account for nearly half of this expenditure, fuelling robust demand for EPC contracts in critical infrastructure domains. This expansion in public investment, backed by enhanced budgetary provisions and sound fiscal management, ensures a strong pipeline of projects for EPC companies. States with ambitious infrastructure agendas especially in transportation, renewable energy, and water resource management are expected to witness intensified EPC activity, while sustained central government support promotes balanced regional development and execution momentum.

Table: India: State-wise Capital Outlay in FY25 (Revised) and FY26 (Budgeted)

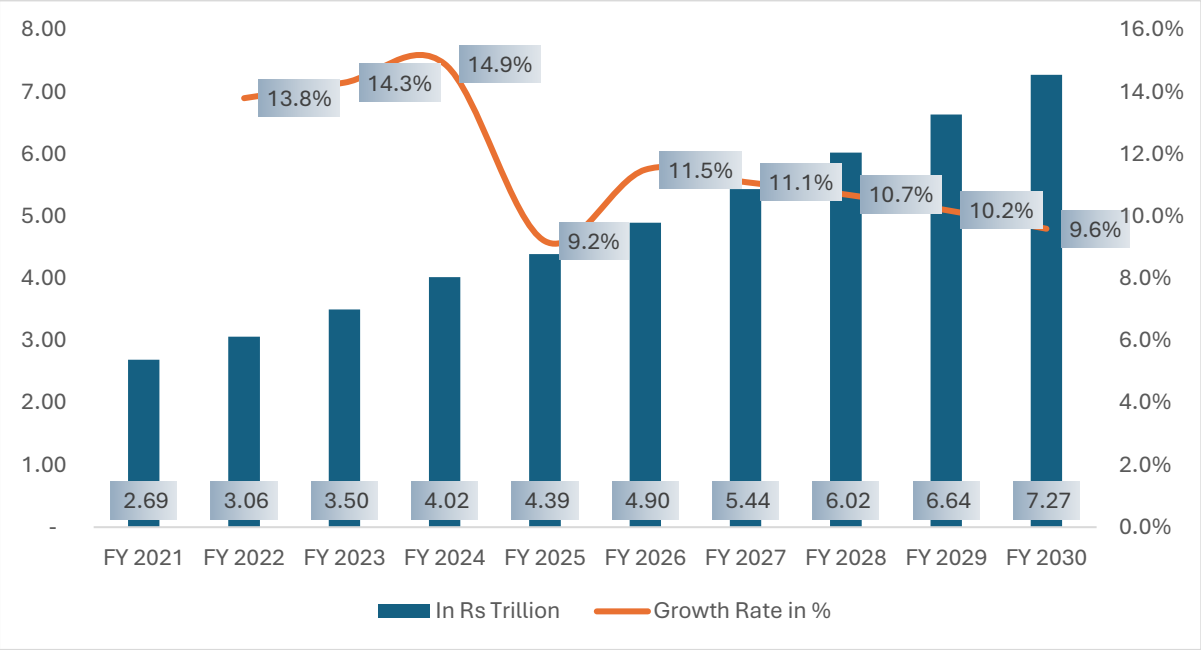
State	FY24 (Actual) (Rs Billion)	FY25 (Revised) (Rs Billion)	FY26 (Budgeted) (Rs Billion)	% change from FY 24 to FY26
Andhra Pradesh	233.30	240.72	406.36	74.2%
Arunachal Pradesh	84.64	105.49	88.42	4.5%
Assam	214.44	338.97	293.64	36.9%
Bihar	364.53	436.86	405.32	11.2%
Chhattisgarh	154.19	229.94	263.41	70.8%
Delhi	68.55	48.57	172.24	151.3%
Goa	35.66	53.18	53.30	49.5%
Gujarat	556.79	701.73	954.72	71.5%
Haryana	159.21	127.53	161.64	1.5%
Himachal Pradesh	56.30	87.67	39.41	-30.0%
Jammu and Kashmir	20.38	195.68	268.36	1216.8%
Jharkhand	205.70	190.96	226.21	10.0%
Karnataka	521.20	544.12	681.72	30.8%
Kerala	135.84	140.7	169.38	24.7%
Madhya Pradesh	565.39	649.3	825.13	45.9%
Maharashtra	725.73	950.22	844.57	16.4%
Meghalaya	45.30	58.7	69.95	54.4%
Nagaland	31.23	43.86	29.69	-4.9%
Odisha	432.73	553.92	650.12	50.2%
Punjab	47.43	83.47	103.02	117.2%
Rajasthan	266.46	382.88	536.86	101.5%
Sikkim	26.61	42.93	45.05	69.3%
Tamil Nadu	405.00	467.66	572.31	41.3%

Telangana	439.18	330.88	365.04	-16.9%
Tripura	27.34	71.72	68.87	151.9%
Uttar Pradesh	1105.55	1477.19	1652.43	49.5%
Uttarakhand	109.82	117.68	147.63	34.4%
West Bengal	289.63	291.47	393.38	35.8%
Total	7328.19	8964.00	10488.18	43.1%

Source: Budget Documents, PRS, IMARC, ICRA Analytics

3.5 Market Trends and Forecasts of EPC Industry

Figure: India: EPC Market: Value Trends (in Rs Trillion), FY2021-FY2030



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The EPC (Engineering, Procurement, and Construction) market in India reached a value of ₹ 439.1 trillion in FY2025, growing at a CAGR of 13.0% between FY2021 and FY2025. Looking ahead, the market is projected to reach Rs 727.3 thousand crore by FY2030, with a CAGR of 10.4% from FY2026 to FY2030.

India's EPC sector is witnessing strong momentum, driven by proactive government initiatives, increasing domestic and foreign investments, and rapid adoption of advanced technologies. Flagship programs such as the National Infrastructure Pipeline, Smart Cities Mission, PM Gati Shakti, and ambitious renewable energy targets are unlocking large-scale opportunities across power, transportation, urban infrastructure, and industrial domains. Rising FDI inflows into construction, infrastructure, and clean energy are bolstering project financing, while digital innovations like BIM, Digital Twins, AI, and IoT are enhancing project efficiency, precision, and cost optimization. Furthermore, the expansion of Public-Private Partnerships and the growing emphasis on sustainable and green infrastructure are fuelling demand for comprehensive EPC solutions, positioning the sector as a pivotal force in India's economic and industrial advancement.

3.6 Analysis of Key Factors Driving the EPC Industry in India

- **Government Initiatives and Policy Support:** Infrastructure development has been positioned as a key driver of economic growth by the Government of India, creating a robust demand pipeline for EPC companies. Flagship programs such as the National Infrastructure Pipeline (NIP) with a projected investment of USD 1400 billion, PM Gati Shakti, Sagarmala, Bharatmala, Smart Cities Mission, and Jal Jeevan Mission are propelling large-scale projects across transportation, logistics, energy, and urban utilities. The Union Budget 2025–26 allocated a record Rs 11210 billion (USD 128.6 billion) for capital expenditure, representing 3.1% of GDP, reaffirming the government's commitment to infrastructure-led growth. This policy continuity offers EPC players a stable and expanding market.
- **Strong Economic Growth and Urbanization:** India's robust economic momentum is fuelling infrastructure demand. Rapid urbanization, population growth and increasing disposable incomes are driving investments in residential, commercial and industrial developments. The modernization of metro systems, highways, airports and logistics hubs presents significant opportunities for EPC firms. Concurrently, rural development initiatives focused on roads, irrigation and utilities are broadening the geographical reach of EPC activity beyond urban centers.
- **Increasing Investments and FDI Inflows:** The construction sector continues to attract substantial foreign direct investment (FDI). Between April 2000 and March 2025, FDI inflows into construction development and infrastructure projects exceeded USD 45.8 billion. Notable private investments, such as the Adani Group's USD 3.46 billion commitment in Kerala over five years for infrastructure, logistics, and manufacturing, reflect strong private sector confidence and support EPC order growth. The blend of public and private capital is enhancing the sector's outlook.
- **Expansion of Renewable Energy and Green Infrastructure:** India's focus on energy transition and sustainability is creating new opportunities for EPC contractors. Ambitious targets in solar, wind, hydro and green hydrogen are driving demand for large-scale EPC projects. For example, Coal India's September 2025 tender for 5 GW of renewable energy projects across solar and wind highlights the growing preference for turnkey EPC contracts in clean energy. Additionally, initiatives promoting green buildings, net-zero goals and waste-to-value projects in metals and mining are expanding the pipeline of sustainable infrastructure.
- **Technological Advancements and Digital Integration in EPC:** Technology is transforming EPC project delivery in India. Tools such as Building Information Modeling (BIM), Digital Twins, AI-driven predictive maintenance, robotics and IoT-enabled smart sensors are revolutionizing project design, monitoring and execution. These innovations enhance coordination, reduce manual effort, minimize errors and enable faster, more cost-effective delivery aligning with evolving client expectations.

  The Indian government is institutionalizing these digital practices through formal mandates. Programs like NIP and the Smart Cities Mission are facilitating large-scale Digital Twin adoption. The Central Public Works Department (CPWD) issued BIM guidelines in 2019, mandating BIM for projects above Rs 100 crore. Agencies such as NHAI and metro corporations in Delhi, Mumbai and Pune have begun incorporating BIM requirements in tenders. Increasingly, tenders specify BIM Level 3 compliance and live asset monitoring, making digital integration a contractual standard. The rise of Public-Private Partnerships (PPP) is also reinforcing accountability and service-level

compliance, with Digital Twins playing a key role in transparent reporting and lifecycle management.

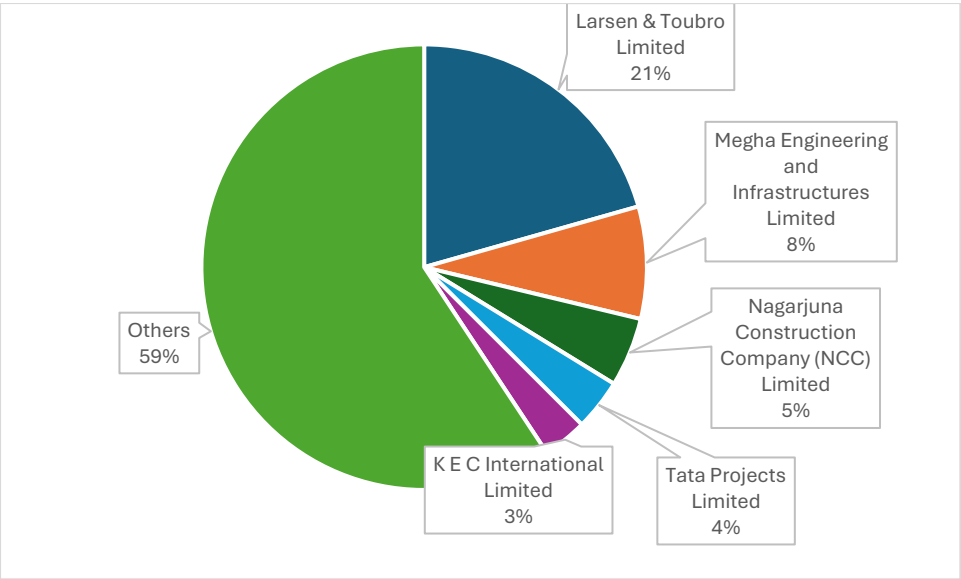
- **Rising EPC Order Inflows and Growing Backlogs:** India's EPC sector is experiencing strong momentum, with increasing contract inflows across domestic and international markets. In April 2025, Patel Engineering was declared the L1 bidder for the USD 86.5 million, 240 MW HEO hydro project in Arunachal Pradesh, scheduled for completion in 44 months, reflecting the government's push for renewable and hydropower expansion. Similarly, in March 2025, Engineers India Limited (EIL) secured two PMC contracts in the Middle East worth USD 88 million, strengthening its international backlog and showcasing the global competitiveness of Indian EPC firms. During the same period, Kalpataru Projects booked USD 277.8 million in new orders, raising its total order book to over USD 2.7 billion, enhancing execution visibility.
- **Evolving Client Expectations and Delivery Models:** With rising infrastructure investments, clients are increasingly demanding faster execution, greater transparency and more efficient delivery models. EPC contractors are differentiating themselves through advanced project management, integrated design-build capabilities and risk-sharing arrangements such as turnkey contracts. The growing focus on performance benchmarks, quality assurance and lifecycle services (O&M) is reshaping industry standards and driving innovation in project execution.

3.7 Major Players and their Market Share

Sr. No.	Company Name	Headquarters	Website
1.	**Afcons Infrastructure Limited**	Maharashtra	www.afcons.com
2.	**Ashoka Buildcon Limited**	Maharashtra	www.ashokabuildcon.com
3.	**Dilip Buildcon Limited**	Madhya Pradesh	www.dilipbuildcon.com
4.	**J Kumar Infraprojects Limited**	Maharashtra	www.jkumar.com
5.	**K E C International Limited**	Maharashtra	www.kecrpg.com
6.	**Kalpataru Projects International Limited**	Maharashtra	www.kalpataruprojects.com
7.	**Larsen & Toubro Limited**	Maharashtra	www.larsentoubro.com
8.	**Megha Engineering and Infrastructures Limited**	Telangana	www.meil.in
9.	**Nagarjuna Construction Company (NCC) Limited**	Telangana	www.ncclimited.com
10.	**Tata Projects Limited**	Maharashtra	www.tataprojects.com

Source: IMARC, ICRA Analytics

Chart: India: EPC Market: Breakup by Key Players (in %), FY 2025

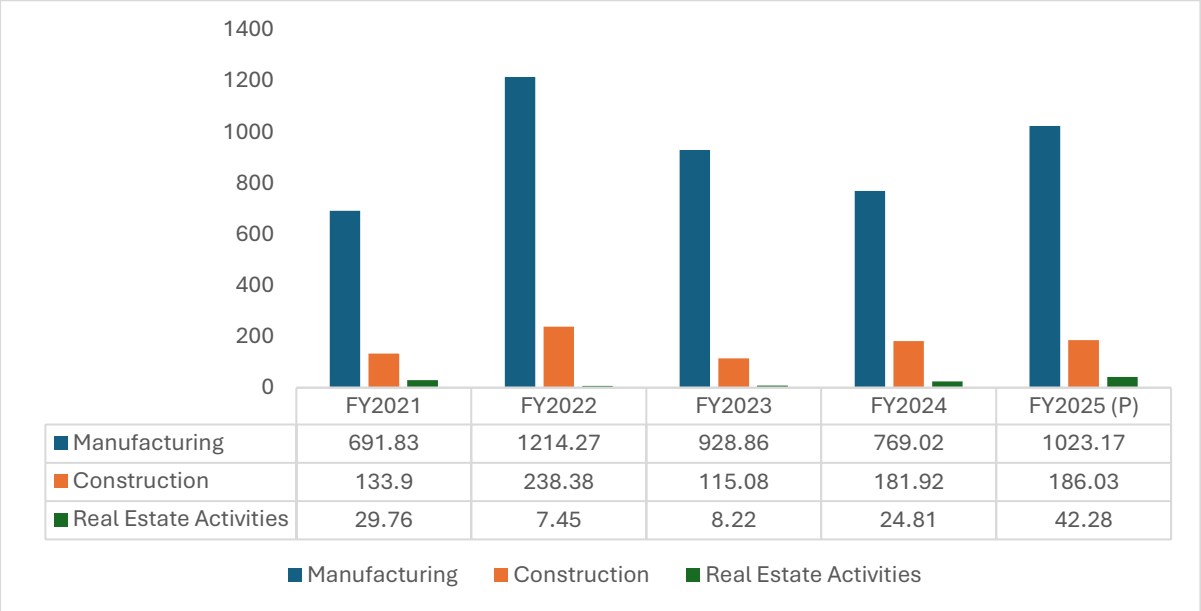


Source: IMARC, ICRA Analytics

In FY 2025, Larsen & Toubro Limited dominated the India EPC market, accounting for a share of 20.5% of the total market. Larsen & Toubro Limited was followed by Megha Engineering and Infrastructures Limited (8.1%), Nagarjuna Construction Company Limited (5.0%), Tata Projects Limited (3.7%), K E C International Limited (3.2%), and others (59.6%).

3.8 FDI Inflows/Investments into the Sector

Chart: FDI Inflows in Key Sectors (in Rs billion), FY2021-FY2025(P)



	FY2021	FY2022	FY2023	FY2024	FY2025 (P)
Manufacturing	691.83	1214.27	928.86	769.02	1023.17
Construction	133.9	238.38	115.08	181.92	186.03
Real Estate Activities	29.76	7.45	8.22	24.81	42.28

Source: RBI, ICRA Analytics

Foreign Direct Investment (FDI) inflows into India's key sectors have shown notable fluctuations between FY2021 and FY2025. The manufacturing sector consistently attracted the highest inflows, reaching Rs 1023.17 billion in FY2025 (P), reflecting strong investor confidence in industrial growth and India's "Make in India" initiatives. The construction sector, critical for infrastructure and EPC projects, saw inflows rise from Rs 133.90 billion in FY2021 to Rs 186.03 billion in FY2025 (P), indicating sustained interest in infrastructure development. Meanwhile, real

estate activities experienced modest yet steady growth, with FDI increasing to Rs 42.28 billion in FY2025 (P), supported by urbanization trends and housing demand. These inflows underscore the role of foreign investment in fuelling capital-intensive sectors, expanding project pipelines, and enhancing opportunities for EPC contractors.

3.9 Key Threats & Challenges Facing the EPC Industry in India

- **Long Lead Times and Procurement Delays**: One of the most critical risks in EPC projects stems from extended procurement timelines, especially for large and specialized equipment like turbines, boilers and transformers. Inadequate planning, scheduling errors or scope changes can lead to significant delays and cost overruns. Procurement delays often cascade into subsequent phases such as construction and commissioning, disrupting overall project schedules. These setbacks typically inflate costs due to factors like price escalation, storage expenses and expedited shipping requirements.
- **Global Supply Chain Complexities**: EPC projects frequently depend on sourcing equipment and materials from multiple geographies, exposing contractors to supply chain challenges. These include regulatory hurdles (import/export norms, customs duties, environmental laws), logistical bottlenecks (port congestion, transport delays, poor infrastructure) and cultural or legal variations in supplier agreements. Such disruptions not only delay execution but also undermine cost competitiveness, making supply chain risk management a critical priority.
- **Financial Risks and Budget Overruns**: Given their capital-intensive nature, EPC projects require substantial upfront investments and are highly vulnerable to cost escalations caused by raw material price volatility, design changes, scope creep, or unforeseen site conditions. Payment delays particularly in government projects strain working capital and increase interest costs. Combined with high borrowing rates, these factors exert significant financial pressure on EPC firms, especially mid-sized players.
- **Supplier and Subcontractor Risks**: The reliability and performance of suppliers and subcontractors are pivotal to EPC success. Issues such as delayed deliveries, insolvency or poor workmanship can severely impact timelines and quality standards. Mismanagement of subcontractors often results in rework, resource wastage and higher costs. Maintaining strong supplier relationships and enforcing performance standards remains a persistent challenge.
- **Project Management and Coordination Issues**: Large EPC projects involve multiple stakeholders-engineers, procurement teams, contractors and construction crews spread across diverse locations. Miscommunication, lack of alignment or poor resource management can lead to execution gaps, delays and cost escalations. Ensuring consistent quality standards across vendors and subcontractors requires robust quality control systems and continuous supervision.
- **External and Macro Risks**: EPC projects are exposed to external shocks such as political instability, regulatory uncertainty, economic downturns and geopolitical tensions, which can affect funding, material costs and timelines. Natural disasters like floods, earthquakes or cyclones add further unpredictability, particularly for large-scale infrastructure projects. Growing environmental concerns waste generation, emissions and energy consumption are also driving stricter regulatory scrutiny and compliance costs.
- **Regulatory and Compliance Pressures**: Frequent changes in building codes, safety norms and environmental regulations significantly impact EPC projects by altering design

requirements, increasing compliance costs and causing delays. Companies must invest in regulatory expertise and adaptability to avoid penalties or project suspensions.

- **High Capital Investments and Working Capital Constraints**: The EPC sector demands substantial upfront capital and India's relatively high borrowing costs limit many firms ability to expand capacity or take on new projects. Payment delays from government agencies and retention of security deposits further stretch working capital cycles, increasing financial stress and interest burdens.
- **Technological Challenges**: Rapid advancements in digital construction tools, project management systems and sustainable technologies require EPC players to continuously upgrade capabilities. However, limited investments in technology adoption, workforce upskilling and process optimization hinder competitiveness. This technological lag reduces efficiency and diminishes the chances of securing high-value, tech-driven projects.
- **Competitive Intensity**: While major players like L&T and Tata Group dominate, the EPC market remains highly competitive, with numerous firms vying for projects across infrastructure, power and industrial sectors. Aggressive bidding often results in razor-thin margins, leaving little room to absorb risks or unforeseen costs. This intense competition threatens long-term profitability and financial stability, even for established players.

3.10 Brief Description on the Significance of the Order Book in the EPC Industry

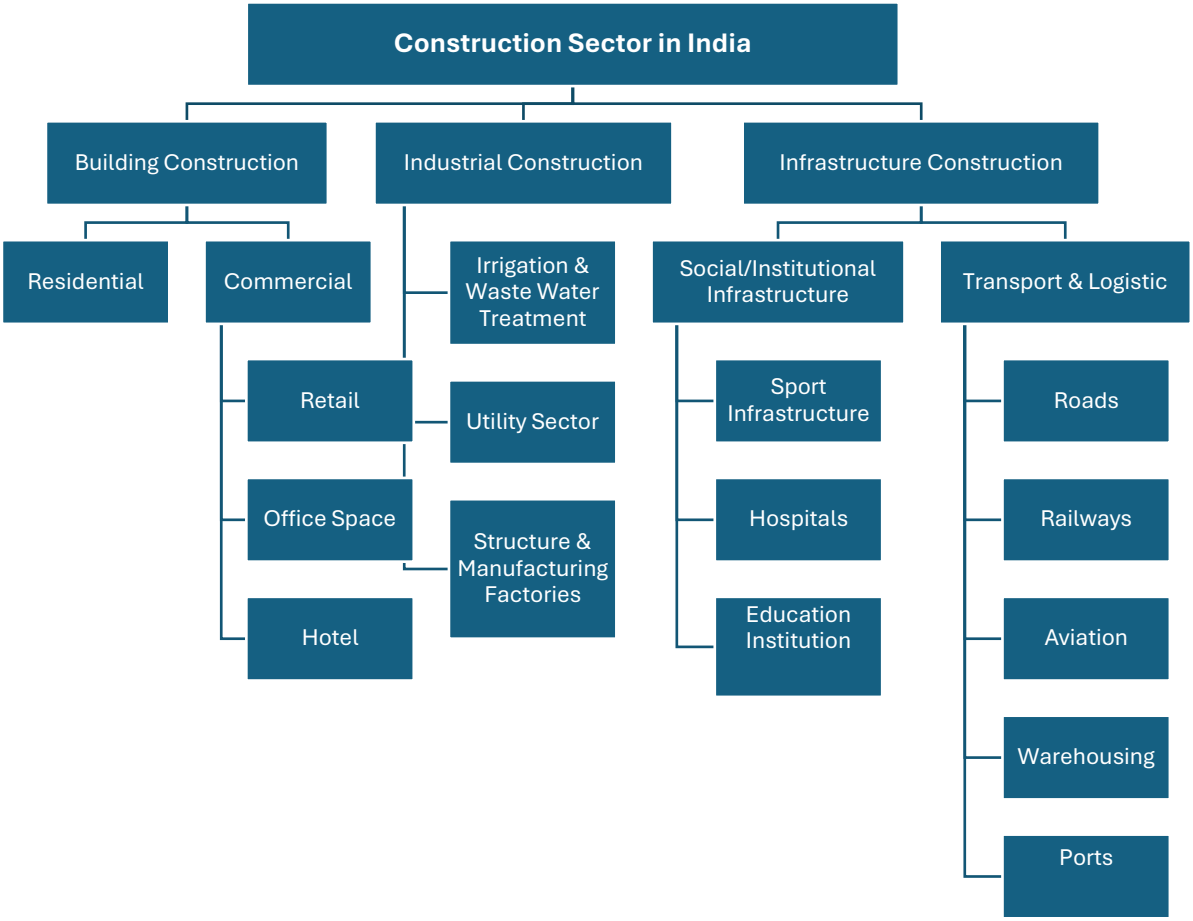
In the EPC industry, an order book represents the total value of confirmed projects that a company has secured but not yet executed. It includes contracts across engineering, procurement, construction, and sometimes operation and maintenance, scheduled to be executed over multiple years. The order book provides a forward-looking view of an EPC company's workload pipeline and is a key measure of business momentum, reflecting both recently won projects and long-term contracts under execution.

The size and quality of an EPC order book are critical indicators of future revenue visibility, execution capability, and financial resilience. A strong order book ensures predictable cash flows, better capacity utilization, and efficient deployment of manpower, equipment, and capital. It also strengthens an EPC player's balance sheet by improving lender confidence, enabling access to lower-cost financing and performance guarantees. Moreover, a diversified order book across geographies and sectors helps mitigate risks related to project delays, policy changes, or cyclical downturns in specific industries.

The importance of a robust order book is evident in the performance of leading EPC players. In Q1 FY26, Larsen & Toubro (L&T) crossed a historic milestone, with its consolidated order book exceeding Rs 6 trillion for the first time, reaching Rs 6.12 trillion compared to Rs 5.79 trillion as of 31 March 2025. This growth was driven by a strong pipeline in the Middle East and steady domestic project execution. As highlighted by L&T's management, the company's strategic focus on India and the Middle East continues to deliver sustained order inflows. Similarly, KEC International reported an order book of Rs 333.98 billion as of 31 March 2025, underscoring healthy demand visibility and reinforcing its position across transmission, railways, civil, and international EPC markets. Further strengthening its domestic presence, in December 2025, KEC International secured Rs 11.50 billion worth of new orders, including its largest-ever domestic contract in the India transmission and distribution (T&D) business, highlighting sustained momentum in grid infrastructure investments.

4. Overview on Construction Industry in India

4.1 Overview on Construction Landscape in India



India's construction industry serves as a cornerstone of the nation's economic development, addressing critical infrastructure needs while creating significant employment opportunities. The sector spans multiple segments, with infrastructure projects and real estate assets such as offices, retail spaces, housing and data centers remaining key areas of focus for both government and private stakeholders.

In recent years, logistics and warehousing have emerged as integral components of the construction ecosystem, driven by rapid urbanization and the growing demand for efficient supply chain networks. According to the NAREDCO-Knight Frank report, India's warehousing market is projected to witness demand for 159 million square feet by 2047, growing at a 4% CAGR. The surge in e-commerce and manufacturing continues to fuel investments in logistics parks, industrial corridors and modern warehousing facilities nationwide. Simultaneously, India's real estate sector is on track for substantial growth, with estimates suggesting it could reach USD 5.8 trillion by 2047, contributing 15.5% to the country's GDP.

Government spending remains a major catalyst for sectoral growth. In FY 2024-25, capital expenditure rose by 11.1% to USD 133 billion, accounting for 3.4% of GDP, which is expected to accelerate infrastructure development across India. Flagship programs like Pradhan Mantri Awas Yojana – Urban (PMAY-U) have achieved remarkable progress, with 1.18 crore houses

sanctioned, 86.6 lakh completed, and 1.15 crore grounded for construction as of September 10, 2024. These initiatives aim to bridge urban housing gaps while improving living standards nationwide.

Sustainability has become a central theme in the construction sector. Both government agencies and private developers are increasingly adopting green building practices and energy-efficient technologies to minimize environmental impact and promote sustainable urban growth. These efforts align with global climate objectives and contribute to long-term ecological preservation.

Overall, India's construction sector is poised for sustained expansion, supported by strong government initiatives, rising investments in logistics and warehousing and a growing emphasis on sustainability. Its role in strengthening infrastructure, enabling urbanization and driving economic growth underscores its strategic importance in India's broader economic framework. With ongoing programs like PMAY-U and HRIDAY, coupled with investments in modern infrastructure and green construction practices, the sector is not only addressing current needs but also laying the foundation for long-term economic resilience and sustainable urban development.

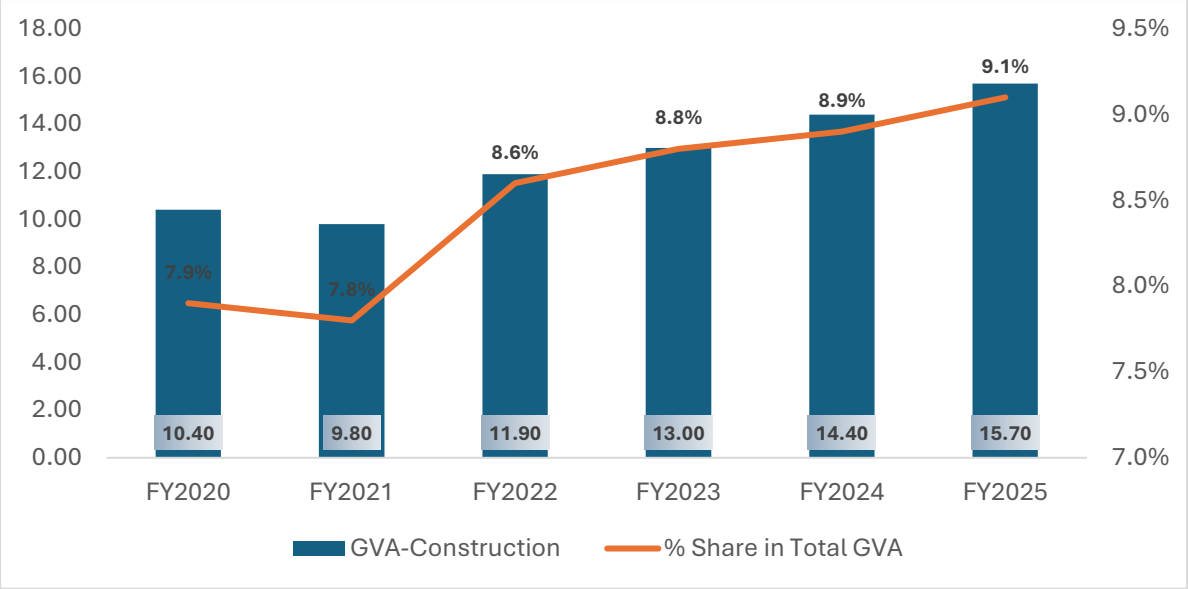
4.2 Constructure Sector: Market Structure

Table : India: Construction Industry: Market Structure

Attribute	Nature	Remarks
Market Structure	Fragmented	India's construction sector has a highly competitive and fragmented market structure, characterized by numerous players ranging from large infrastructure developers like Larsen & Toubro to numerous small and medium-sized firms, with a growing private sector contribution to a historically public-funded industry.
Market Growth	High	The construction market in India has grown at a CAGR of 15.6% during FY2021- FY2025. Looking forward, the construction market in India is expected to grow at a CAGR of 7.9% during FY2026-FY2030. Consistent capital expenditure, accelerating urbanization, and policy-linked incentives are pushing the sector toward the world's third-largest spot by value.
New Entrants	Low	High capital requirements for infrastructure, research, and development. Strict regulations by government making it difficult for new players to comply.
Product Differentiation	Low to Moderate	Product differentiation in the construction industry is generally considered to be low, due to the commodity-like nature of most construction projects and intense competition, but strategic differentiation is possible and necessary for companies to stand out and gain a competitive edge. Companies can achieve differentiation through unique building methods, specialized services, quality of management, brand reputation, and focusing on specific market niches rather than just price.

4.3 Contribution of Construction Sector to GVA & Importance to Economic Growth

Chart: Gross Value Addition - Construction (Rs Billion)



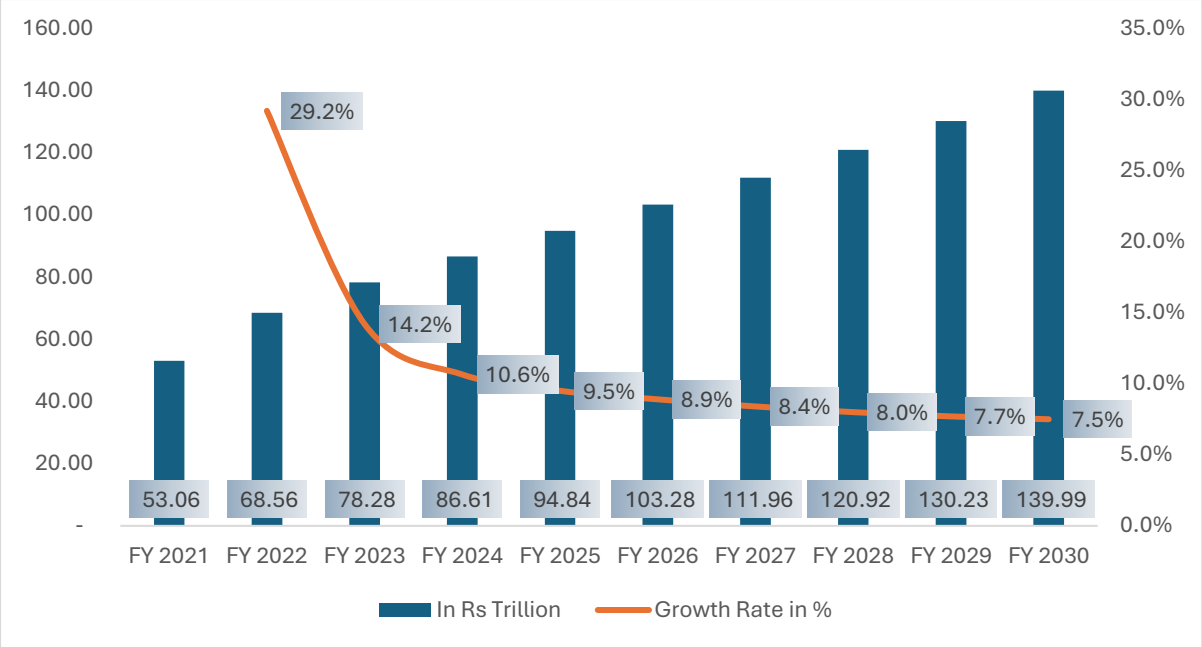
Source: Ministry of Statistics & Programme Implementation (base year 2011-12), ICRA Analytics

The construction sector continues to play a pivotal role in India's economic expansion, serving as both a key contributor to the national Gross Value Added (GVA) and a major generator of employment and industrial demand. According to the latest provisional estimates released by the Government of India (embargoed till May 30, 2025), the GVA from the construction sector increased from Rs14400 trillion in FY 2023-24 to Rs 15700 trillion in FY 2024-25, registering a strong annual growth rate of 9.4%.

This growth rate surpasses the overall national GVA growth of 6.4%, underlining the construction sector's resilience and expanding contribution to India's economy. The sector now accounts for approximately 9.1% of the national GVA, consolidating its position as one of the largest contributors within the secondary sector, after manufacturing. The steady expansion of construction activity has been driven by robust public investment, private sector participation, and the government's continued focus on infrastructure modernization through initiatives such as the National Infrastructure Pipeline (NIP), PM Gati Shakti Master Plan, and Smart Cities Mission. These programs have spurred growth in urban housing, industrial parks, logistics hubs, transport networks, and renewable energy infrastructure.

4.4 Market Trends and Forecasts of Construction Industry

Chart: Market Trends and Forecasts of Construction Industry (in Rs Trillion)



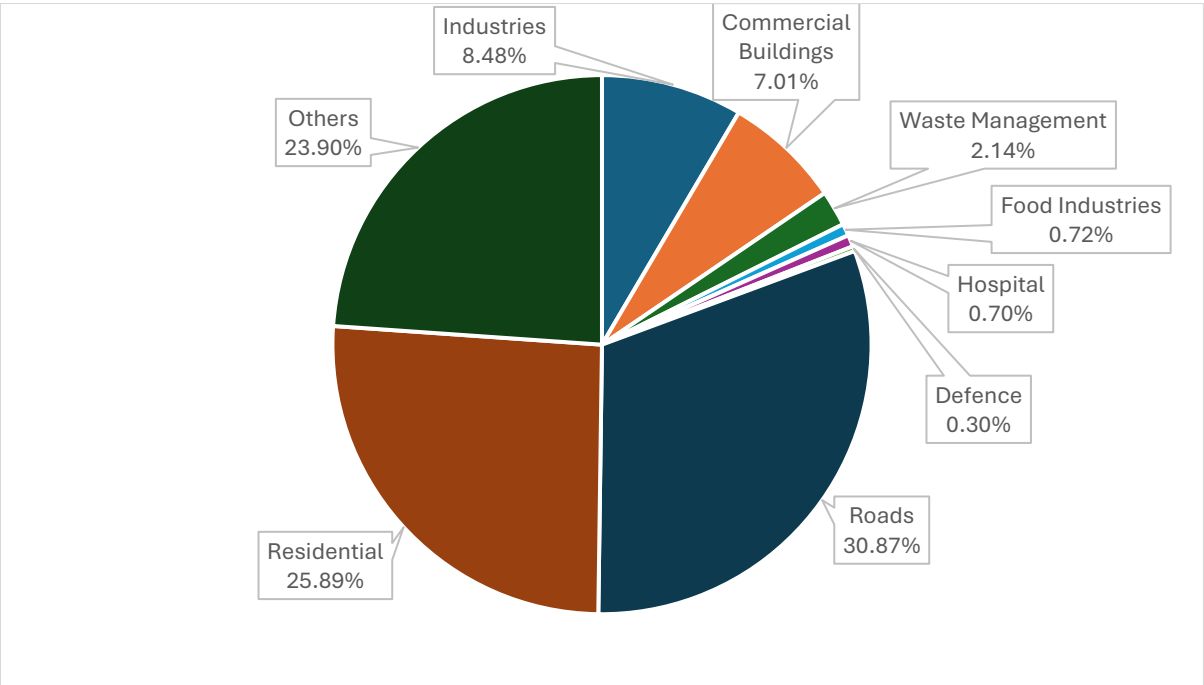
Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The construction sector in India was valued at INR 94.84 trillion in FY2025, reflecting a robust CAGR of 15.6% between FY2021 and FY2025. Projections indicate that the market will grow to Rs 139.99 thousand billion by FY2030, registering a CAGR of 7.9% over the period from FY2026 to FY2030.

The sector's momentum is fuelled by substantial government capital expenditure, with the FY2025–26 Union Budget earmarking INR 11.21 lakh crore for infrastructure development. In addition, the industry benefits from increasing private sector engagement through asset monetization and Public-Private Partnerships (PPPs), as well as accelerated urbanization and government-supported affordable housing schemes such as PMAY-U and state-level programs. Rising demand for construction inputs, record-level order books for major firms, and favourable foreign direct investment (FDI) norms further contribute to the sector's expansion. Collectively, these elements reinforce construction's position as a vital pillar of India's economic growth and urban transformation.

4.5 Market Breakup by Segmentation

Chart: India: Construction Market: Breakup by Segment (in %), FY2025



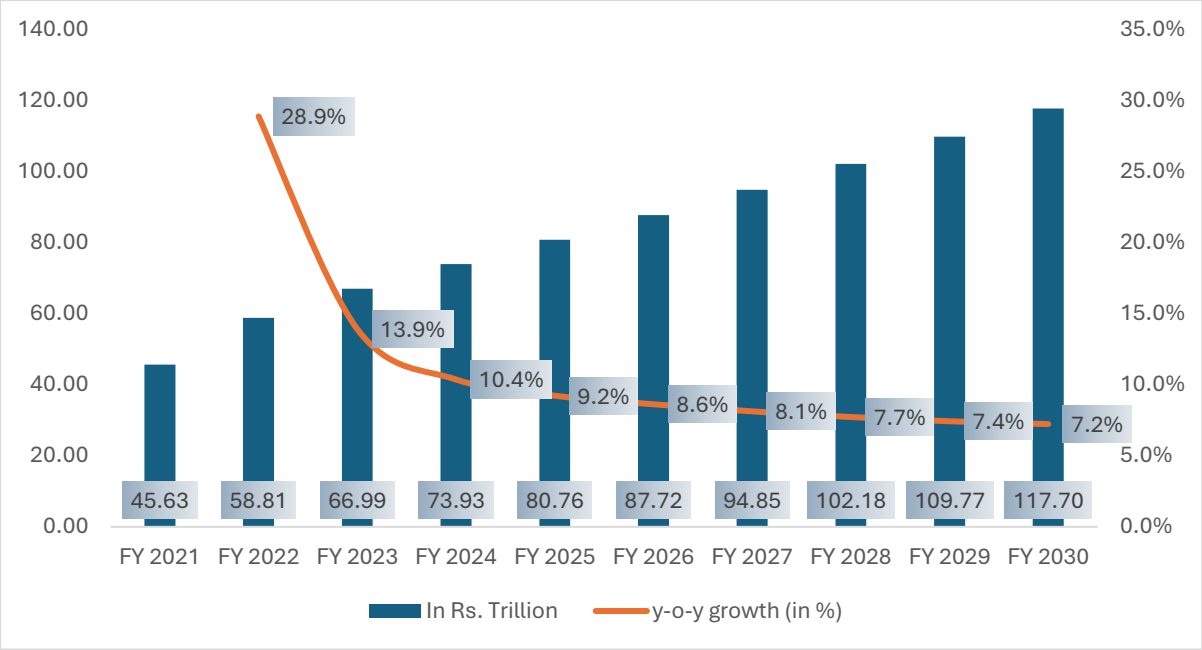
Source: IMARC, ICRA Analytics

In FY2025, Industries emerged as the largest segment in India's construction market, contributing 8.51% (Rs 8,076 billion) of the total market. Following Industries, Commercial Buildings accounted for 7.04% (Rs 6,677 billion), Waste Management for 2.15% (Rs 2,041 billion), Food Industries for 0.73% (Rs 688 billion), Hospitals for 0.71% (Rs 670 billion), Defence for 0.30% (Rs 283 billion), while Others represented the remaining 80.56% (Rs 76,408 billion).

The Others category primarily includes Roads (31.1%, Rs 29,496 billion), Residential (25.7%, Rs 24,374 billion), Railways (9.8%, INR 9,295 billion), Irrigation (3.3%, Rs 3,130 billion), with the remaining 9.1% (INR 8,583 Billion) attributed to other segments.

4.5.1 Industries

Chart: India: Construction Market (Industries): Value Trends (in Rs Trillion), FY2021–FY2030



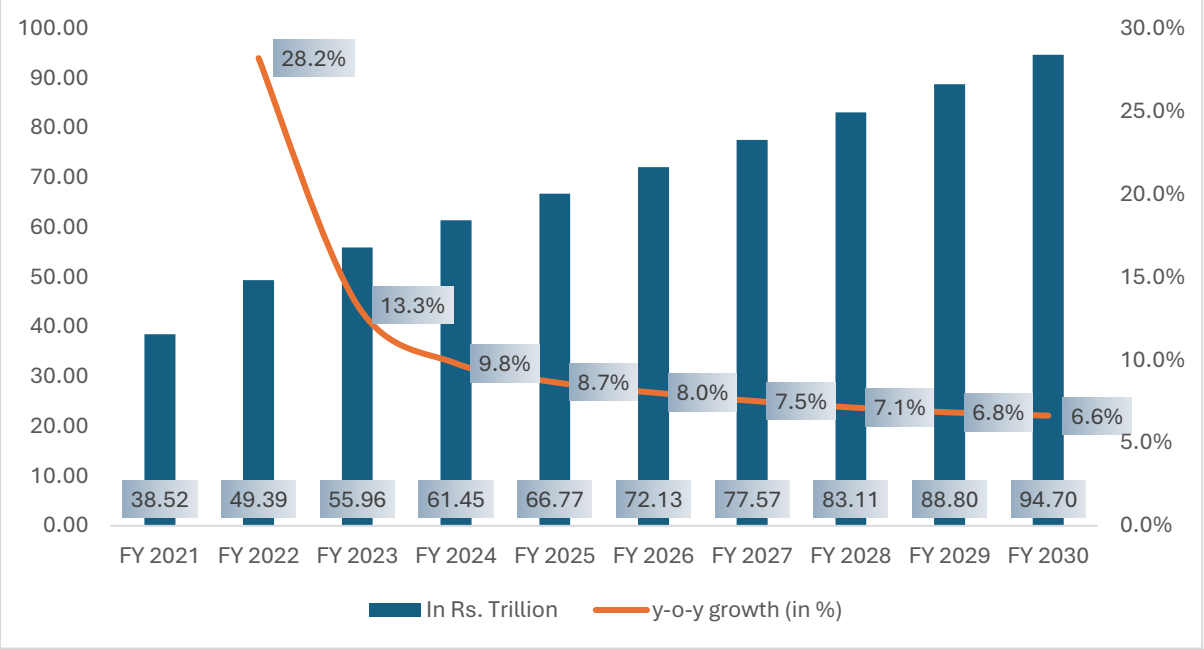
Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The industrial segment within India's construction market reached a value of Rs 8.08 trillion in FY2025, registering a CAGR of 15.3% during the period from FY2021 to FY2025. Looking ahead, this segment is projected to attain a market size of INR 11.77 thousand Billion by FY2030, reflecting a CAGR of 7.6% from FY2026 to FY2030.

Industrial construction has seen considerable acceleration driven by government initiatives like Make in India and Production Linked Incentive (PLI) schemes. The development of manufacturing clusters, logistics parks, and industrial corridors such as the Delhi-Mumbai Industrial Corridor (DMIC) and the Chennai–Bengaluru Corridor continues to attract large-scale investments. The sector's growth is further supported by strategic priorities such as domestic manufacturing (indigenization), green and sustainable production, and export-oriented infrastructure.

4.5.2 Commercial Buildings

Chart: India: Construction Market (Commercial Buildings): Value Trends (in Rs '000 Billion), FY2021–FY2030



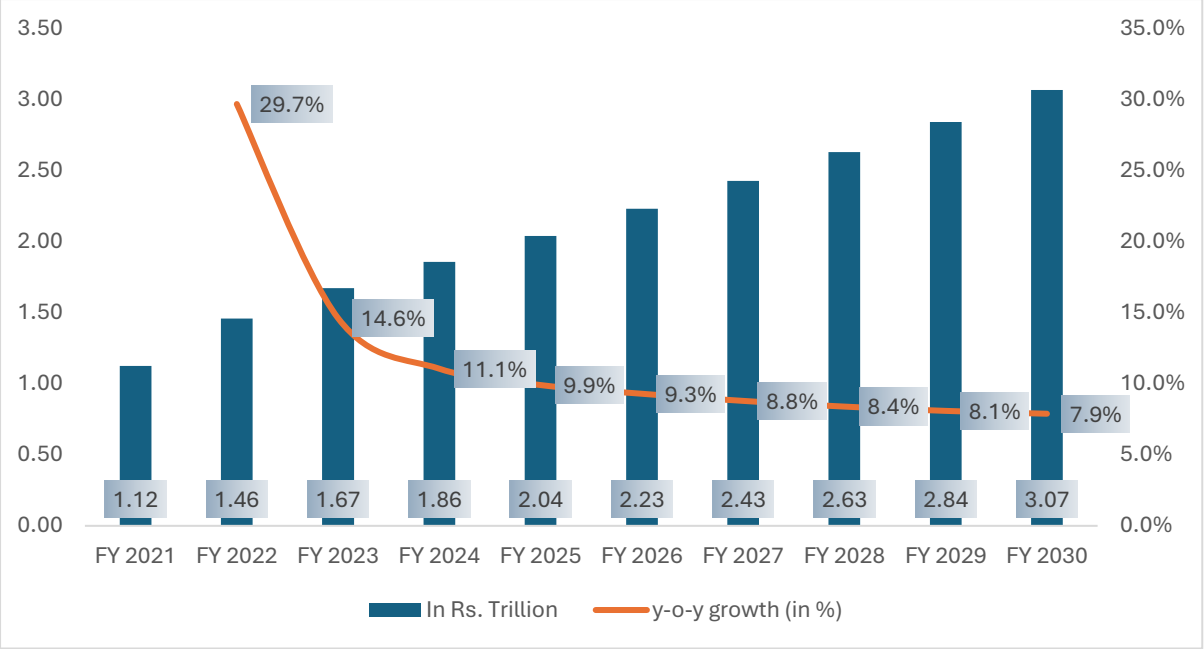
Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The commercial buildings segment in India's construction market was valued at Rs 6.68 thousand Billion in FY2025, recording a CAGR of 14.7% from FY2021 to FY2025. Looking ahead, the segment is projected to reach Rs 9.47 thousand Billion by FY2030, reflecting a CAGR of 7.0% between FY2026 and FY2030.

Commercial construction continues to be strong, fuelled by demand for office spaces, IT hubs, shopping malls, and hospitality infrastructure. The revival in business activities, along with the expansion of international companies in India, is driving construction momentum in key business cities like NCR, Mumbai, Pune, and Bengaluru. Additionally, there is a growing interest in mixed-use development projects.

4.5.3 Waste Management

Chart: India: Construction Market (Waste Management): Value Trends (in Rs Trillion), FY2021–FY2030



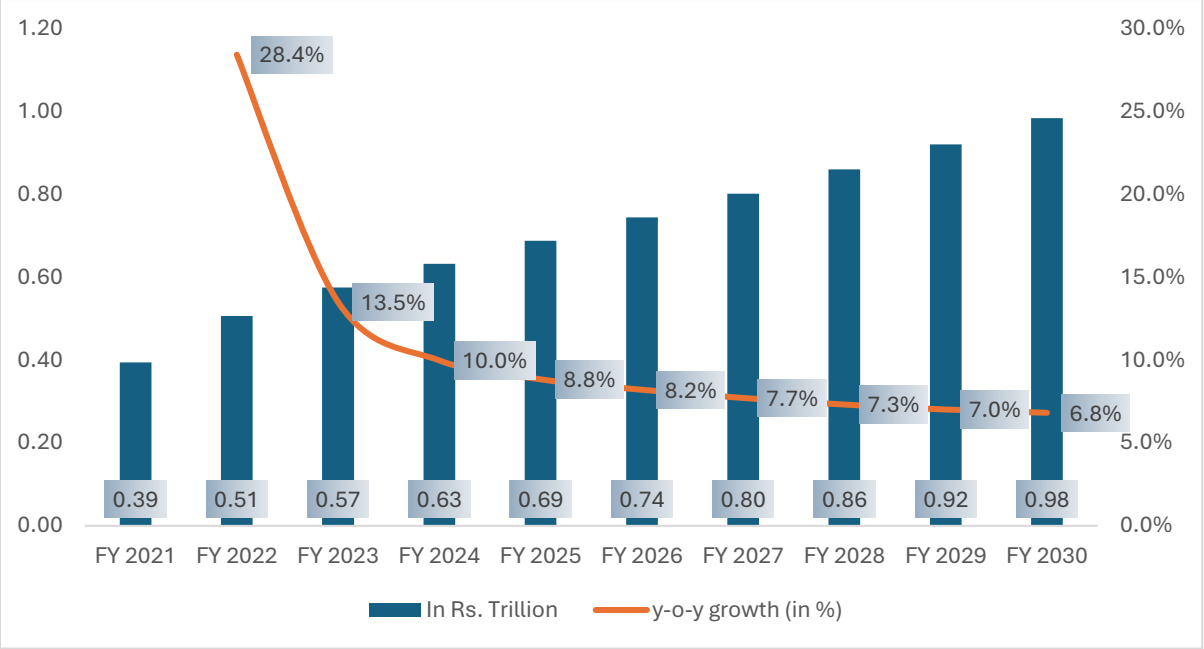
Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The waste management segment in India's construction market was valued at Rs 2.04 trillion in FY2025, registering a CAGR of 16.1% between FY2021 and FY2025. Looking ahead, this segment is projected to grow to Rs 3.07 trillion by FY2030, reflecting a CAGR of 8.3% from FY2026 to FY2030.

The growing pace of urbanization has intensified the need for solid waste and wastewater management infrastructure. Both municipal corporations and private entities are investing in recycling centers, treatment plants, and waste-to-energy projects. Flagship initiatives like the Swachh Bharat Mission and AMRUT (Atal Mission for Rejuvenation and Urban Transformation) have played a vital role in accelerating investments in this sector

4.5.4 Food Industries

Chart: India: Construction Market (Food Industries): Value Trends (in Rs Trillion), FY2021–FY2030



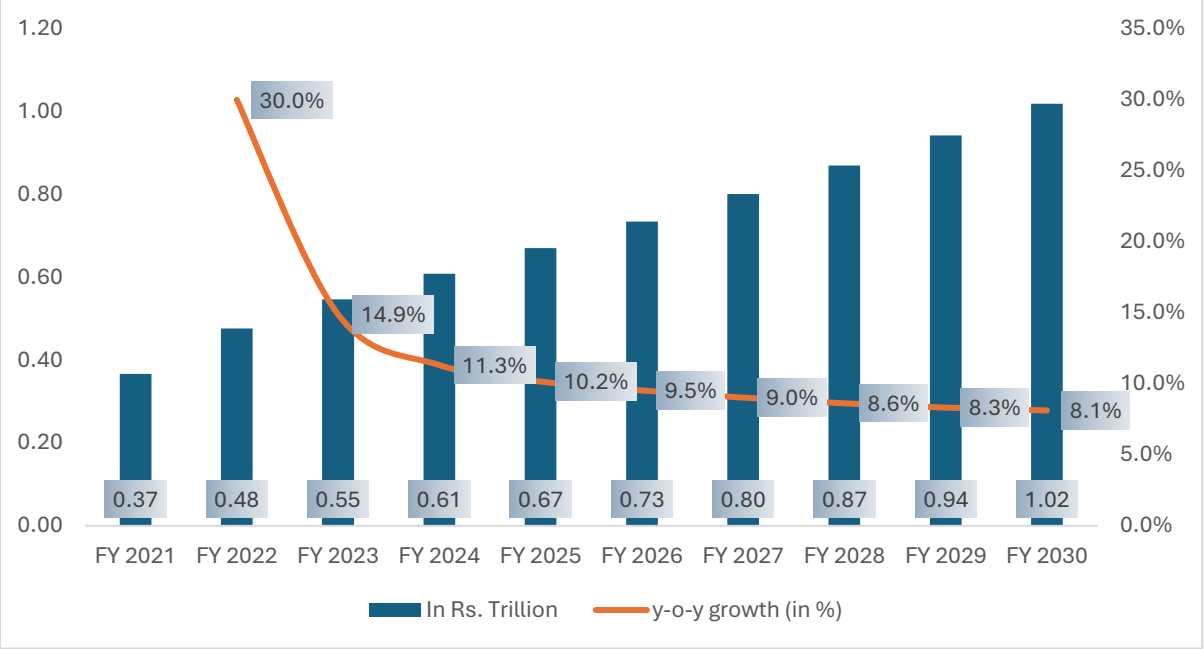
Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The food industries segment within India's construction market reached a value of Rs 0.69 trillion in FY2025, registering a CAGR of 14.9% during the period from FY2021 to FY2025. Looking ahead, this segment is projected to attain a value of Rs 0.98 trillion by FY2030, reflecting a CAGR of 7.2% from FY2026 to FY2030.

Growth in construction activities related to food processing and cold-chain infrastructure is being driven by increased export requirements, rising urban consumption, and governmental initiatives under the PM Kisan Sampada Yojana. Capital investment in food parks, processing centers, and storage infrastructure is opening up significant opportunities for industrial construction and logistics development.

4.5.5 Hospitals

Chart: India: Construction Market (Hospitals): Value Trends (in Rs Trillion), FY2021–FY2030



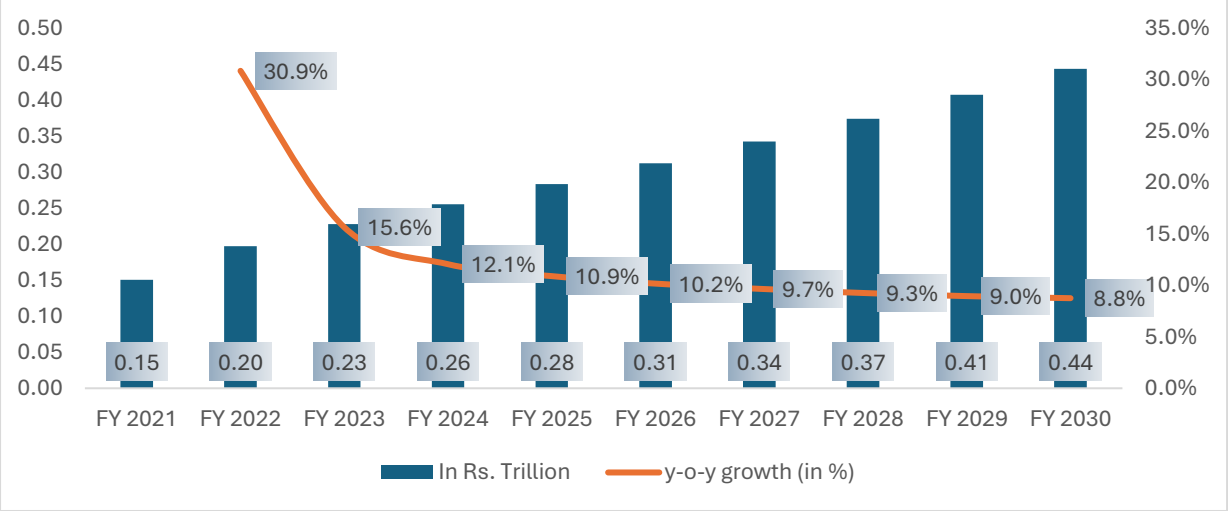
Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The hospitals segment in construction market in India reached a value of Rs 0.67 trillion in FY2025, representing a CAGR of 16.3%, during the period from FY2021 to FY2025. Looking forward, the market in this segment is expected to reach a value of Rs 1.02 trillion by FY2030, representing a CAGR of 8.5%, from FY2026 to FY2030.

Healthcare infrastructure has emerged as a high-growth segment following increased public and private investment post pandemic. Both Tier-I and Tier-II cities are witnessing the construction of multispecialty hospitals, diagnostic centres, and medical colleges. Public-Private Partnerships (PPPs) and private hospital chains are driving new project launches focused on enhancing healthcare access and capacity.

4.5.5 Defence

Chart: India: Construction Market (Defence): Value Trends (in Rs Trillion), FY2021–FY2030



Source: IMARC, ICRA Analytics

Note: Data for FY2026–30 is forecasted

The defence segment within India's construction market reached a value of Rs 0.28 trillion in FY2025, recording a CAGR of 17.1% between FY2021 and FY2025. Looking ahead, the market in this segment is projected to reach Rs 0.44 trillion by FY2030, with a CAGR of 9.2% from FY2026 to FY2030.

Infrastructure development in the defence sector including the construction of airbases, training centres, logistics facilities, and residential quarters for armed forces is gaining momentum under the Ministry of Defence's modernization drive. The push for indigenous defence production and the creation of new industrial corridors dedicated to defence manufacturing are further expanding the scope of this sector.

4.6 State-Wise Capital Expenditure Outlook and Budgetary Outlay by the Central and State Governments

4.6.1 India Construction CAPEX

Table: India: Construction CAPEX: Value Trends (in Rs Trillion), FY2021-FY2025

Particulars	FY2021	FY2022	FY2023	FY2024	FY2025	CAGR FY2021-FY2025
India Construction Capex Trends	21.54	21.32	16.47	15.41	15.81	-7.40%

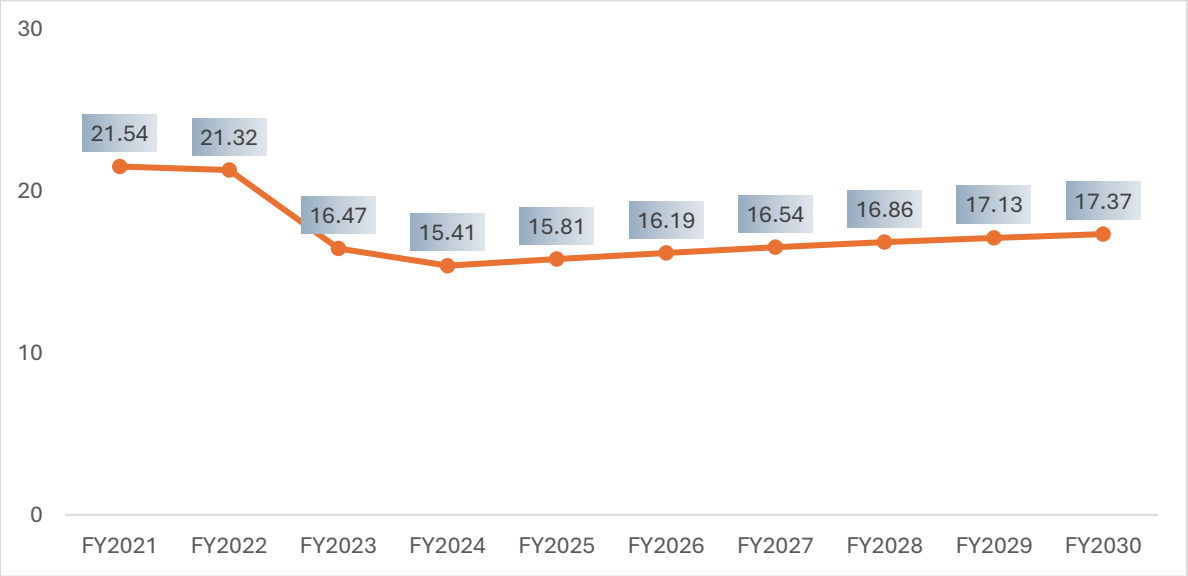
Source: IMARC, ICRA Analytics

Table: India: Construction CAPEX: Value Trends (in Rs Trillion), FY2026-FY2030

Particulars	FY2026	FY2027	FY2028	FY2029	FY2030	CAGR FY2026-FY2030
India Construction Capex Forecast	16.19	16.54	16.86	17.13	17.37	1.80%

Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

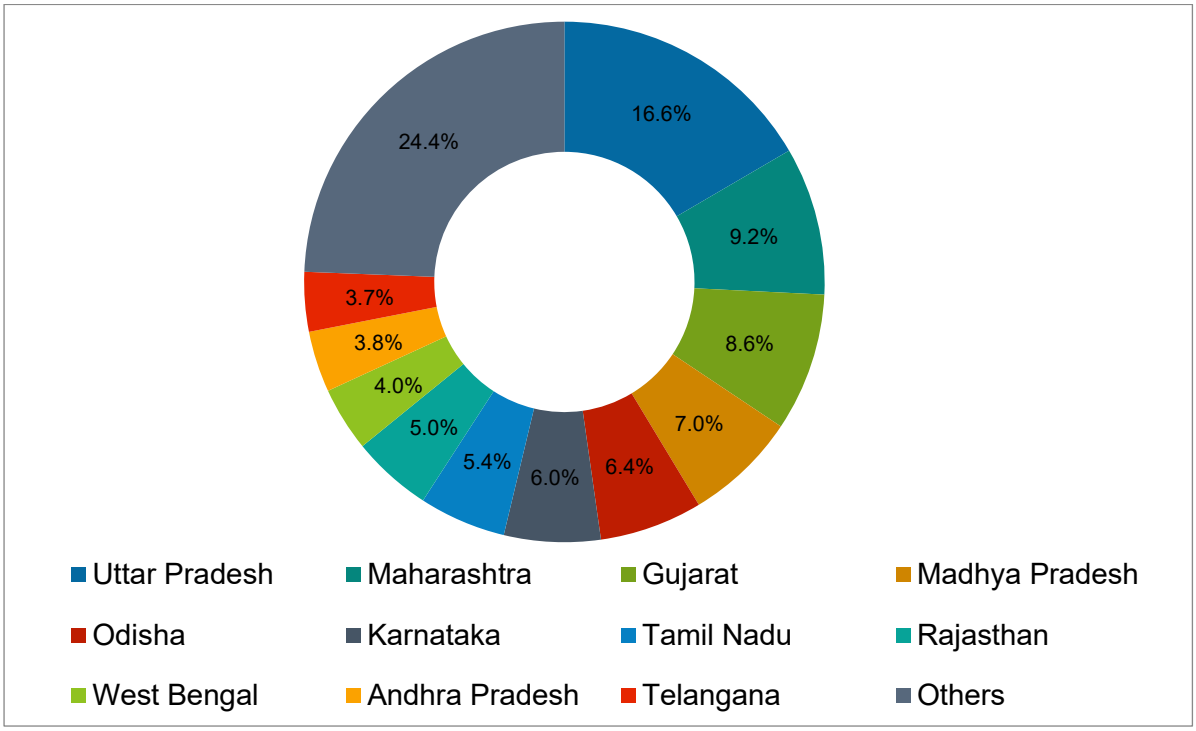
Chart: India: Construction CAPEX: Value Trends (in Rs Trillion), FY2021-FY2030



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

4.6.2 CAPEX Breakup by States

Chart: India: Construction CAPEX: Breakup by States (in %), FY2025



Source: IMARC, ICRA Analytics

Table: India: Construction CAPEX: Breakup by States (in %), FY2025

States	Share (in %)
Uttar Pradesh	16.6%
Maharashtra	9.2%
Gujarat	8.6%
Madhya Pradesh	7.0%
Odisha	6.4%
Karnataka	6.0%
Tamil Nadu	5.4%
Rajasthan	5.0%
West Bengal	4.0%
Andhra Pradesh	3.8%
Telangana	3.7%
Others	24.4%

Source: IMARC, ICRA Analytics

In FY2025, Uttar Pradesh held the highest share of construction capital expenditure among all Indian states, accounting for 16.6% of the overall allocation.

Maharashtra followed with a 9.2% share, trailed by Gujarat (8.6%), Madhya Pradesh (7.0%), Odisha (6.4%), Karnataka (6.0%), Tamil Nadu (5.4%), Rajasthan (5.0%), West Bengal (4.0%),

Andhra Pradesh (3.8%), and Telangana (3.7%). The remaining states together comprised 24.4% of the total capital expenditure.

4.7 Pricing Trends

Table: India: Construction Material Price Range (in INR)

Description	UoM	Price
Cement (Grade 43)	Rs/50 Kg Bag	380 to 410
Steel – Reinforcement	Rs/MT	69,000 to 71,000
Steel – Structural	Rs/MT	81,000 to 84,000
CP Coils	Rs/MT	95,000
Rockwool Insulation (50kg Density, 50mm thick)	Rs/SQM	160
Electrical – Al Cables (4Cx 4 Sq mm)	Rs/mtr	145 to 165
Electrical – CU Cables (4Cx 2.5 Sq mm)	Rs/mtr	215 to 225
Electrical – CU Cables (4Cx 4 Sq mm)	Rs/mtr	255 to 280

Note: Note: The study was conducted across multiple cities including Ahmedabad, Bengaluru, Hyderabad, Chennai, Delhi-NCR, Kolkata, Mumbai, and Pune.

Source: Savills India Cost Benchmarking Data. Cost data is as of H1 2024

- Construction costs in India have been on a consistent upward trajectory, primarily due to escalating prices of key inputs such as cement, steel, bitumen, aggregates, and rising labor and logistics costs. These inflationary pressures are influencing project budgeting and capital deployment across both residential and infrastructure segments.
- In Western India—particularly Maharashtra, Gujarat, and Rajasthan—construction costs tend to exceed the national average. This is mainly attributed to rapid urbanization, growing industrial bases, and premium real estate developments in metropolitan hubs like Mumbai, Pune, and Ahmedabad.
- Northern regions including Delhi-NCR, Uttar Pradesh, and Haryana are experiencing elevated pricing pressures stemming from extensive infrastructure initiatives, public housing schemes, and accelerated urban expansion. These dynamics contribute to heightened demand for construction services and materials, impacting regional cost structures.
- Price disparities across states also stem from differences in land acquisition costs, regulatory approval timelines, and logistical efficiency. These regional variances influence project feasibility, cost estimation, and investment decisions.
- To counter rising costs, developers are increasingly adopting modern construction technologies, bulk procurement strategies, and digital project management tools. These measures help streamline execution, contain cost escalations, and enhance transparency and predictability in project delivery.

4.8 Major Factors Driving the Construction Sector

Rise in Government Capital Spending: The Indian government's unwavering emphasis on infrastructure development continues to be a major growth driver for the construction sector. In the Union Budget 2025–26, the capital investment outlay was increased to ₹11.21 lakh crore (US$128.64 billion), representing 3.1% of GDP. This reflects a five-fold surge in infrastructure spending since 2015, highlighting its strategic role in boosting economic growth. The creation of the Infrastructure Finance Secretariat is another key initiative, aimed at enhancing private sector

involvement by streamlining investment processes and fostering better stakeholder coordination.

Asset Monetization and Public-Private Partnership (PPP): The government's strong focus on asset monetization and the PPP model is reshaping construction project funding. As part of the Second Asset Monetization Plan (2025–30), it plans to reinvest ₹10 lakh crore (US$115.34 billion) from recycled assets into new infrastructure projects. This encourages greater private investment in sectors like roads, airports, and industrial parks, narrowing funding gaps. The PPP model continues to be vital, offering a balanced approach between private expertise and public accountability for timely and efficient execution.

Urbanization and Affordable Housing Push: Rapid urbanization and a growing middle-income population are spurring significant demand in the housing and real estate segments. Policies like Maharashtra's Housing Policy 2025, titled "My House, My Right," aim to deliver 3.5 million affordable housing units by 2030, supported by an investment of ₹70,000 crore (US$8.43 billion). In parallel, national programs such as the Smart Cities Mission and PM Awas Yojana (Urban) are bolstering demand for both residential and commercial real estate, reinforcing the construction sector's position as a major employment generator and economic catalyst.

Expansion of Transport and Infrastructure: Massive outlays in transport and logistics are transforming India's connectivity landscape. The Union Finance Minister's proposal to connect 120 new airports over the next decade will enhance regional mobility for over four crore passengers. Landmark infrastructure projects—including the Mumbai–Ahmedabad Bullet Train, the Udhampur–Srinagar–Baramulla Rail Link, and expansions of expressways and metro systems—are driving large-scale construction activity. These developments not only improve national connectivity but also spur demand for materials, equipment, and skilled labor.

Cement Demand and Industrial Activity Surge: Construction sector momentum is further reinforced by robust growth in the cement and allied materials space. JM Financial estimates a 7–8% CAGR in cement demand during FY25E–27E, led by housing and infrastructure investments. Major players like Larsen & Toubro (L&T) reported record-high order inflows of ₹116,036 crore (US$13.97 billion) in July 2025, reflecting a healthy project pipeline across sectors like energy, transportation, water, and urban development.

Supportive Foreign Direct Investment (FDI) Landscape: India's liberal and investor-friendly FDI policies continue to attract global investment into the construction segment. The construction development industry—including townships, built-up infrastructure, and housing—ranks as the seventh-largest FDI recipient, contributing around 4% of total inflows and reaching ₹3,407 billion between April 2000 and March 2024. With 100% FDI allowed via the automatic route in most activities, India remains an attractive destination for long-term global infrastructure investors.

Policy Reforms and Economic Relevance: Since infrastructure liberalization in 1991, the government has introduced multiple policy reforms aimed at enhancing transparency, expediting project timelines, and attracting investment. Infrastructure continues to be prioritized as a key sector to propel GDP growth. Recent initiatives such as digital project monitoring systems and streamlined environmental clearances are further improving efficiency. Together with sustained public and private investment, these reforms are propelling India toward becoming the third-largest construction market globally solidifying its pivotal role in national development.

4.9 Threats and Challenges in the Sector

High Project Costs and Funding Limitations: A primary challenge in India's construction sector is the high capital requirement of infrastructure projects. Developments in areas like roads, railways, and urban transport demand large upfront investments and have extended gestation periods. While government spending has increased, issues like delays in fund release, limited access to low-cost long-term financing, and rising input costs—particularly for steel, cement, and fuel—continue to affect cash flows for contractors. Smaller firms, in particular, face difficulties accessing credit due to strict lending standards, often resulting in stalled or delayed projects.

Land Acquisition and Regulatory Delays: Land acquisition continues to be a major hurdle in timely project execution. Lengthy approval timelines, legal conflicts, and disputes over fair compensation to landowners frequently result in cost escalations and delays. Additionally, navigating India's multi-layered regulatory framework—requiring numerous permissions from central and state agencies (including environmental, forest, and zoning clearances)—slows down project timelines and discourages private investments.

Execution Delays and Budget Overruns: Delays and escalating costs are widespread, stemming from factors such as poor project management, disputes between contractors, logistical disruptions, and weather-related issues. A notable portion of infrastructure projects in India face delays exceeding six months, which often leads to financial losses and elevated debt burdens. These inefficiencies erode investor trust and put pressure on both public and private sector capital resources.

Environmental and Sustainability Constraints: Environmental challenges are becoming more pressing as construction activities scale up. The industry is one of the largest contributors to carbon emissions and consumes significant natural resources, particularly through cement production and construction waste. Although green construction practices are gaining traction, their adoption remains slow due to high costs of sustainable materials, lack of standardized certifications, and limited awareness among small developers. Furthermore, stringent environmental compliance norms can extend project approval timelines.

4.10 Major Players and their Market Share

Table: India: Construction Market: Key Players

Sr. No.	Company Name	Headquarters	Website
1.	Afcons Infrastructure Limited	Maharashtra	www.afcons.com
2.	Dilip Buildcon Limited	Madhya Pradesh	www.dilipbuildcon.com
3.	GMR Group	Delhi	www.gmrgroup.in
4.	K E C International Limited	Maharashtra	www.kecrpg.com
5.	Kalpataru Projects International Limited	Maharashtra	www.kalpataruprojects.com
6.	Larsen & Toubro Limited	Maharashtra	www.larsentoubro.com
7.	Lodha Developers Limited	Maharashtra	www.lodhagroup.com
8.	Megha Engineering and Infrastructures Limited	Telangana	www.meil.in
9.	Nagarjuna Construction Company (NCC) Limited	Telangana	www.ncclimited.com
10.	Tata Projects Limited	Maharashtra	www.tataprojects.com

Source: IMARC, ICRA Analytics

Table: India: Construction Market: Breakup by Key Players (in %), FY2025

Breakup by Key Players (in %)	FY2025
Larsen & Toubro Limited (L&T)	1.0%
Megha Engineering and Infrastructures Limited	0.4%
NCC Limited	0.2%
Tata Projects Limited	0.2%
Lodha Developers Ltd.	0.1%
Others	98.1%

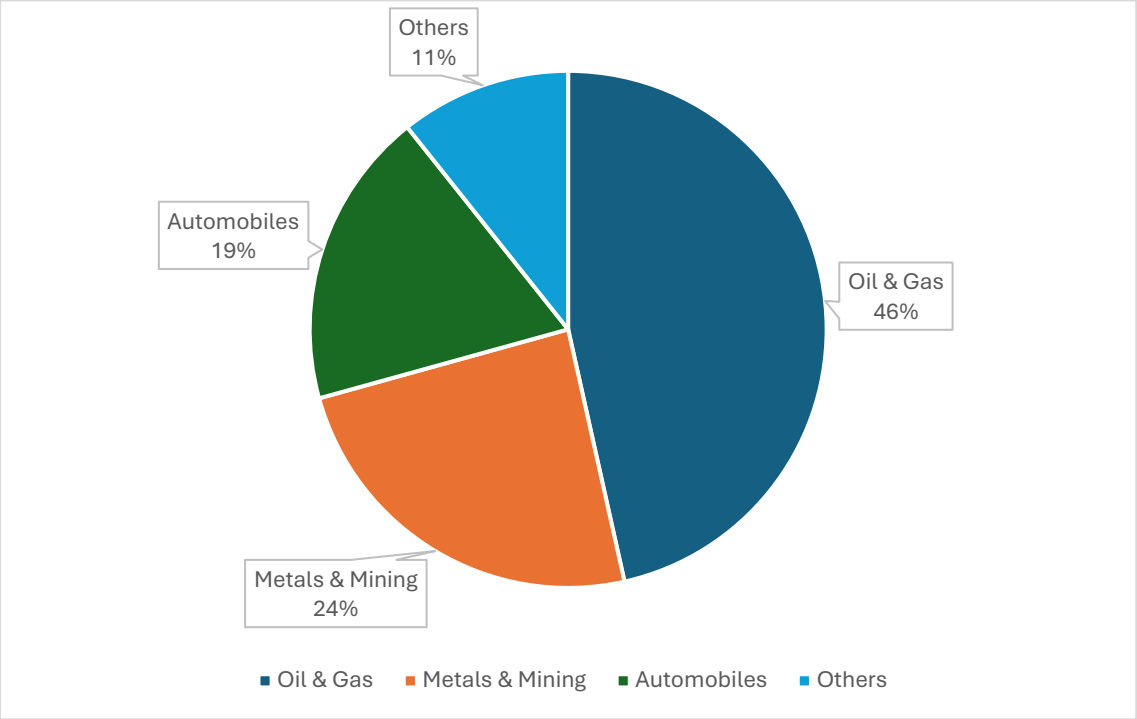
Source: IMARC, ICRA Analytics

- In FY 2025, Larsen & Toubro Limited dominated the India construction market, accounting for a share of 1.0% of the total market.
- Larsen & Toubro Limited was followed by Megha Engineering and Infrastructures Limited (0.4%), Nagarjuna Construction Company (NCC) Limited (0.2%), Tata Projects Limited (0.2%), Lodha Developers Ltd. (0.1%), and others (98.1%).

5. Industrial Construction Landscape in India

5.1 Key Segment of Industrial Segment

Chart: India: Industrial Construction Market: Breakup by Segment (in %), FY2025



Source: IMARC, ICRA Analytics

In FY2025, oil & gas represented the largest market for industrial construction market in India, accounting for a share of 46.5% (Rs 4,075 billion) of the total market. Oil & gas was followed by metals & mining (24.2%) (Rs 2,121 billion), automobiles (18.6%) (Rs 1,630 billion), and others (10.7%) (Rs 938 billion).

5.2 Demand Drivers

- Government Infrastructure and Industrial Policies: Programs such as Make in India, the Production Linked Incentive (PLI) schemes, and the National Manufacturing Mission are propelling industrial construction demand. These initiatives foster domestic manufacturing, attract both foreign and private investments, and support the development of industrial clusters, thereby increasing the requirement for factories, warehouses, and logistics facilities.
- Rising Manufacturing and Industrial Output: Manufacturing plays a vital role in India's economic framework, contributing approximately 16–17% to the GDP and employing over 27 million individuals. Key sectors such as automotive, engineering, chemicals, pharmaceuticals, consumer durables, electronics, and textiles are driving this momentum. The government is targeting an increase in manufacturing's GDP share to 25% through efforts demand flike Make in India and PLI schemes. Technological advancements—automation, digitalization, and process-driven systems are boosting efficiency and competitiveness. In July 2025, the HSBC India Manufacturing PMI reached a 16-month high of 59.1, reflecting strong factory demand and order growth. India is also becoming a significant part of global value chains, aiming to supply 10% of global wind energy components by 2030. Electronics value addition has surged from 30% to 70% and is expected to reach 90% by FY27. Major

global manufacturers like Apple are scaling local operations, with smartphone exports increasing to 22.9 million units in H1 2025 from 15 million the previous year. The National Manufacturing Mission, announced in the Union Budget 2025–26, emphasizes five pillars: ease of doing business, a skilled workforce, MSME empowerment, technology access, and quality manufacturing—alongside a focus on clean-tech sectors like solar, EV batteries, electrolysers, and wind turbines.

- Foreign Direct Investment (FDI) Inflows: FDI remains a key driver of India's industrial and manufacturing growth, fuelling demand for advanced infrastructure such as modern factories, R&D centers, and logistics hubs. India's liberal FDI policy allows 100% FDI through the automatic route in most sectors, with frequent updates to maintain global competitiveness. As a result, FDI inflows surged from USD 36.05 billion in FY2013–14 to a provisional USD 81.04 billion in FY2024–25, a 14% rise from USD 71.28 billion the year prior. The Ministry of Commerce reported an 18% rise in manufacturing-related FDI, reaching USD 19.04 billion in FY2024–25 from USD 16.12 billion in FY2023–24. This growth reflects strong international confidence in India's industrial policies and its potential as a global manufacturing hub.
- Development of Industrial Parks and SEZs: Government efforts to promote industrial clusters, Special Economic Zones (SEZs), and export-driven units are accelerating the construction of integrated industrial townships, increasing demand for industrial real estate.
- Logistics and Supply Chain Expansion: The e-commerce boom and growth in retail and export-oriented sectors are reshaping logistics demand. There is a rising need for Grade-A warehouses, cold storage, and Multi-Modal Logistics Parks (MMLPs). The PM Gati Shakti initiative is streamlining logistics connectivity across ports, airports, rail, and road, catalyzing construction across Tier-1 and Tier-2 cities.
- Technology and Skilling Infrastructure: The expansion of technology parks, centers of excellence, and skill development institutions for industrial sectors necessitates specialized construction for laboratories, training centers, and research facilities.
- Sustainability and Green Industrial Development: The rise of clean technology and renewable energy manufacturing is prompting demand for eco-friendly industrial infrastructure, such as energy-efficient factories, solar-equipped warehouses, and sustainable design practices.

5.3 Government Initiatives Driving Industrial Growth: Impact of Make in India and the PLI Scheme

- **Make in India Initiative:** Launched in 2014, the Make in India initiative is designed to bolster India's domestic manufacturing capabilities by improving ease of doing business, attracting foreign direct investment (FDI), and enhancing integration into global value chains. Covering 25 strategic sectors ranging from electronics and automobiles to textiles, pharmaceuticals, and renewable energy it aims to foster self-sufficiency and reduce reliance on imports.
- **National Manufacturing Mission:** A key component of Make in India, the National Manufacturing Mission is focused on clean-tech manufacturing, targeting sectors like solar PV cells, EV batteries, and renewable energy components. It promotes domestic production, minimizes import reliance, and accelerates the development of sector-specific industrial ecosystems.
- **Production Linked Incentive (PLI) Scheme:** Introduced in 2020 with a financial outlay of Rs 1.97 lakh crore, the PLI scheme offers performance-based incentives across 14 priority sectors including electronics, pharma, automobiles, textiles, and white goods. By March 2025, it had attracted Rs1.76 lakh crore in investments, generated Rs 16.5 lakh crore in sales,

and created over 12 lakh jobs (direct and indirect). The scheme supports scale, technology adoption, and global competitiveness.

- **Investment Friendliness Index of States:** Expected to roll out in 2025, this index will assess, and benchmark states based on their investment climate. It aims to foster competitive federalism by identifying gaps, encouraging reforms, and promoting innovation to attract more industrial investments nationwide.
- **National Centres of Excellence for Skilling:** Five advanced skilling centres are being planned to equip India's youth with globally relevant manufacturing skills. These institutions will enhance labour productivity, close skill gaps in Tier-2 and Tier-3 cities and enable MSMEs to integrate into industrial value chains effectively.
- **BCD Exemptions on Critical Capital Goods and Minerals:** The government has waived Basic Customs Duty on key capital goods used for manufacturing EVs and mobile phone batteries, as well as on essential minerals like cobalt, lithium, zinc, and lead. These exemptions help reduce input costs, encourage local manufacturing at scale, and support India's broader self-reliance goals in strategic industries.

The synergy between Make in India and the PLI Scheme has catalysed structural transformation, boosting domestic manufacturing output, exports, and employment. Sector-specific industrial clusters, such as semiconductor parks in Gujarat, MMF clusters in Surat, and medical device parks in Andhra Pradesh and Tamil Nadu, are fostering robust supply chains and MSME participation, positioning India as a global manufacturing hub and advancing the goal of a USD5 trillion economy.

Table: Major PLI Schemes with Highest Budget Allocations under Union Budget 2025–26

Name of Scheme	Budget Estimates 2025–26 (INR Billion)
PLI Scheme in Electronics Manufacturing and Hardware	90
PLI Scheme for Automobiles and Auto Components	28.19
PLI Scheme for Pharmaceuticals	24.45
PLI Scheme for Textile	11.48
PLI Scheme for White Goods (ACs and LED Lights)	44.54
PLI Scheme for Speciality Steel	3.05
PLI Scheme for National Programme on Advanced Chemistry Cell (ACC) Battery Storage	1.56

Source: Union Budget 2025-26, ICRA Analytics

5.4 Qualitative Insight on EPC opportunities on account of Industrial Development and Capital Expenditure

Growing Industrial Investments and EPC Opportunities: India's surge in industrial investments driven by key initiatives like Make in India, Production Linked Incentive (PLI) schemes, and the expansion of industrial corridors is opening significant avenues for EPC (Engineering, Procurement, and Construction) firms. The increased pace of manufacturing across multiple sectors is translating into heightened demand for construction, engineering, and infrastructure-related services.

Sectoral Growth Fuelling EPC Demand: Industries such as electronics, electric vehicles (EVs), specialty chemicals, renewable energy, and pharmaceuticals have seen a substantial uptick in project rollouts and expansions. The boost in PLI allocations and exemptions on capital equipment for EV and battery production is spurring the construction of new manufacturing plants and large industrial facilities, expanding the pipeline for EPC contracts.

Renewable Energy as a Key Driver: According to the Economic Survey, India's renewable energy sector is poised to receive ₹30.5 trillion in investments between 2024 and 2030, emerging as a major EPC growth engine. Projects in solar and wind energy generation, energy storage, and green hydrogen infrastructure are expected to provide consistent opportunities for EPC firms with expertise in power systems, electrical design, and process engineering.

Infrastructure Corridors and Master Plans: Flagship infrastructure initiatives such as the Delhi–Mumbai Industrial Corridor (DMIC) and the Gati Shakti National Master Plan are driving EPC demand for the development of industrial hubs, logistics parks, utility services, and transportation linkages connecting production zones to markets, highways, and ports.

Clean Technology Manufacturing Needs Specialized EPC Skills: The growing emphasis on clean tech manufacturing including solar modules, EV batteries, and green energy components requires EPC contractors skilled in precision civil engineering, automation systems, and sustainable construction practices aligned with international environmental and quality standards.

Evolving EPC Delivery Models: EPC companies are increasingly transitioning toward integrated turnkey solutions, making use of digital project management platforms and modular construction methods to meet time and cost efficiency goals. Firms with strong capabilities in energy-efficient architecture, green building certifications, and tech-enabled execution are becoming the preferred partners for industrial developers.

5.5 Threats and Challenges in the sector

Land Acquisition and Regulatory Hurdles: Securing large, contiguous land parcels for industrial developments continues to be a significant challenge due to fragmented land ownership, intricate legal structures, and prolonged approval processes. These complications often lead to delays in project execution and escalate costs for both developers and investors.

Rising Construction and Input Costs: Increasing prices of essential materials like steel, cement, and aggregates, coupled with elevated logistics expenses, have raised overall construction costs. Market volatility and dependence on imported specialized materials further pressure project profitability.

Environmental and Sustainability Compliance: More stringent environmental regulations and protracted clearance procedures contribute to delays in project timelines. Industrial

developments must now include sustainable practices, effective waste management systems, and renewable energy components, which raise initial capital costs.

Skilled Labour Shortages: Despite a large labor force, the sector faces a deficit of skilled workers and project managers. The lack of trained professionals in modern construction methods and sustainability practices negatively affects project quality and productivity.

Financing Constraints and Capital Delays: Elevated interest rates, risk-averse lending by financial institutions, and limited availability of long-term infrastructure financing make it difficult to fund large-scale industrial initiatives, particularly for MSMEs and smaller contractors.

Infrastructure Gaps and Connectivity Issues: Insufficient last-mile connectivity, inadequate logistics infrastructure, and limited availability of essential utilities like electricity and water in certain areas reduce the viability of industrial sites and delay project implementation.

Project Execution Delays: Delays in execution due to land acquisition issues, policy uncertainties, design modifications, and inefficiencies among contractors are common. These setbacks inflate project costs and diminish investor confidence, especially in PPP-based developments.

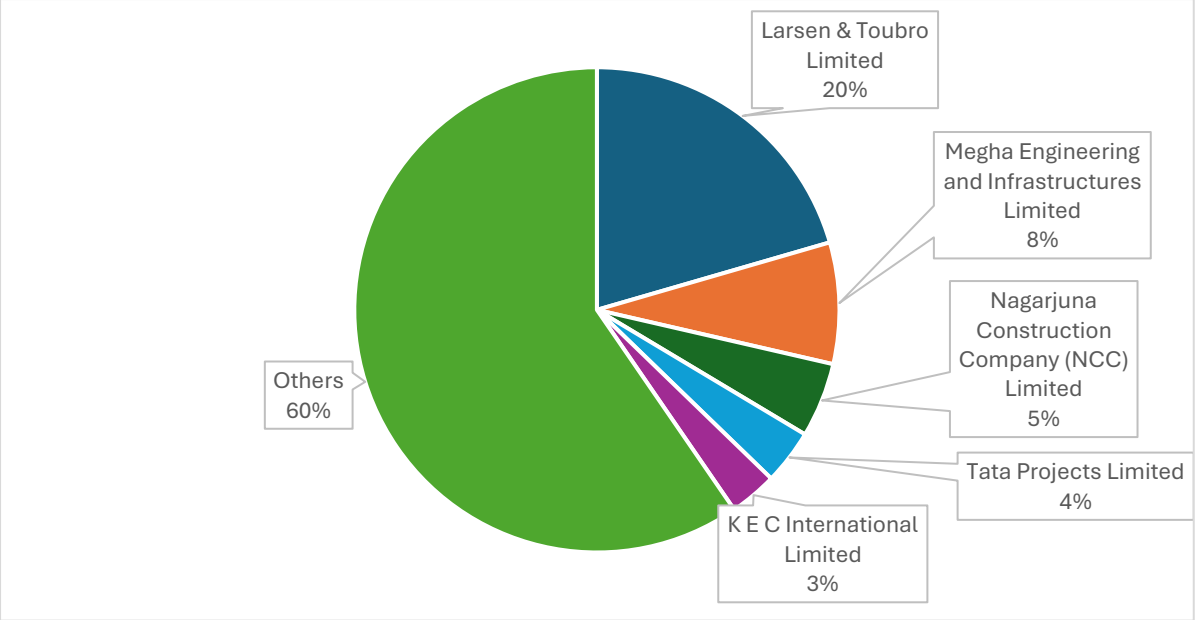
5.6 Major Players and their Market Share

Table: India Industrial EPC Market: Key Players

S. No.	Company Name	Headquarters	Website
1	**Afcons Infrastructure Limited**	Maharashtra	www.afcons.com
2	**Ashoka Buildcon Limited**	Maharashtra	www.ashokabuildcon.com
3	**Dilip Buildcon Limited**	Madhya Pradesh	www.dilipbuildcon.com
4	**J Kumar Infraprojects Limited**	Maharashtra	www.jkumar.com
5	**K E C International Limited**	Maharashtra	www.kecrpg.com
6	**Kalpataru Projects International Limited**	Maharashtra	www.kalpataruprojects.com
7	**Larsen & Toubro Limited**	Maharashtra	www.larsentoubro.com
8	**Megha Engineering and Infrastructures Limited**	Telangana	www.meil.in
9	**Nagarjuna Construction Company (NCC) Limited**	Telangana	www.ncclimited.com
10	**Tata Projects Limited**	Maharashtra	www.tataprojects.com

Source: IMARC, ICRA Analytics

Chart: India: EPC Market: Breakup by Key Players (in %), FY 2025



Source: IMARC, ICRA Analytics

In FY2025, Larsen & Toubro Limited (L&T) dominated the India industrial construction market, accounting for a share of 1.6% of the total market. Larsen & Toubro Limited (L&T) was followed by K E C International Ltd (1.2%), Kalpataru Projects International Limited (1.0%), Tata Projects Limited (0.9%), Afcons Infrastructure Limited (0.6%), and others (94.7%).

6. Residential Construction Scenario In India

6.1 Insights on Residential Sector in India

6.1.1 Annual Launches, Completion Status & Inventory Scenario

- **New Launches:** In 2024, the top seven cities recorded approximately 4.12 lakh new unit launches, marking a 7% year-on-year decline from the 4.46 lakh units launched in 2023. However, this still represents a substantial 74% increase compared to the 2.36 lakh units launched in 2019. The majority of these launches came from MMR, Hyderabad, Pune, and Bengaluru, which together contributed 79% of the total. Despite the slight dip from 2023, the 2024 figures reflect a strategic and cautious approach by developers aimed at maintaining market balance and avoiding oversupply.
- **Housing Sales:** Residential sales in 2024 reached around 4.59 lakh units, showing a robust 76% growth over 2019 levels, though slightly down by 4% compared to 2023. MMR, Pune, Bengaluru, Hyderabad, and NCR accounted for 92% of these sales across the top seven cities. This performance, achieved despite elevated interest rates and property prices, underscores strong buyer sentiment, resilient demand, and the enduring appeal of housing as a preferred investment avenue.
- **Inventory Overhang:** By the end of 2024, inventory overhang in the top seven cities stood at 14 months—down 7% from 2023 and a significant 62% reduction from the 30-month level seen in 2019. This sharp decline highlights robust buyer activity and a disciplined approach to new supply, indicating improved market efficiency, better supply-demand alignment, and overall stability in the residential real estate sector.

Table: Residential Construction Activity in Top 7 Indian Cities – 2024

Metric	PAN India	NCR	MMR	Bengaluru	Pune	Hyderabad	Chennai	Kolkata
Launches (Units)	4,12,500	53,000	1,34,500	71,000	60,500	58,300	20,900	14,200
YoY Launches	-7%	44%	-15%	30%	-28%	-24%	4%	-15%
Sales (Units)	4,59,600	61,900	1,55,300	65,200	81,100	58,500	19,200	18,300
YoY Sales	-4%	-6%	1%	2%	-6%	-5%	-11%	-20%
Average Capital Value (INR/sqft)	8,590	7,550	16,600	8,380	7,720	7,300	6,790	5,820
YoY Capital Value	21%	30%	21%	28%	14%	27%	14%	13%
Inventory Overhang (Months)	14	17	14	10	12	20	18	17
YoY Overhang	-7%	-2%	-11%	13%	-14%	5%	21%	6%

Note: Pan-India refers to top 7 cities of India only. Average price in INR/sf as quoted on BSP on BUA. Rounding may result in minor variations between the stated and calculated values.
Source: ANAROCK Annual Report 2024, IMARC, ICRA Analytics

6.1.2 Key Micro Market & Trends in those Markets

India's residential construction sector, primarily driven by contractual development, continues to grow steadily, supported by rapid urbanization, infrastructure upgrades and increasing demand for mid to high-end housing. Tier-1 cities remain central to large-scale construction contracts due to their dense populations, strong economic activity and higher income levels. Within these cities, specific micro-markets exhibit unique trends:

- **Mumbai:** Contractual activity is concentrated in South Mumbai and the Western suburbs, with rising demand for spacious homes and luxury apartments. Growth is fuelled by increasing disposable incomes, a favorable economic outlook and urgency among buyers to invest amid rising property prices.

- **National Capital Region (NCR):** Gurugram leads in residential construction contracts, especially in premium segments. Peripheral zones such as Dwarka Expressway, Central Peripheral Road and Southern Peripheral Road have seen heightened activity, aided by government efforts to revive stalled projects in Noida, Greater Noida, and Ghaziabad.
- **Bengaluru:** South Bengaluru, including IT hubs like Electronic City, along with emerging areas in North Bengaluru, are key drivers of residential construction. Proximity to employment centers and strong end-user demand continue to support consistent project development.
- **Pune:** The Western Zone dominates construction activity, backed by a thriving IT sector, infrastructure enhancements and competitive building costs. Developers are focusing on mid-income and affordable premium housing projects.
- **Chennai:** South and West Chennai are the main hubs for residential construction, supported by the IT and industrial sectors. While the city is still recovering from the pandemic, demand for quality housing remains stable.
- **Hyderabad:** West Hyderabad leads due to its closeness to HITEC City and the Financial District. North Hyderabad is emerging as a key area for residential development, driven by affordability and improving infrastructure.
- **Kolkata:** Construction activity is concentrated in the South and North regions, including Rajarhat, propelled by infrastructure growth and proximity to employment hubs.
- **Ahmedabad:** Expansion zones in the city are witnessing aggressive project launches, keeping construction activity robust. Availability of large plots, proactive government planning and continued affordability are supporting sustained growth.

Across Tier-1 cities, the residential construction market is marked by high project volumes, a focus on infrastructure-ready areas and an emphasis on timely delivery. Meanwhile, Tier-2 and Tier-3 cities are gradually gaining traction due to better connectivity, lower construction costs and government incentives indicating a broader geographic expansion of contractual residential development in India.

The micro-markets listed in the table are the primary hubs for sales of high-value and luxury residential properties thereby representing the key areas where significant residential construction activity is concentrated.

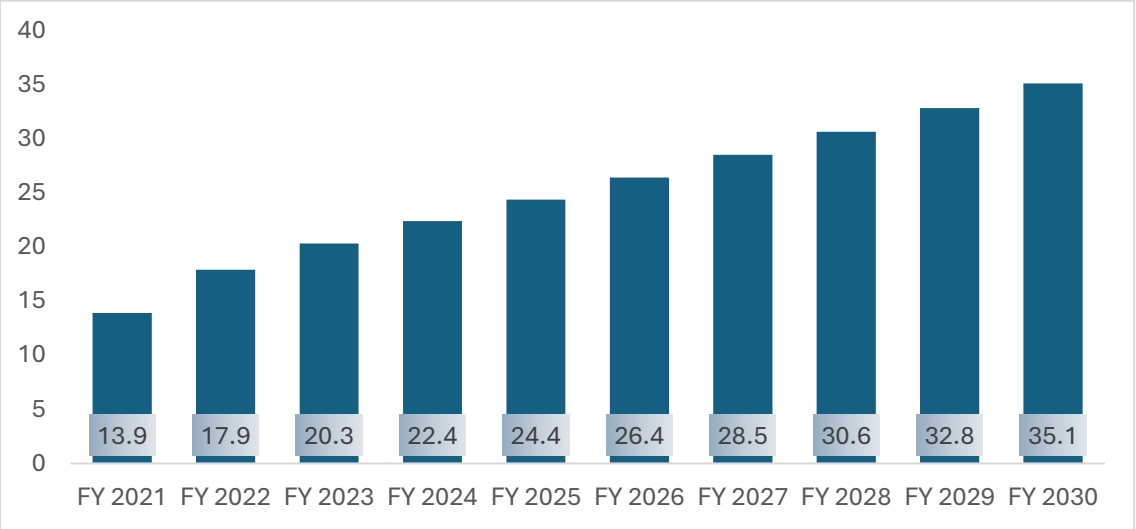
Table: Luxury Housing Micro-Markets

City	Key Micro-Markets
Ahmedabad	Bodakdev, Ambli, Satellite Road, Jodhpur Village, Shantigram, Law Garden
Bengaluru	RMV II Stage Extn, Indiranagar, Koramangala, Basavangudi, Jayanagar, Malleswaram, HSR Layout, Whitefield
Chennai	T. Nagar, Adyar, Aminjikarai, R A Puram, MRC Nagar, Anna Salai, Alwarpet, Thiruvanmiyur (OMR), Velachery, Keelakattalai, Kilpauk, Perambur
Hyderabad	Jubilee Hills, Banjara Hills, Madhapur, Gachibowli, Nanakramaguda, Kokapet, Gandipet, Narsingi
Kolkata	Elgin Road, Shakespeare Sarani Rd, Rawdon Street, Camac St, Ballygunge, Alipore HO, Jubilee Park, Jodhpur Park
Mumbai	Walkeshwar, Altamount Road, Nepean Sea Road, Hughes Road, Worli, Malabar Hill, Bandra (W), Tardeo, Juhu, Prabhadevi, Khar (W)
National Capital Region (NCR)	Greater Kailash, Vasant Kunj, Hauz Khas, Defence Colony, Friends Colony, Jor Bagh, Chanakyapuri, Panchsheel Enclave, Karol Bagh, Golf Course Road, Golf Course Extension Road, Southern Peripheral
Pune	Prabhat Road, Senapati Bapat Road, Deccan Gymkhana, Model Colony, Gokhale Nagar, Boat Club Road, Shivajinagar, Erandwane, Koregaon Park, Kalyani Nagar

Source: Analyst, IMARC, ICRA Analytics

6.1.3 Market Trends and Forecasts - Residential Construction Industry

Figure: India: Residential Construction Market: Value Trends (in INR Trillion), FY2021-FY2030



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

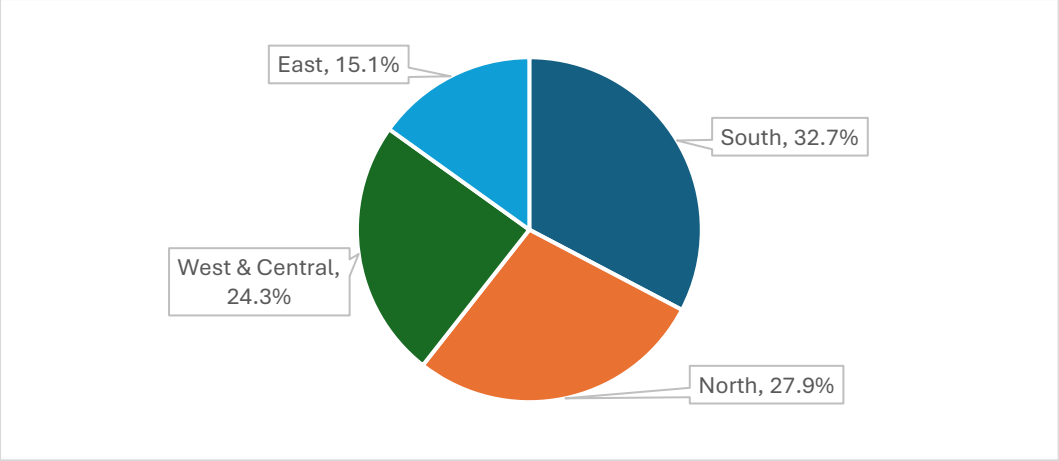
India's residential construction market reached a value of INR 24.7 trillion in FY2025, registering a compound annual growth rate (CAGR) of 15.1% between FY2021 and FY2025. Looking ahead, the market is projected to grow to INR 35.1 trillion by FY2030, reflecting a CAGR of 7.4% from FY2026 to FY2030.

The sector's momentum is driven by factors such as increasing urban migration, enhanced public-sector housing allocations, and consistent private capital investments, which help maintain growth despite fluctuations in material costs. Demand is expanding beyond tier-I cities, with tier-II and tier-III regions witnessing infrastructure development. Additionally, hybrid work models are influencing preferences for larger homes with integrated workspaces.

In a notable development from January 2025, Godrej Properties acquired 24 acres in Indore for a premium plotted housing project covering 6.2 lakh sq. ft of saleable area. Rising disposable incomes and the expansion of the middle class are also contributing to a premiumisation trend, as consumers increasingly seek high-performance, low-maintenance housing solutions.

6.1.4 Market Breakup by Region and their Future Prospects

Figure: India: Residential Construction Market: Breakup by Region (in %), FY2025

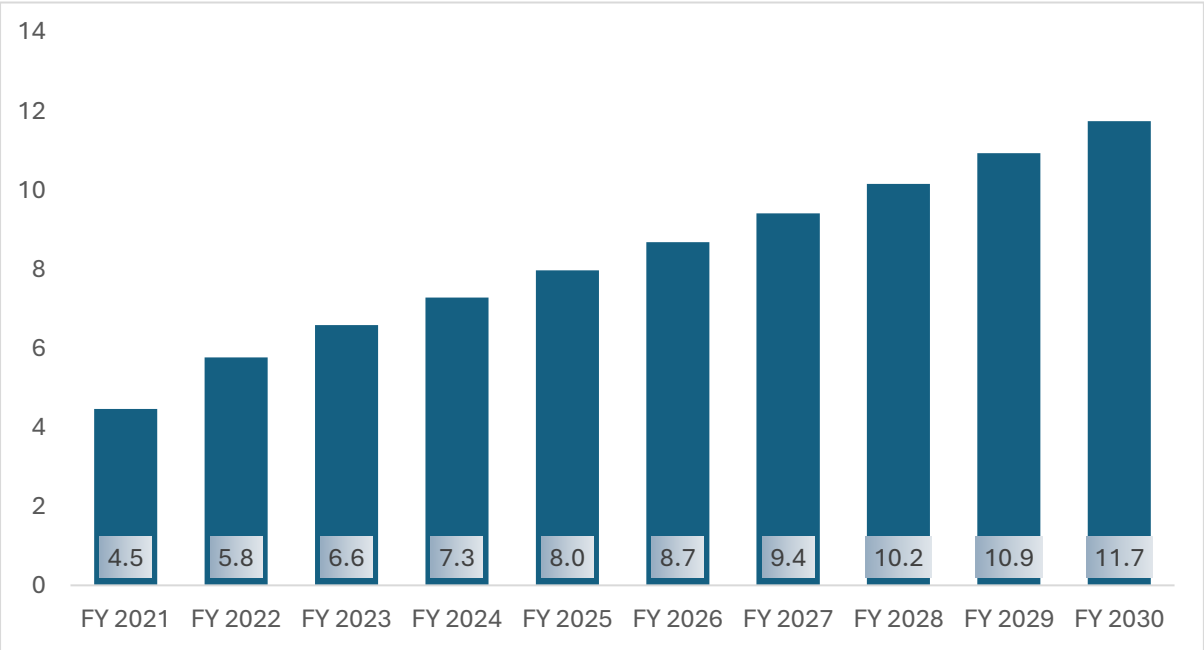


Source: IMARC, ICRA Analytics

- In FY2025, South India represented the largest market for residential construction in India, accounting for a share of 32.7% of the total market.
- South India was followed by North India (27.9%), West & Central India (24.3%), and East India (15.1%)

6.1.4.1 South India

Figure: South India: Residential Construction Market: Value Trends (in Rs Tillion), FY2021-FY2030



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The residential construction market in South India reached a value of Rs 7.9 trillion in FY2025, reflecting a CAGR of 15.6% over the period FY2021 to FY2025. Looking ahead, the market is projected to grow to Rs 11.7 trillion by FY2030, with a CAGR of 7.8% from FY2026 to FY2030.

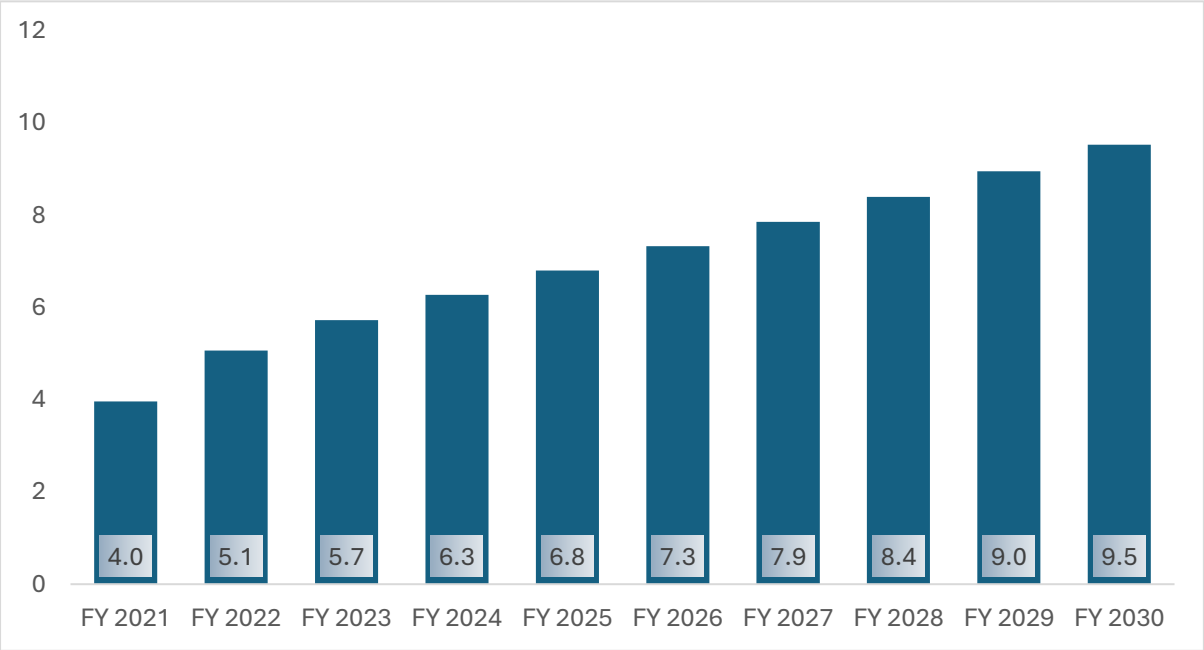
Growth in South India's residential construction sector is being fuelled by robust IT and industrial development in Bengaluru, Hyderabad and Chennai, alongside a steady influx of professionals seeking quality housing. The expansion of technology parks, special economic zones and

logistics hubs has driven demand for mid to premium residential units. Infrastructure upgrades, including metro rail extensions and enhanced road connectivity, are unlocking new suburban areas for development.

Additionally, the region's emphasis on sustainability, smart home technologies and premium amenities is contributing to rising demand for modern, low-maintenance residential projects.

6.1.4.2 North India

Figure: North India: Residential Construction Market: Value Trends (in Rs Trillion), FY2021-FY2030



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The residential construction market in North India reached a value of Rs 6.8 trillion in FY2025, marking a CAGR of 14.5% during the period FY2021 to FY2025. Looking ahead, the market is expected to grow to Rs 9.5 trillion by FY2030, reflecting a CAGR of 6.8% from FY2026 to FY2030.

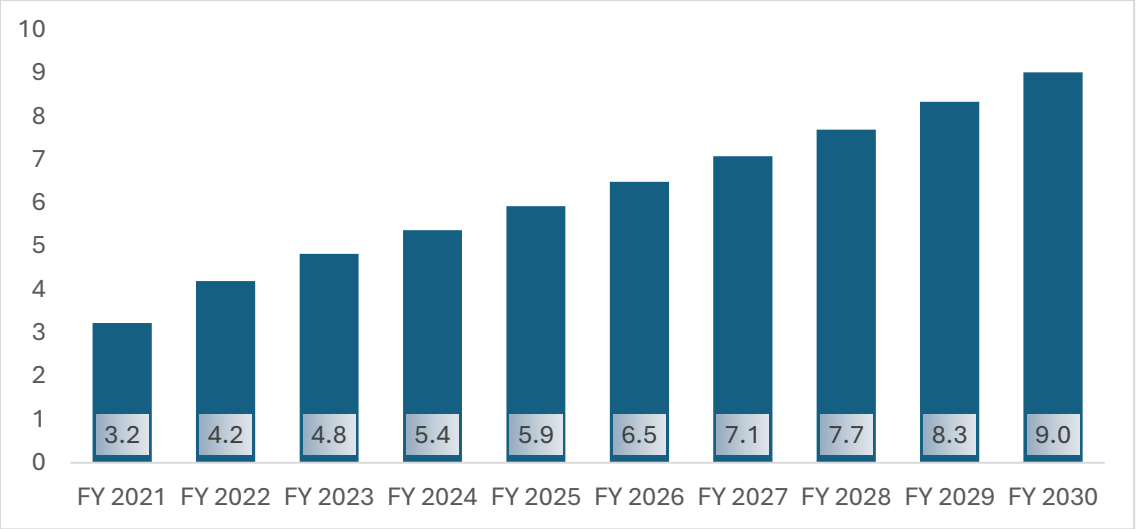
Growth in North India's residential construction sector is being driven by accelerated urbanization, large-scale infrastructure developments and government-backed housing programs across key cities such as Delhi-NCR, Lucknow and Jaipur. Improved connectivity through expressways and metro network expansions has spurred residential growth in emerging areas like Gurugram, Noida Extension and Ghaziabad.

The rise of IT and manufacturing hubs, coupled with higher disposable incomes, is fuelling demand for mid-income and premium housing. At the same time, redevelopment initiatives and

affordable housing schemes under various government programs continue to support consistent construction activity across the region.

6.1.4.3 West & Central India

Figure: West & Central India: Residential Construction Market: Value Trends (in Rs Trillion), FY2021-FY2030



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

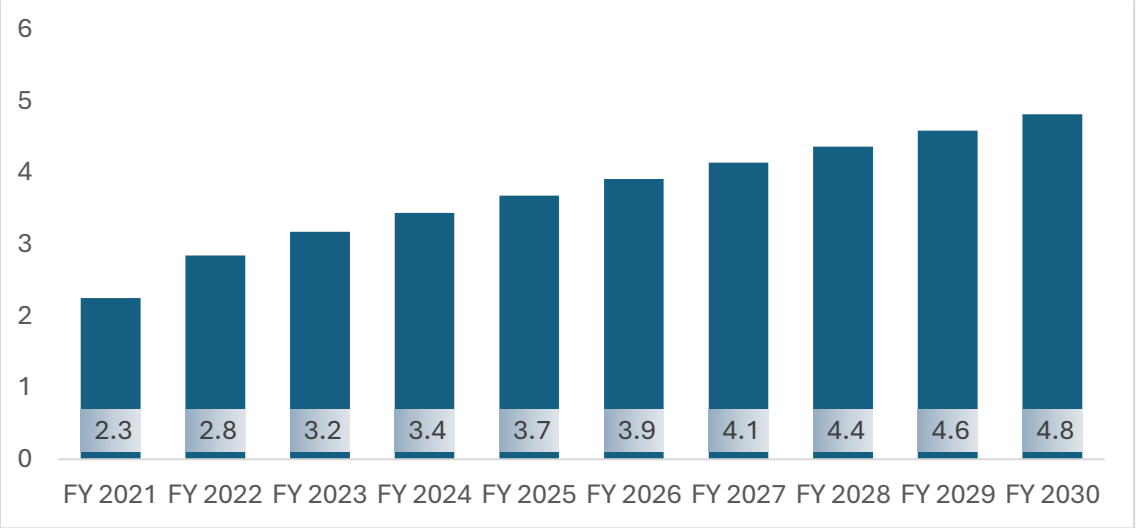
The residential construction market in West and Central India was valued at Rs 5.9 trillion in FY2025, reflecting a compound annual growth rate (CAGR) of 16.4% from FY2021 to FY2025. Looking ahead, the market is projected to reach Rs 9.0 trillion by FY2030, growing at a CAGR of 8.6% between FY2026 and FY2030.

This growth is driven by strong economic momentum, extensive urban redevelopment initiatives, and increasing private sector investments in key cities such as Mumbai, Pune, Ahmedabad, and Indore. Infrastructure developments like metro rail expansions and expressway networks, along with rising demand for integrated townships and premium housing, are major contributors to this upward trend.

Developers are actively tapping into emerging hubs beyond Mumbai, including Navi Mumbai, Thane, and Pune's IT corridors. Additionally, rising disposable incomes and the expanding middle-class demographic are fuelling a shift toward premium residential spaces, further boosting demand for high-quality housing.

6.1.4.4 East India

Figure: East India: Residential Construction Market: Value Trends (in Rs Trillion), FY2021-FY2030



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The residential construction market in East India was valued at Rs 3.7 trillion in FY2025, registering a CAGR of 13.1% between FY2021 and FY2025. Looking ahead, the market is anticipated to reach Rs 4.8 trillion by FY2030, growing at a CAGR of 5.3% from FY2026 to FY2030.

Growth in East India's residential construction sector is being propelled by enhanced infrastructure, the development of industrial corridors, and increasing urban migration in cities such as Kolkata, Bhubaneswar, and Patna.

Government-led initiatives in affordable housing and smart city projects have accelerated residential development, especially in suburban areas. Rising employment opportunities in sectors like logistics, education, and healthcare are attracting first-time homebuyers, while improved road and rail connectivity is making peripheral regions more attractive for large-scale housing projects.

6.2 Analysis of Key Factors that are Driving Demand in Residential Real Estate Industry

6.2.1 Macroeconomic Factors: Rapid Urbanization, Increasing Income Levels, Aspirational Changes

- **Rapid Urbanization**: India is undergoing one of the fastest urban transitions globally. As per the World Bank, by 2036, nearly 600 million people around 40% of the population will live in urban areas, up from 31% in 2011. These urban centers are projected to contribute approximately 70% of India's GDP, highlighting their growing economic significance. The swift expansion of cities is placing considerable strain on housing supply, especially in Tier-I and Tier-II cities, where demand for affordable and mid-segment housing near business hubs and industrial zones is surging. Additionally, the rise of new economic zones and IT/ITeS hubs in Tier-II cities like Pune, Ahmedabad and Coimbatore is pushing residential development beyond traditional metro areas, unlocking new opportunities for construction and infrastructure growth.
- **Increasing Income Levels**: Rising per capita income and the growth of the middle class are key drivers of housing demand. As household earnings increase, more consumers aspire to improved living standards and shift from renting to owning homes. According to Goldman Sachs, nearly 100 million Indians are expected to earn over USD10,000 annually by 2027, signalling a major boost in purchasing power. This rise in disposable

income is fuelling demand in both mid-tier and premium housing segments, while also attracting investor interest in cities with strong commercial and service economies. Robust economic growth and favorable demographics are reinforcing long-term demand in the residential real estate sector.

- **Aspirational Changes**: Shifting lifestyle preferences are reshaping homebuyer expectations. There is growing interest in gated communities, integrated townships and sustainable housing that offer modern amenities, safety and enhanced quality of life. The emergence of nuclear families, dual-income households and increasing life expectancy is driving demand for compact apartments, senior living and wellness-focused housing. Homeownership is increasingly seen as a symbol of social status and financial security, often regarded as a key asset for long-term wealth creation. These aspirational shifts are sustaining demand across income levels and reinforcing the structural growth of India's residential real estate market.

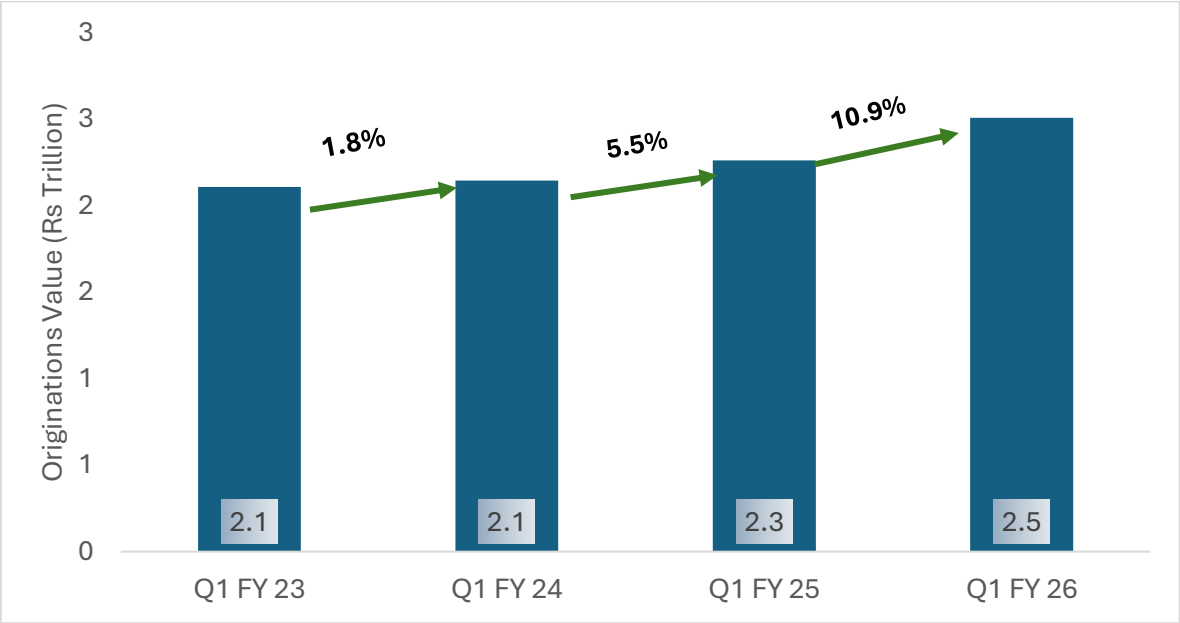
6.2.2 Ease of Access to Structured Financial Products (Mortgage products) & its Impact

- **Strong Mortgage Market Growth**: India's home loan market is expanding rapidly, supported by rising housing demand, favorable government policies and a stable macroeconomic environment. Home loans have become one of the largest segments of retail lending, indicating deeper credit penetration across income groups and regions. The broadening of mortgage offerings by banks, NBFCs and housing finance companies has made credit more accessible to a wider population.
- **Government and Policy Support**: Initiatives such as Pradhan Mantri Awas Yojana (PMAY) and priority sector lending norms have significantly improved access to formal housing finance. These policies have encouraged financial institutions to extend credit to first-time buyers, low-income households, and residents of Tier-II and Tier-III cities, reducing dependence on informal lending channels.
- **Data-Driven Lending Practices**: The adoption of data analytics and credit intelligence has revolutionized the mortgage sector, enabling more accurate customer profiling, improved underwriting standards, and efficient recovery processes. This data-driven approach helps lenders manage risk effectively while expanding their reach, supporting sustainable credit growth and building trust in formal financial systems.
- **Digital and Technological Advancements**: The digitization of lending through online applications, eKYC, and AI-based risk assessment tools has streamlined loan approvals and disbursements. These innovations have enhanced transparency, reduced processing times and improved the overall borrowing experience, encouraging more consumers to opt for formal mortgage solutions.
- **Impact on Residential Construction Demand**: Easier access to structured financial products has directly boosted demand for residential units, especially in the affordable and mid-income segments. With rising aspirations for homeownership, increasing disposable incomes, and improved credit availability, developers and contractors are experiencing sustained project momentum. The strengthened mortgage ecosystem has become a key pillar of India's housing and residential construction growth, fostering long-term stability and inclusive urban development.

According to the How India Lends report by CRIF High Mark, India's home loan market continues to show steady value growth, reflecting strong borrower confidence and a healthy appetite for credit. In Q1 FY26, the total value of home loan originations rose by 10.9% year-on-year, reaching Rs 25,073.9 billion, highlighting the sustained momentum in the housing finance sector. This

growth has been primarily led by public sector banks (PSBs). The consistent rise in originations underscores robust demand across both affordable and mid-income housing segments, supported by improving borrower profiles, broader access to formal credit systems, and a continued push by lenders to deepen housing finance penetration in emerging urban and semi-urban markets.

Chart: Steady Growth in Originations Value in Q1 FY26 Compared to Q1 FY25



Source: CRIF High Mark June 2025 Report, ICRA Analytics

6.2.3 Government Initiatives & its Impact: Focus on Affordable Housing Programs

- **Pradhan Mantri Awas Yojana (PMAY)**: Initiated in 2015, PMAY strives to fulfil the goal of "Housing for All" by extending financial support to economically weaker and middle-income households.
    - **PMAY-Urban**: Focuses on urban housing through four key components:
        - **In-situ Slum Redevelopment (ISSR)**: Aims to rehabilitate slum dwellers by providing durable housing.
        - **Credit Linked Subsidy Scheme (CLSS)**: Offers interest subsidies on home loans for EWS (Economically Weaker Section), LIG (Low-Income Group), and MIG (Middle-Income Group) categories.
        - **Affordable Housing in Partnership (AHP)**: Encourages private developers to build affordable housing with government financial assistance.
        - **Beneficiary-led Construction (BLC)**: Supports eligible families in building or upgrading their homes.
    - **PMAY-Gramin**: Targets rural areas, helping families replace kutcha houses with permanent structures equipped with essential amenities such as drinking water, electricity, and sanitation.
- **State-Level Housing Initiatives**:
    - **Maharashtra Housing and Area Development Authority (MHADA)**: Provides affordable housing options through lottery systems for low and middle-income groups.

- **Delhi Development Authority (DDA)**: Runs housing schemes catering to various income brackets.
- **Tamil Nadu Housing Board (TNHB)**: Offers subsidized flats and plots to residents of Tamil Nadu.

These affordable housing programs have significantly enhanced living conditions for millions across India's urban and rural landscapes. However, challenges persist such as funding constraints, land acquisition hurdles, infrastructure gaps, and bureaucratic inefficiencies. To sustainably achieve the "Housing for All" vision, streamlined approval processes, robust public-private collaborations, and integrated infrastructure development are crucial.

6.3 Expected Growth in Residential Real Estate Sector in India

- **Consistent Demand in Mid-Income and Premium Housing**: The residential real estate sector is expected to maintain steady growth, primarily driven by mid-income and premium segments. These categories are supported by rising disposable incomes and growing aspirations among urban Indians. Although the affordable housing segment continues to grapple with pricing and financing challenges, demand for well-designed, high-quality homes remains strong, ensuring stable absorption rates and sustained investor interest.
- **Growth of Tier-2 Cities and Suburban Markets**: Developers are increasingly turning their attention to Tier-2 cities and suburban zones, capitalizing on infrastructure-led development corridors to boost sales. Cities like Jaipur, Bhubaneswar, Nagpur, and Vishakhapatnam are emerging as key growth centers, thanks to government-backed initiatives, improved transport connectivity, and expanding employment opportunities beyond major metros. These areas offer advantages such as lower land costs, quicker approvals, and a rising population of first-time homebuyers, making them ideal for large-scale residential projects.
- **Shift Toward Volume-Based Affordable and Mid-Income Housing**: There is a noticeable transition from luxury-focused developments to volume-driven affordable and mid-income housing. Developers are increasingly crafting projects tailored to India's growing middle class, featuring compact units, efficient layouts, and essential amenities at competitive prices. This strategy boosts sales velocity, lowers holding costs, and helps bridge the demand-supply gap, enabling developers to maintain profitability while expanding market reach.
- **Popularity of Integrated "Live-Work-Play" Townships**: Urban homebuyers are showing increased interest in integrated townships that combine residential, commercial, educational, and recreational spaces. These "live-work-play" communities cater to those seeking convenience, safety, and a holistic lifestyle in one location. Projects offering co-working spaces, retail outlets, parks, and leisure amenities are attracting higher buyer engagement, commanding premium pricing, and delivering long-term value.
- **Policy Support and Public-Private Collaboration**: Government policies are poised to significantly influence residential real estate growth. For instance, Maharashtra's Housing Policy 2025 ('My House, My Right') aims to create 3.5 million affordable homes by 2030, supported by investments of Rs 7,000 billion. Such initiatives, emphasizing public-private partnerships, slum rehabilitation, and infrastructure development, are expected to enhance housing accessibility, encourage private sector involvement and drive sustained growth in affordable and mid-income segments.

- **Technology Integration and ESG-Focused Development**: Residential developers are increasingly adopting smart home technologies, sustainable construction practices, and energy-efficient solutions to boost property appeal. ESG-compliant features such as rainwater harvesting, solar energy systems, and green landscaping are gaining popularity among environmentally conscious buyers. These efforts not only enhance long-term property value but also align with evolving regulatory norms and consumer preferences, giving developers a competitive edge in a rapidly modernizing market.

6.4 Threats and Challenges in the Sector

- **Land Acquisition and Regulatory Hurdles:** Complicated land laws, high stamp duties, and lengthy approval procedures continue to hinder timely project execution. Developers often face delays due to the need for multiple clearances from various agencies, leading to uncertainty and rising costs.
- **Shortfall in Affordable Housing:** Despite schemes like PMAY, the supply of homes for Economically Weaker Sections (EWS) and Low-Income Groups (LIG) remains insufficient. Rapid urban growth and escalating property prices in Tier-I and Tier-II cities have made housing unaffordable for a large segment of the population.
- **Infrastructure Limitations in Smaller Cities:** Many Tier-2 and Tier-3 cities lack adequate infrastructure, including road connectivity, reliable water supply, and consistent power availability. These deficiencies slow down housing demand and reduce the appeal of new residential developments.
- **Rising Input Costs:** Increasing prices of key construction materials such as cement, steel, and land are driving up overall project costs and housing prices. Volatility in material costs also affects project viability and squeezes developer margins.
- **Skill Shortages:** The industry faces a shortage of skilled workers and relies heavily on migrant labour. This impacts construction quality, extends project timelines, and necessitates greater investment in training and supervision.
- **Environmental Challenges:** The widespread use of non-sustainable materials, dust pollution, and poor waste management practices contribute to urban environmental degradation. With buildings accounting for around 22% of India's total carbon emissions, there is an urgent need for greener construction methods.
- **Fragmented Market Structure:** The residential real estate sector is highly fragmented, dominated by small and mid-sized unorganised developers. This results in inconsistent construction quality, frequent project delays, and diminished consumer trust.
- **Financing Constraints:** Limited access to housing finance for low-income households restricts demand, while developers face liquidity issues due to non-performing assets (NPAs), delayed approvals, and constrained credit availability impacting project execution and growth prospects.

6.5 Major Players and their Market Share

Table: India: Residential Construction Market: Key Players

S. No.	Company Name	Headquarters	Website
1	**Brigade Enterprises Limited**	Karnataka	www.brigadegroup.com
2	**DLF Limited**	Haryana	www.dlf.in
3	**Godrej Properties Limited**	Maharashtra	www.godrejproperties.com
4	**Lodha Developers Limited**	Maharashtra	www.lodhagroup.com
5	**Mahindra Lifespace Developers Limited**	Maharashtra	www.mahindralifespaces.com
6	**Oberoi Realty Limited**	Maharashtra	www.oberoirealty.com
7	**Prestige Estates Projects Limited**	Karnataka	www.prestigeconstructions.com
8	**Puravankara Limited**	Karnataka	www.puravankara.com
9	**Shriram Properties Limited**	Karnataka	www.shriramproperties.com
10	**Sobha Limited**	Karnataka	www.sobha.com

Source: IMARC, ICRA Analytics

Figure: India: Residential Construction Market: Breakup by Key Players (in %), FY2025

Residential Construction Market: Breakup by Key Players (in %)	FY2025
Lodha Developers Limited	0.5%
DLF Limited	0.3%
Prestige Estates Projects Limited	0.2%
Oberoi Realty Limited	0.2%
Godrej Properties Limited	0.1%
Others	98.7%

Source: IMARC, ICRA Analytics

- In FY2025, Lodha Developers Limited dominated the India residential construction market, accounting for a share of 0.5% of the total market.
- Lodha Developers Limited was followed by DLF Limited (0.3%), Prestige Estates Projects Limited (0.2%), Oberoi Realty Limited (0.2%), Godrej Properties Limited (0.1%), and others (98.7%).

7. Institutional Infrastructure in India

7.1 Healthcare Infrastructure in India

7.1.1 Brief Overview of Healthcare Infrastructure in India

7.1.1.1 Public v/s Private Healthcare System

India's healthcare infrastructure functions through a dual system comprising a vast public network and a swiftly growing private sector. The public healthcare system jointly administered by central and state governments serves as the foundation of healthcare delivery, particularly in rural and semi-urban regions. It encompasses Primary Health Centres (PHCs), Community Health Centres (CHCs), Sub-district and District Hospitals (SDHs and DHs), as well as Medical Colleges. These institutions offer free or highly subsidized medical services, primarily targeting low-income and rural populations.

On the other hand, the private healthcare sector plays a dominant role in urban and metropolitan areas, delivering most of the country's secondary and tertiary care. Known for its modern infrastructure, cutting-edge technology and specialized medical professionals, the private sector offers advanced care though issues of affordability and accessibility persist for economically disadvantaged groups.

Table: Comparative Overview of Public and Private Healthcare Systems in India

Feature	Public Healthcare	Private Healthcare
Accessibility	Extensive, especially rural	Urban-centric, limited rural reach
Cost	Free or subsidized	Expensive, mostly out-of-pocket
Quality	Varies, often basic	Generally higher, technologically advanced
Waiting Time	Long	Short
Expertise	Qualified but overstretched	Abundant, specialist-driven
Insurance Acceptance	Limited, but improving via Ayushman Bharat	Widely accepted

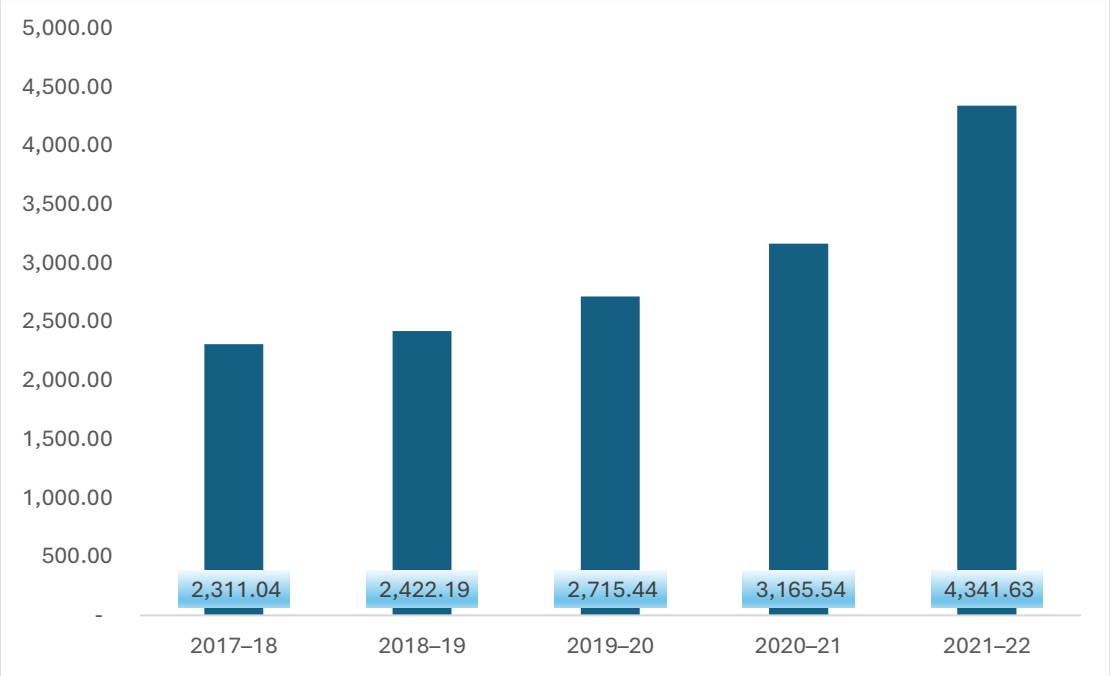
7.1.1.2 Public Spending on Healthcare Infrastructure

According to a release by the Press Information Bureau (PIB), Ministry of Health & Family Welfare, dated 03 December 2024, India had a total of 8,18,661 hospital beds across PHCs, CHCs, SDHs, DHs, and Medical Colleges (both rural and urban) as of 31 March 2023.

The National Health Policy (NHP) 2017 aims to increase public health investment to 2.5% of GDP by 2025, up from approximately 1.2% – 1.4% in 2017–18. Government Health Expenditure (GHE) has been steadily rising, reflecting the Centre's emphasis on strengthening healthcare infrastructure at all levels primary, secondary, and tertiary through initiatives such as Ayushman Bharat Health and Wellness Centres (AB-HWC), and the expansion of AIIMS and government medical colleges.

The table below illustrates a compound annual growth rate (CAGR) of nearly 17% over five years, highlighting a clear trend toward enhanced public investment in health infrastructure and service delivery.

Table: Government Health Expenditure in India, FY2018-FY2022 (in Rs Billion)



Source: Press Information Bureau (PIB, Ministry of Health & Family Welfare), ICRA Analytics

7.1.2 Key Projects Announced during FY2025 Catering to Hospital Sector

Table: Key Healthcare Infrastructure Projects Announced in India – FY2025

S. No.	Project / Initiative	Sector	Investment (Rs Billion)	Beds / Capacity	Location
1	**National Health Projects (PM-ABHIM / Ayushman Bharat expansions)**	Public	128.5	Multiple new / upgraded blocks	Pan-India
2	**ESIC model hospital, Indore & other ESIC expansions**	Public	Part of PM-ABHIM	~300 beds per hospital	Indore, Faridabad, Bommasandra, Narasapur, Meerut, Atchutapuram
3	**Three new Government Medical Colleges**	Public	Not specified	Varies (college hospitals)	Neemuch, Mandsaur, Seoni (Madhya Pradesh)
4	**Medanta Super-specialty Hospital**	Private	12	500+	Mumbai (Oshiwara), expansion in Gurugram, Lucknow, Patna, Noida, South Delhi
5	**Fortis Healthcare Expansion**	Private	~13	~2,200 (multi-hospital expansion)	Pan-India
6	**Max Healthcare Capex & Capacity Expansion**	Private	Not specified	Several hundred beds phased FY25-FY28	Pan-India
7	**Aster DM Healthcare Capex Plan**	Private	19 (Rs 3.23 spent in FY25)	3,300 beds (2,100 by Aster, 1,200 by QCIL)	Bengaluru, Kerala, Hyderabad
8	**Private hospital sector aggregate expansion**	Private	~115	~4,000 beds	Pan-India

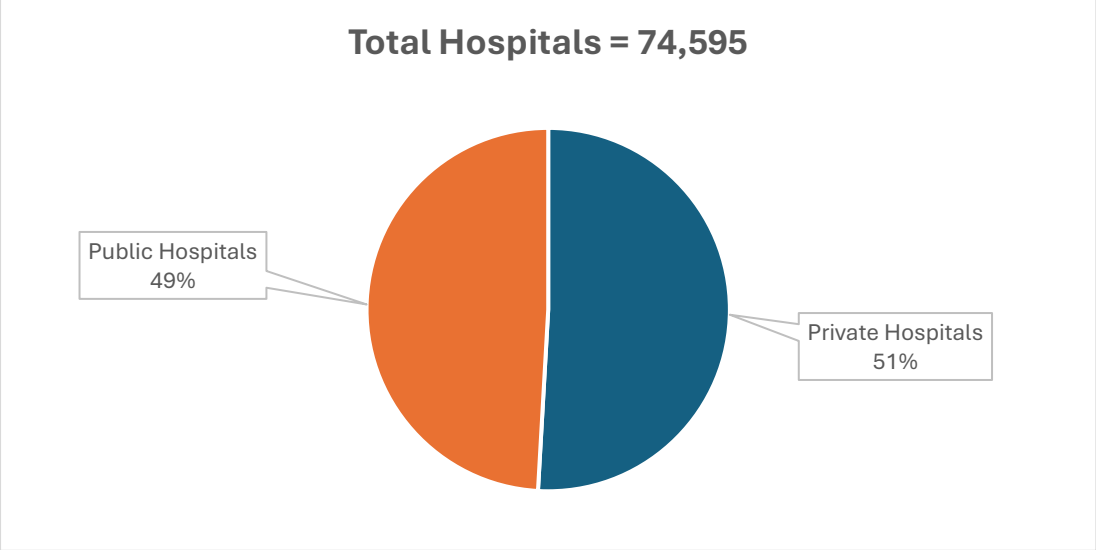
S. No.	Project / Initiative	Sector	Investment (Rs Billion)	Beds / Capacity	Location
9	**State-level Critical Care Blocks & Nursing Colleges**	Public	Not specified	Multiple beds per block	HP, Karnataka, Manipur, Tamil Nadu, Rajasthan, Madhya Pradesh

7.1.3 Overview on Hospital Infrastructure in India

Insights on Number of Hospitals & Hospital Beds

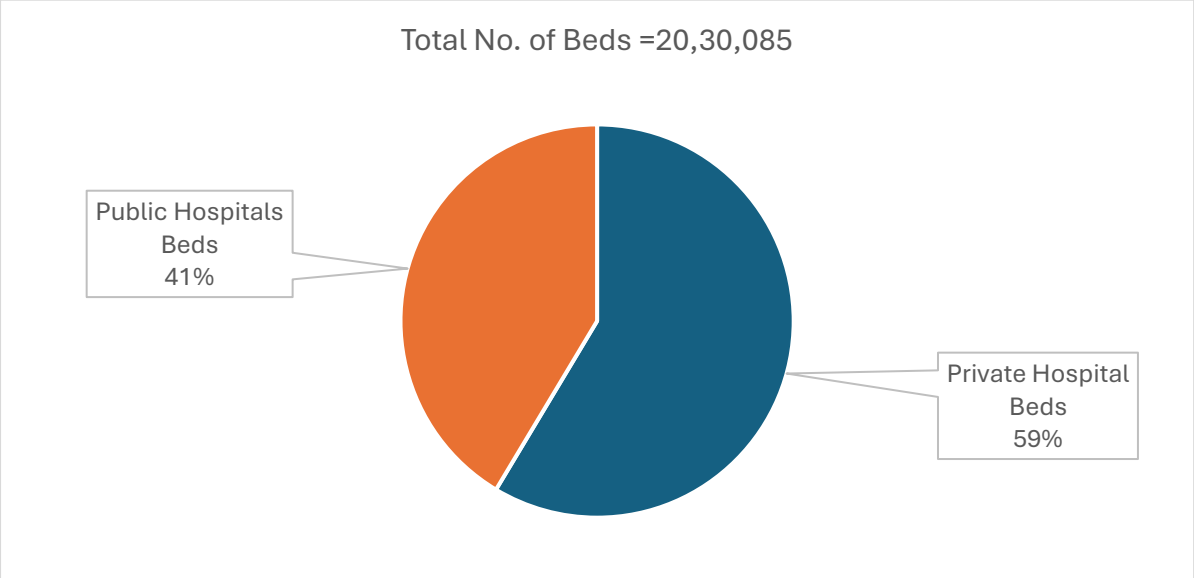
In India, healthcare is delivered through a combination of government and private sectors, offering both inpatient (IPD) and outpatient (OPD) services. The demand for healthcare is primarily fuelled by various factors such as the rise in lifestyle-related illnesses, the growth of medical tourism, increasing incomes, coupled with rise in healthcare awareness post-pandemic and demographic shifts. Additionally, initiatives like PMJAY and government prioritization of the healthcare sector are contributing to this growth. As demand increases, hospitals are strategizing to either enhance existing facilities or venture into new regions across the country. This is supported by estimated increase in the number of hospitals or beds

Figure: Share of Private Vs. Public Hospitals, 2022 (%)



Source: Directorate General of Health Services, Ministry of Health & Family Welfare & Analyst Report, ICRA Analytics
Note: The data is provided as on 31.12.2022

Figure: Share of Private Vs. Public Beds in Hospital, 2022 (%)



Source: Directorate General of Health Services, Ministry of Health & Family Welfare & Analyst Report, ICRA Analytics
Note: The data is provided as on 31.12.2022

- In 2022, private hospitals held a slightly larger share of India's healthcare facilities, accounting for 50.9% (37,969) of total hospitals compared
- to 49.1% (36,626) in the public sector. Private hospitals also dominated bed capacity, contributing 58.6% (11,89,630) of total beds versus 41.4% (8,40,455) in public hospitals.
- India's healthcare system functions through both public and private providers offering OPD and IPD services. The demand for healthcare continues to rise due to growing lifestyle-related diseases, expansion of medical tourism, rising incomes, greater awareness post-pandemic, and demographic changes. Additionally, government interventions like PMJAY and greater sector prioritization are driving access and affordability. As demand accelerates, hospitals are expanding capacity either by upgrading existing facilities or entering new regional markets, supporting the steady increase in the number of hospitals and hospital beds across the country.

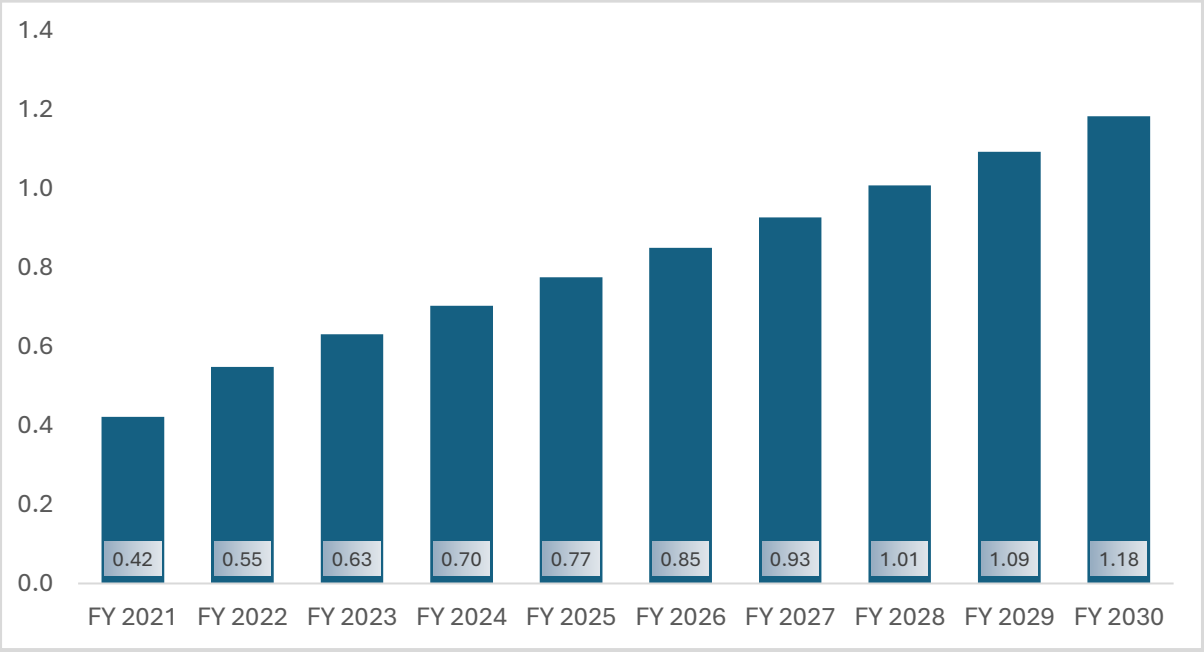
7.1.4 Analysis of Key Factors Driving the Healthcare Sector in India

- **Growing Healthcare Demand**: India's healthcare sector is witnessing robust growth, driven by demographic changes and evolving lifestyles. Rapid population expansion, increasing urbanization, and rising life expectancy are fuelling greater demand for both primary and advanced care services. Simultaneously, the surge in lifestyle-related illnesses—such as diabetes, cardiovascular conditions, and obesity—is creating a need for specialized facilities and chronic disease management programs. Together, these factors are amplifying the demand for accessible, high-quality healthcare across urban and semi-urban regions.
- **Government Initiatives & Policy Support**: Public programs and policy measures are playing a crucial role in enhancing healthcare access and infrastructure. Flagship initiatives like Ayushman Bharat, PM-ABHIM, and the expansion of AIIMS and ESIC networks are focused on strengthening public healthcare systems, especially in underserved areas. Additionally, policies promoting Public-Private Partnerships (PPP) are encouraging private sector investments in hospitals, diagnostics, and telemedicine, enabling the adoption of modern infrastructure and technologies in healthcare delivery.

- **Private Sector Expansion**: Private healthcare providers are rapidly scaling operations to meet rising demand. Prominent hospital chains such as Aster, Medanta, Fortis, and Max are expanding bed capacity, launching new facilities in tier-1 and tier-2 cities, and offering specialized services in areas like oncology, cardiology, and advanced surgical care. Investments in state-of-the-art infrastructure, digital health technologies, and patient-centric care models are further reinforcing the private sector's role in India's healthcare landscape.
- **Technological Innovations**: Technology is transforming healthcare delivery across India. Telemedicine platforms, AI-powered diagnostic tools, robotic surgeries, precision medicine, and electronic health records are improving efficiency, accuracy, and reach. These advancements are not only enhancing patient outcomes but also extending access to sophisticated healthcare services in remote and rural areas.
- **Rising Income & Health Awareness**: Increasing disposable incomes and growing health awareness among India's expanding middle class are driving demand for private healthcare. Consumers are more willing to invest in quality services, preventive care, wellness programs, and premium healthcare offerings. This shift is also fuelling growth in lifestyle clinics, health check-up packages and preventive diagnostics, reflecting a move toward proactive health management.
- **Medical Tourism**: India remains a preferred destination for international patients seeking cost-effective, high-quality tertiary care and advanced medical procedures. The country's skilled medical professionals, cutting-edge facilities, and competitive pricing make it attractive for treatments in cardiology, oncology, orthopaedics and more. Favorable visa policies, international hospital accreditations, and rising global awareness of India's healthcare capabilities continue to support the growth of medical tourism.

7.1.5 Market Trends and Forecasts – Healthcare Infrastructure

Figure: India: Healthcare Infrastructure: Value Trends (in Rs Trillion), FY2021-FY2030



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

India's healthcare infrastructure reached a valuation of Rs 0.8 trillion in FY2025, reflecting a compound annual growth rate (CAGR) of 16.4% between FY2021 and FY2025. Looking ahead, it is projected to grow to Rs 1.2 trillion by FY2030, with a CAGR of 8.6% from FY2026 to FY2030.

The country has experienced substantial growth in its healthcare infrastructure in recent years, fuelled by a mix of public and private investments and government-led initiatives aimed at enhancing both accessibility and quality of care. A key area of focus has been the development of new hospitals and medical facilities, especially in urban centers, to cater to the increasing demand for healthcare services. These establishments are being outfitted with cutting-edge medical technologies and supported by highly skilled healthcare professionals. Among the notable developments is the AIIMS Rewari project in Haryana a 750-bed hospital and medical college which began construction in Q3 2023 and is scheduled for completion by Q4 2026.

7.1.6 Expected Growth in Healthcare Infrastructure in India

- **Capacity Expansion and New Facilities**: India's healthcare infrastructure is set for accelerated growth, driven by substantial investments in hospitals, primary health centers, diagnostic labs and specialty clinics. Both public and private entities are actively expanding bed capacity, especially in tier-2 and tier-3 cities, to address regional disparities in healthcare access. The expansion of multi-specialty and super-specialty hospitals is expected to enhance tertiary care services, catering to complex medical needs. A recent example is from Nagpur, where in May 2025, NIT announced two major public hospital projects: a 300-bed multispecialty hospital at Wathoda (with a budget of approximately Rs 1,877 million) and an 857-bed facility at Indora. Combined, these projects will contribute around 1,157 beds to the city's public healthcare capacity, highlighting the growing emphasis on strengthening infrastructure in tier-2 and tier-3 urban areas, beyond the scope of national-level mega initiatives.
- **Private Sector Investment and Mixed-Use Healthcare Models**: In May 2025, Bhutani Infra partnered with Yashoda Hospital to launch a mixed-use healthcare campus in Greater Noida (West). The development integrates a hospital, five-star hotel, office spaces, and retail outlets, with an estimated investment of ~ Rs 10 billion (excluding land). The project features AI-powered predictive health models to enhance patient outcomes and operational efficiency. This initiative reflects the evolving nature of hospital real estate, marking a shift toward premium, tech-enabled healthcare delivery. By combining wellness services, hospitality, and commercial infrastructure, it introduces a holistic healthcare model that addresses both medical and lifestyle needs.
- **Diagnostic and Laboratory Network Expansion**: India's diagnostics and laboratory sector is undergoing rapid growth, driven by increased awareness of preventive healthcare and the rising prevalence of chronic diseases. Leading diagnostic chains and independent labs are expanding their footprint across metros, tier-2 and tier-3 cities, through both physical centers and digital platforms. Investments in advanced imaging technologies, molecular diagnostics and point-of-care testing are enhancing diagnostic speed and precision. This growth is reinforcing the ecosystem for early disease detection, epidemiological monitoring and personalized treatment planning.
- **Supportive Policy Environment**: A conducive policy landscape is propelling the development of healthcare infrastructure across India. Government initiatives such as capital subsidies, viability gap funding, and tax incentives for healthcare real estate are encouraging both greenfield and brownfield investments. Additionally, liberalized FDI norms and the promotion of Public-Private Partnerships (PPP) under national schemes like PM-

ABHIM are fostering private sector involvement in hospitals, diagnostics and telehealth infrastructure. The establishment of strategic health zones and the inclusion of healthcare in state-level industrial policies further position the sector for sustained expansion and modernization.

7.1.7 Threats and Challenges in the Sector

- **High Capital Requirements**: Expanding hospital infrastructure involves significant capital outlay, extended gestation periods and elevated operational costs. Building multi-specialty or tertiary care hospitals demands substantial investment in land acquisition, construction, advanced medical equipment and technology integration. Smaller healthcare providers and regional players often encounter financing hurdles due to limited credit access and high interest rates, which can impede or delay project execution.
- **Shortage of Skilled Workforce**: The sector continues to face a persistent shortage of qualified healthcare professionals including doctors, nurses and paramedics. This issue is especially pronounced in rural and semi-urban areas, where recruitment and retention are challenged by a lack of training institutions, lower financial incentives and inadequate infrastructure. The uneven distribution of the workforce results in disparities in service quality and operational inefficiencies across healthcare facilities.
- **Regulatory and Compliance Challenges**: The healthcare industry operates within a complex framework of state-specific regulations, licensing procedures and accreditation standards. Delays in obtaining approvals, overlapping authority jurisdictions and inconsistent quality benchmarks across states can hinder project timelines and escalate compliance costs. This fragmented regulatory landscape also introduces uncertainty for investors and developers.
- **Urban-Rural Disparity**: Despite increased government efforts to improve healthcare accessibility, infrastructure development remains uneven. Private hospitals and specialty centers are predominantly located in metropolitan and tier-1 cities, while rural regions continue to depend on under-equipped public health facilities. This urban-centric development contributes to service gaps and unequal health outcomes, even as national programs like Ayushman Bharat strive to address these imbalances.
- **Rising Healthcare Costs**: Inflation, the growing expense of imported medical devices and the adoption of advanced treatment technologies are collectively driving up healthcare costs. High operational expenditures and reliance on imported equipment make quality care less affordable for low and middle-income groups, limiting access despite increased infrastructure capacity.
- **Operational Risks**: Hospitals face a range of operational challenges, including fluctuating occupancy rates, rising competition from new entrants and increasing staff and maintenance costs. Private hospitals risk underutilization of beds and infrastructure, while public hospitals often grapple with overcrowding, long wait times, and resource constraints. Efficient management practices and digital optimization are becoming critical to address these inefficiencies and ensure sustainable operations.

7.1.8 Major Players and their Market Share

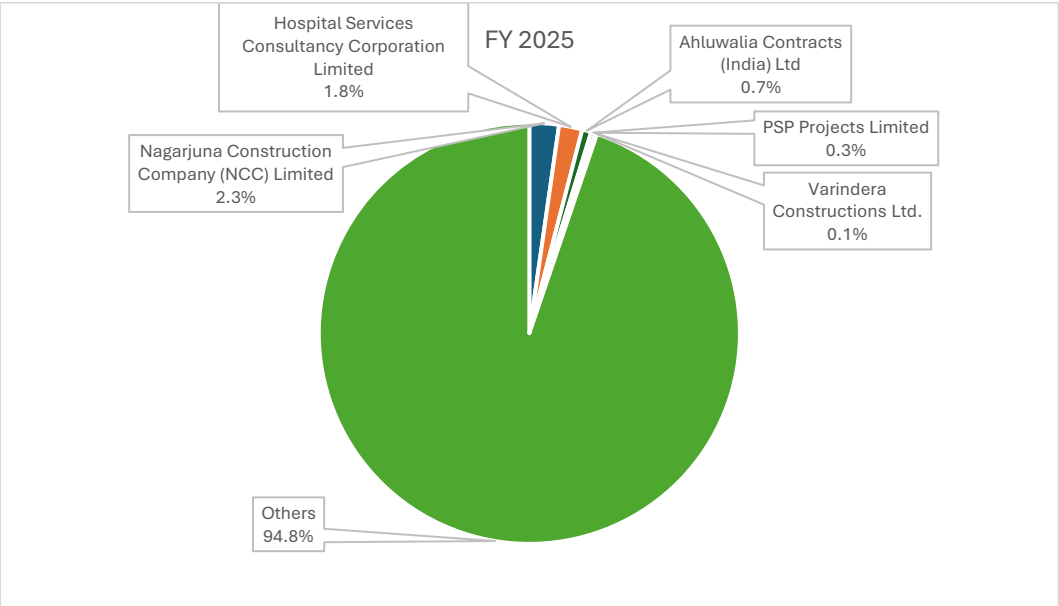
Table: India: Healthcare Infrastructure Market: Key Players

S. No.	Company Name	Headquarters	Website
1	**Aakash Group**	Maharashtra	www.aakashgroup.com

2	**Ahluwalia Contracts (India) Limited**	Delhi	www.acilnet.com
3	**B. L. Kashyap and Sons Limited**	Delhi	www.blkashyap.com
4	**Capacit'e Infraprojects Limited**	Maharashtra	www.capacite.in
5	**Hospital Services Consultancy Corporation Limited**	Uttar Pradesh	www.hsccltd.co.in
6	**Infra Health**	Maharashtra	infra.health
7	**Nagarjuna Construction Company (NCC) Limited**	Telangana	www.ncclimited.com
8	**PSP Projects Limited**	Gujarat	www.pspprojects.com
9	**Varindera Constructions Limited**	Haryana	www.vclgroup.in
10	**Vascon Engineers Limited**	Karnataka	www.vascon.com

Source: IMARC, ICRA Analytics

Figure: India: Healthcare Infrastructure Market: Breakup by Key Players (in %), FY2025



Source: IMARC, ICRA Analytics

- In FY2025, Nagarjuna Construction Company (NCC) Limited led the Indian healthcare infrastructure market, capturing a 2.3% share of the total market.
- It was followed by Hospital Services Consultancy Corporation Limited with 1.8%, Ahluwalia Contracts (India) Ltd at 0.7%, PSP Projects Limited with 0.3%, and Varindera Constructions Ltd. at 0.1%. The remaining 94.8% was accounted for by other players.

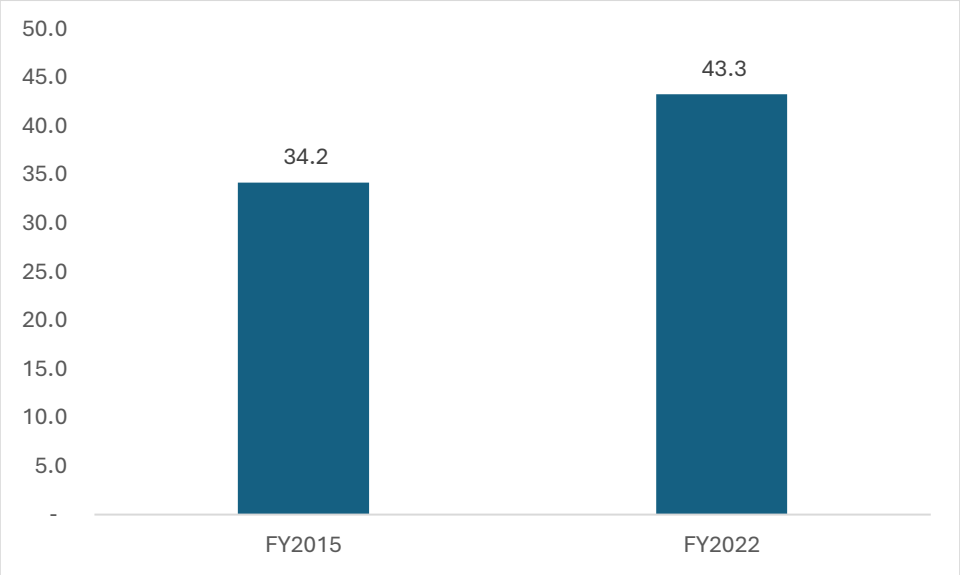
7.2 Educational Infrastructure in India

7.2.1 Brief Overview of Indian Educational Sector

According to Invest India, India's education sector has witnessed remarkable growth and transformation, supported by strong public investment, progressive policy reforms, and rising private participation. India's overall literacy rate is reported to be 80.9% for the 7+ age group, based on the Periodic Labour Force Survey (PLFS) 2023–24, reflecting decades of consistent efforts to expand access to education. The Economic Survey 2024-25 highlighted that India's school education system serves 24.8 crore students across 14.72 lakh schools, with 98 lakh teachers (UDISE+ 2023-24). India today possesses one of the world's largest higher education

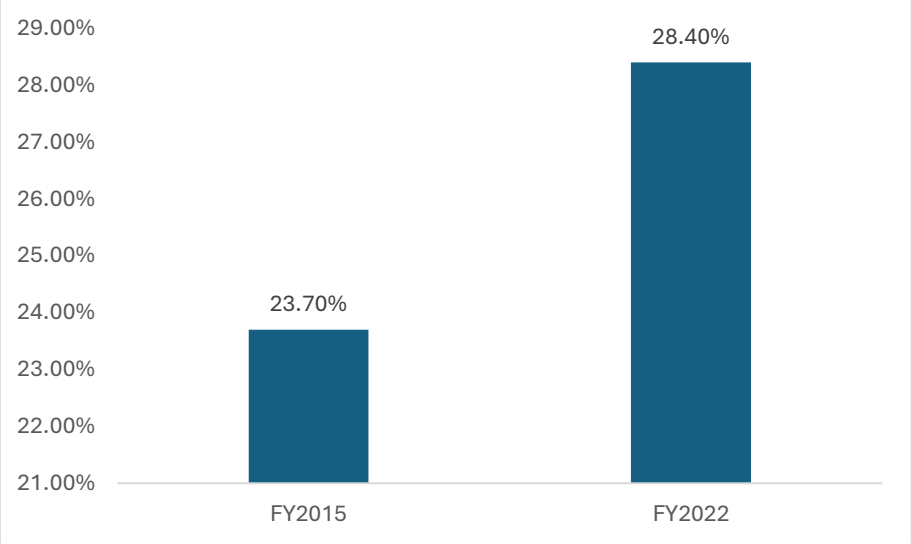
systems, with over 62,000 institutions serving 43.3 million students, making it a global leader in both scale and diversity.

Figure: Total Number of Students Enrolled in Higher Education (in Million)



Source: Press Information Bureau, Ministry of Education, IMARC, ICRA Analytics

Figure: Gross Enrollment Ratio (GER) for Higher Education (18-23 Age Group) (in Percentage)

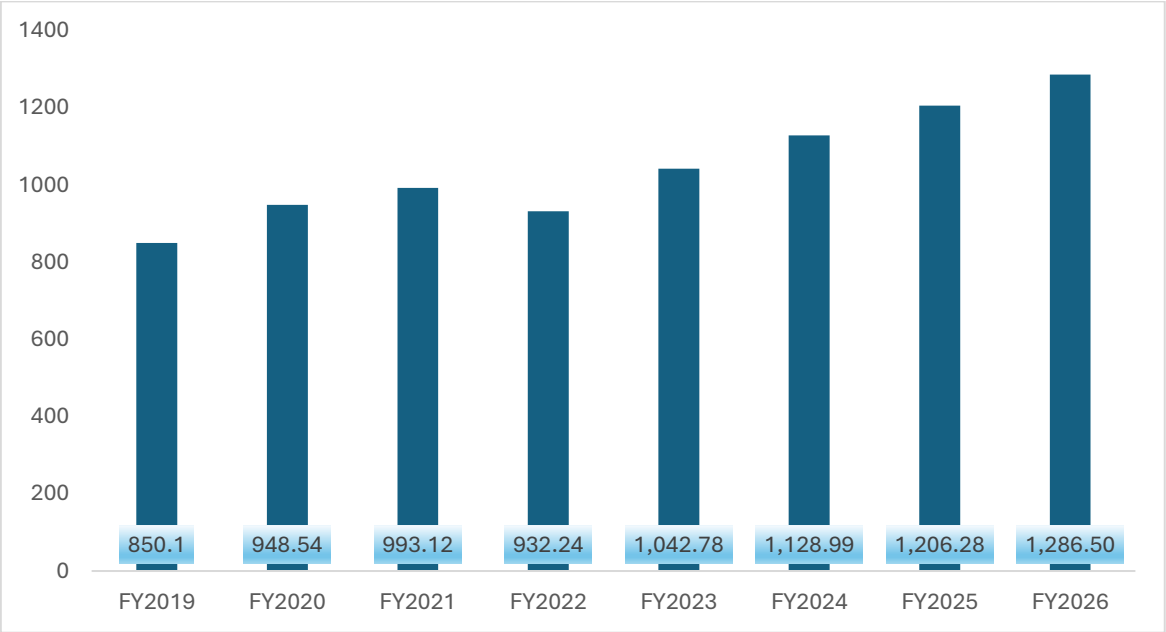


Source: Press Information Bureau, Ministry of Education, IMARC, ICRA Analytics

The National Education Policy (NEP) 2020 has played a pivotal role in advancing reforms that emphasize improved quality, broader accessibility, and integration of vocational skills—especially in underserved regions. Supporting programs such as the Skill India Mission, Study in India, and the PM Vidyalaxmi Scheme 2024 aim to enhance employability, strengthen global competitiveness, and promote inclusive learning. For FY 2024–25, the government allocated Rs 1,28,650 crore to the education sector, including a record Rs 73,498 crore for the Department of School Education & Literacy. Additionally, Rs 500 crore was earmarked for the creation of a

Centre of Excellence in Artificial Intelligence for Education, highlighting India's focus on digital and AI-led learning innovation.

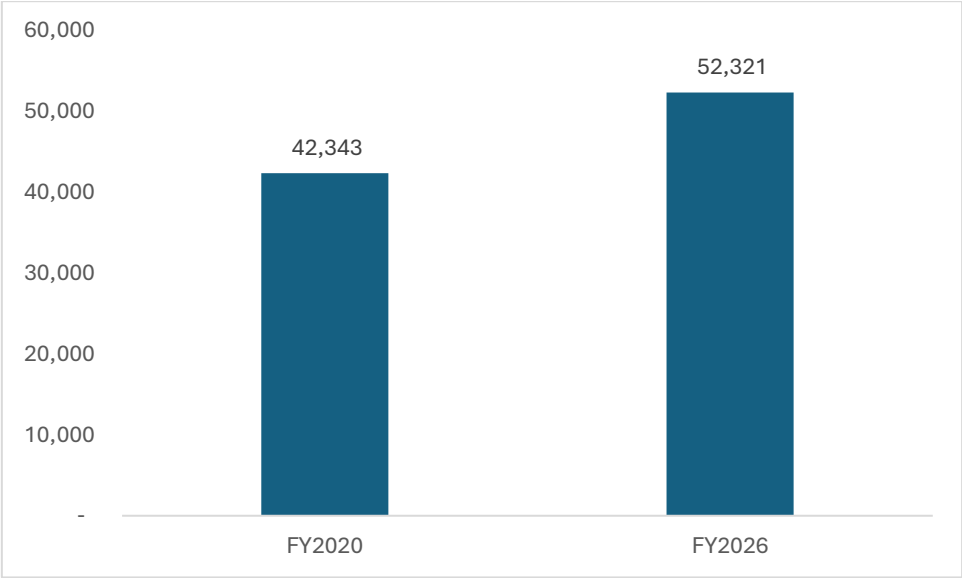
Figure: India: Budgetary Allocation Towards the Education Sector, FY2019-FY2026 (in INR Billion)



Source: Press Information Bureau, Ministry of Education, IMARC, ICRA Analytics

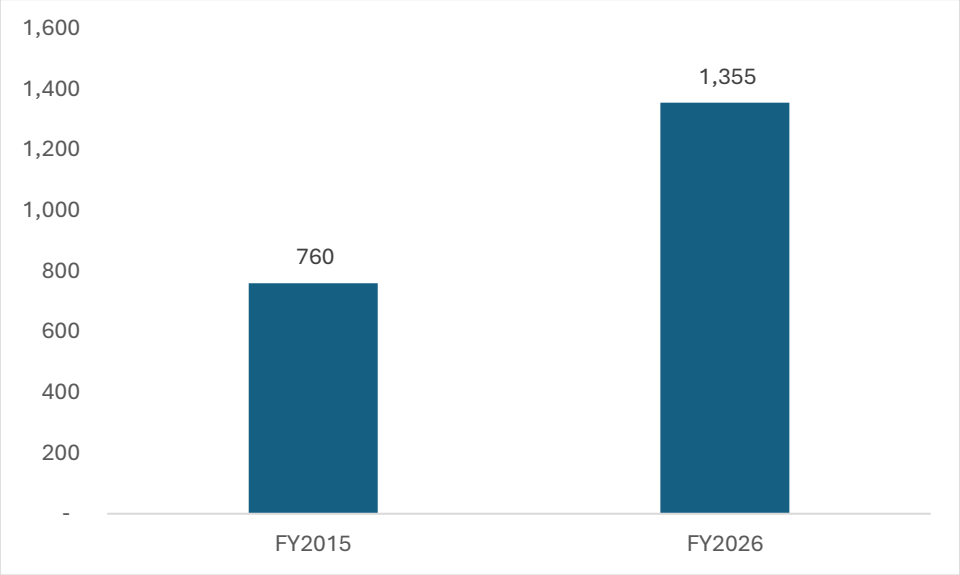
As per the India Brand Equity Foundation (IBEF), the number of colleges in India grew from 42,343 in FY2020 to 52,321 by FY2026 (as of August 2025), while the number of universities rose from 760 in FY2015 to 1,355 in FY2026. The sector has also become a major attraction for foreign capital, drawing in Rs 72,210 crore (USD 9.98 billion) in FDI between April 2000 and March 2025. With a young demographic, accelerating digital adoption, and a reform-driven policy environment, India's education sector is well-positioned for continued and sustainable growth.

Figure: Number of Colleges in India (as of August 2025)



Source: Press Information Bureau, Ministry of Education, IMARC, ICRA Analytics

Figure: Number of Universities in India (as of August 2025)



Source: Press Information Bureau, Ministry of Education, IMARC, ICRA Analytics

7.2.2 Overview on Educational Infrastructure in India (Including Budget Spending)

Rising Public Investment: India's educational infrastructure continues to witness rapid expansion, bolstered by record-level government spending and sweeping digital transformation efforts. According to the Union Budget 2025–26 (PIB Delhi, February 2025), the Ministry of Education was allocated Rs 1,28,650 crore, an increase of 6.22% over FY2024–25 underscoring the government's commitment to enhancing access, quality, and inclusivity in both school and higher education.

School Education & Literacy: The Department of School Education & Literacy received its highest-ever allocation of Rs 78,572 crore, reflecting a 7% rise compared to FY2024–25. Key programs such as Samagra Shiksha, PM POSHAN, and PM SHRI Schools have been further strengthened to improve learning outcomes and infrastructure, especially in rural and underserved regions.

Higher Education Expansion: The Department of Higher Education was allocated Rs 50,078 crore, marking a 5.16% year-on-year increase. Notable allocations include Rs 11,349 crore to IITs (+9.9%), Rs 5,687 crore to NITs (+12.8%), and Rs 251.89 crore to IIMs (+18.7%), emphasizing efforts to boost research capabilities and global competitiveness. The University Grants Commission (UGC) saw a 33.4% increase in funding to Rs 3,336 crore, supporting university development and research grants.

Digital and AI Integration: A dedicated outlay of Rs 500 crore has been set aside to establish a Centre of Excellence in Artificial Intelligence for Education, aimed at promoting AI-powered, personalized learning solutions. In addition, the government plans to equip all secondary schools with broadband connectivity through BharatNet within three years, helping to close the digital gap between urban and rural areas.

Skill Development & Innovation: The budget introduces five National Centres of Excellence for Skilling under the "Make for India, Make for the World" initiative, aimed at equipping youth with advanced manufacturing and digital skills. Furthermore, 50,000 Atal Tinkering Labs will be rolled out in schools to nurture innovation and foster hands-on problem-solving capabilities among students.

Cultural and Knowledge Integration: New schemes such as the Bharatiya Bhasha Pustak Scheme, Gyan Bharatam Mission, and the National Digital Repository of Indian Knowledge Systems are designed to preserve India's linguistic richness, promote traditional knowledge, and digitize educational resources for broader academic use.

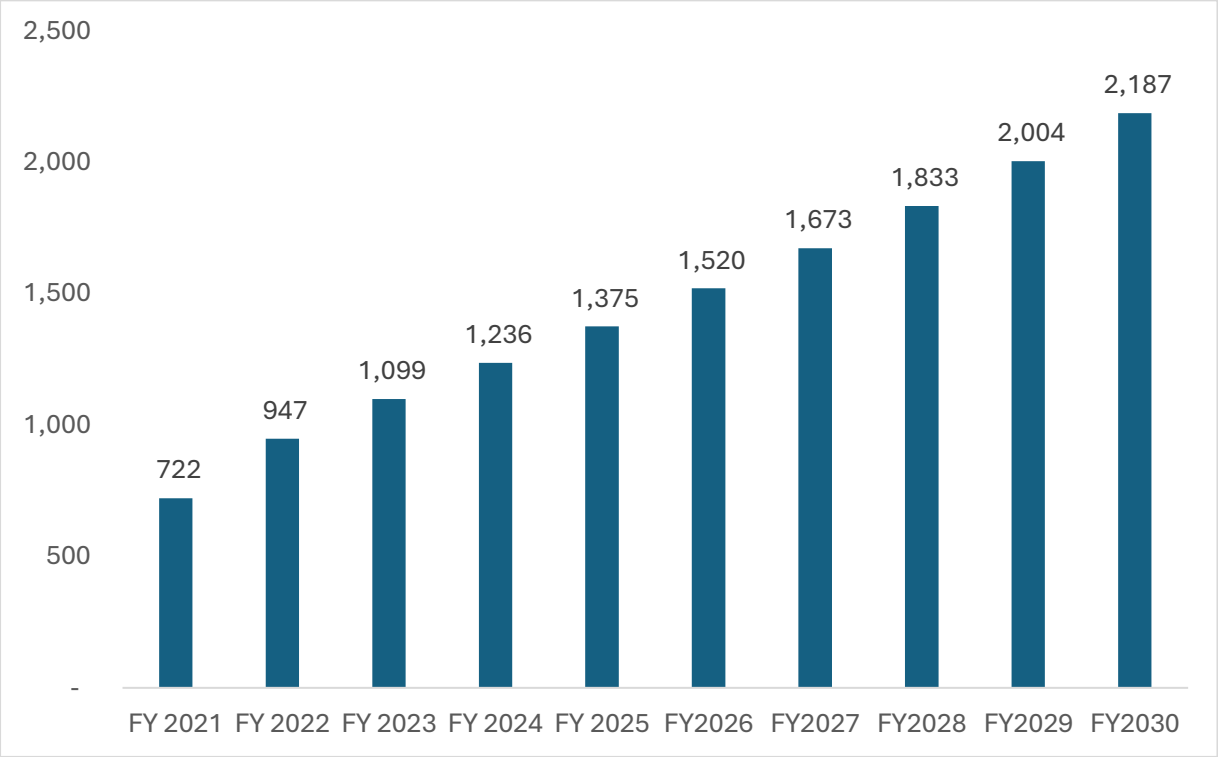
7.2.3 Key Projects Announced during FY2025 Catering to Education Sector

Table: Key Education Infrastructure Projects Announced in India – FY2025

S. No.	Project	Location	Investment	Key Features
1	IIT Expansion (Phase-B)	Nationwide (5 IITs)	Rs 118.29 Billion	Addition of 6,576 seats, 130 faculty posts, and research parks by FY29
2	Atal Tinkering Labs	Nationwide	Part of Rs 5 Billion	Establishment of 50,000 labs to foster innovation among students
3	NBCC Project at Motilal Nehru College	Delhi	Rs 2.13 Billion	Phased infrastructure development including auditorium, academic, and hostel facilities
4	Hindu College Boys' Hostel	New Delhi	Not specified	Construction of a state-of-the-art 500+ seat boys' hostel with modern amenities
5	Tamil Nadu Govt Dental College Expansion	Chennai, Tamil Nadu	Rs 0.57 Billion	Construction of four additional floors and installation of new equipment

6	Telangana Skills University Construction	Telangana	Rs 2 Billion	Entire university campus construction supported under CSR
7	UT Chandigarh New Schools	Chandigarh	Rs 0.77 Billion total	Fast-tracked construction of 10 new schools across multiple sectors
8	PM Research Fellowships	Nationwide	Not specified	Introduction of 10,000 fellowships to support advanced research
9	National Centres for Excellence in Skilling	Nationwide	Not specified	Establishment of 5 centres offering specialized vocational training

7.2.4 Market Trends and Forecasts – Educational Infrastructure (in Rs Billion)



Source: IMARC, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The educational infrastructure in India reached a valuation of Rs 1,375 billion in FY2025, reflecting a CAGR of 17.5% over the period from FY2021 to FY2025. Looking ahead, this segment is projected to grow to Rs 2,187 billion by FY2030, representing a CAGR of 9.5% from FY2026 to FY2030.

The expansion of educational infrastructure in India is being fueled by a rise in student enrolment, growing demand for quality and specialized education, and government-led initiatives such as the National Education Policy (NEP) 2020. Factors like rapid urbanization, an expanding middle class, and the need for skill-based training to align with industry expectations are spurring investments in schools, universities, and vocational institutes. Furthermore, the proliferation of digital education platforms, the adoption of EdTech solutions, and public-private collaborations are accelerating the growth of modern, technology-integrated learning facilities across both urban and semi-urban landscapes.

7.2.5 Expected Growth in Education Sector in India

Government Initiatives Driving Accelerated Education Sector Growth: Recent government initiatives signal strong growth for India's education and skilling ecosystem, emphasizing capacity expansion, digital readiness, and employability. Key measures include the Union Cabinet's ₹118.29 billion plan to expand five IITs by FY 2029, adding seats, faculty, and research parks to boost innovation and industry collaboration. The ₹600 billion ITI modernization scheme aims to upgrade 1,000 institutes and train two million youth in five years, aligning vocational skills with market needs. Complementary programs like PM VIKAS, expansion of PM SHRI Schools to over 14,500 institutions, and SOAR, an AI skilling initiative for Classes from 6th to 12th reflect a future-ready approach under NEP 2020, driving inclusive infrastructure growth, STEM capacity building, and digital career pathways.

Private Investments and EdTech Developments: Global education companies and Indian edtech players are accelerating market growth through technology adoption, globalisation, and skill-focused learning. Strategic partnerships like Coursera's tied-up with 18 Indian universities have driven a 107% YoY surge in GenAI course enrolments, while Oracle's collaboration with Andhra Pradesh aims to digitally train 400,000 students in AI and related fields. Innovations such as IIT Guwahati's VR-enabled metaverse platform for STEM education and major capital inflows for Eruditus raising $150M, PhysicsWallah securing $210M for its IPO, and IIFT opening its first overseas campus in Dubai, underscore strong momentum in higher education and professional learning driven by tech transformation and international expansion.

Investment Flows and Campus Development: Public capital expenditure combined with private and PPP investment in higher education and campus real estate is driving the development of modern institutional infrastructure, research parks, and innovation hubs. This trend supports enhanced R&D capabilities, entrepreneurship, and industry-academia collaboration, particularly in metropolitan and tier-2 cities.

School Infrastructure Upgrades: Significant central and state-level investments under schemes such as Samagra Shiksha and PM-SHRI are expected to modernize K-12 infrastructure across FY25–FY28. Initiatives include improved sanitation, electrification, smart classrooms, digital learning tools, and inclusive access for differently-abled students. These upgrades aim to enhance learning outcomes, increase retention rates, and bridge quality gaps between urban and rural schools.

7.2.6 Threats and Challenges in the Sector

Quality and Learning Outcomes: While enhanced infrastructure improves access, it doesn't automatically translate to better learning outcomes. Variability in teacher competency, teaching methodologies, and assessment practices continues to limit the impact of new facilities. In several areas, modern classrooms and digital tools coexist with persistent instructional quality gaps.

Inequity and Access: Disparities between urban and rural regions—as well as across socio-economic groups still restrict equitable access to education. Numerous villages lack comprehensive access to secondary and higher education. UDISE data shows the existence of single-teacher and zero-enrolment schools, emphasizing the need for targeted efforts to turn infrastructure upgrades into real learning opportunities.

Implementation and Fund Utilization: The capacity of states to effectively deploy central funds such as those from PAB and Samagra Shiksha varies considerably. Procurement inefficiencies, bureaucratic delays, and administrative obstacles often slow infrastructure rollout, leading to underutilization of funds and postponement of project benefits at the ground level.

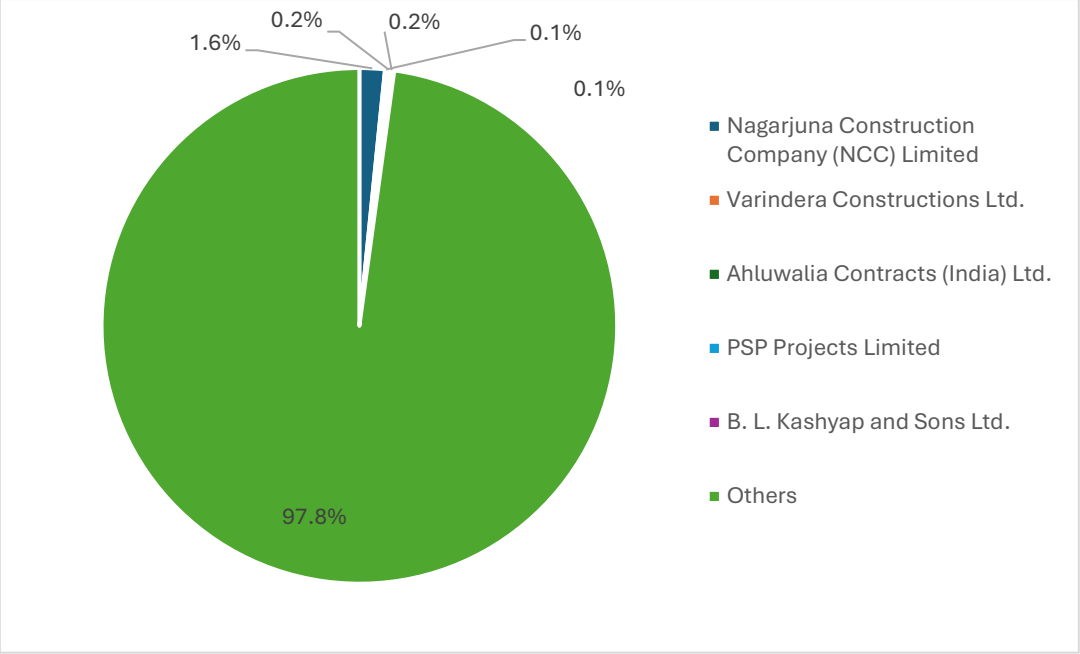
Alignment Between Skilling and Industry Needs: Skill development initiatives often fall short of aligning with industry requirements, affecting graduate employability. Weak linkages between industry and academia result in outdated curricula and skills that do not match emerging labor market demands.

Infrastructure Maintenance and Recurrent Costs: Newly upgraded educational facilities and digital infrastructure need sustained maintenance and operational funding. Inadequate support for recurring expenses can lead to rapid deterioration of assets, undermining initial capital investments.

Demographic Shifts and Urban-Rural Imbalance: Accelerated urbanization is straining city-based educational institutions while rural schools see declining enrolment. Policy initiatives aimed at school consolidation must carefully weigh operational efficiency against equitable access, as reflected in recent education policy changes in states like Karnataka.

7.2.7 Major Players and their Market Share

Chart: India's Educational Infrastructure Market: Breakup by Key Players (in %), FY2025



Source: IMARC, ICRA Analytics

In FY2025, Nagarjuna Construction Company (NCC) Limited dominated the India educational infrastructure market, accounting for a share of 1.6% of the total market. Nagarjuna Construction Company (NCC) Limited was followed by Ahluwalia Contracts (India) Ltd (0.2%), PSP Projects Limited (0.2%), Varindera Constructions Ltd. (0.1%), L. Kashyap and Sons Ltd. (0.1%), and others (97.8%).

7.3 Sports Infrastructure in India

7.3.1 Brief Overview of Indian Educational Sector

The Indian sports sector is fast emerging as a key engine of socio-economic development, blending physical prowess, mental agility, and a spirit of competition across both individual and team disciplines. A strong foundation of sports infrastructure underpins this growth ranging from training setups like gyms, practice fields, and rehabilitation centres to advanced arenas and stadiums hosting domestic and international events. These facilities not only groom elite athletes but also nurture a dynamic sports culture among youth, foster community involvement, and enhance audience engagement. Moreover, the sector shares strong synergies with tourism, real estate, healthcare, and education, positioning it as a driver of wider economic progress.

The sector's rapid advancement is being propelled by growing government spending, expansive infrastructure programs like Khelo India, increased digital adoption, rising consumer spending, a shift toward healthier lifestyles, and growing fan bases across sports such as football, kabaddi, and esports. Public-private partnerships, modern stadiums, world-class training centres, and AI-enabled coaching technologies are solidifying India's standing as a growing global sports destination. With targeted strategies to deepen grassroots involvement, develop elite talent, and professionalize sports governance, India's sports sector is set to become a major source of national pride, economic momentum, and global competitiveness.

Government commitment to enhancing sports infrastructure and athlete development is evident through initiatives such as Khelo India, the National Infrastructure Pipeline (NIP) for sports, and various state-level PPP programs. These efforts aim to broaden participation at the grassroots

level, provide access to high-quality coaching, and enable well-rounded athlete development spanning physical fitness to mental well-being. Through the integration of modern training techniques, advanced technology, and structured competitive exposure, India is gradually building a robust and self-sustaining sports ecosystem. This system is not only geared toward producing world-class athletes but also toward generating employment, fostering entrepreneurship, and boosting community engagement in the sporting domain.

India's 2036 Olympics Bid: Strategic Push Towards Global Sports Leadership

India's Bid for the 2036 Olympics and the Proposed Development Story: India's formal bid to host the 2036 Olympic and Paralympic Games marks a pivotal moment in its sporting and infrastructure ambitions, signaling a vision that extends beyond athletics to urban transformation, global positioning, and cultural outreach. With the Indian Olympic Association submitting its Letter of Intent to the IOC and strong backing from Prime Minister Narendra Modi, the proposal underscores India's readiness to deliver a mega-scale event rooted in sustainability, heritage integration, technology-driven execution and positioning the nation as a capable and future-focused global host.

Ahmedabad as the Proposed Olympic Host Ecosystem: Ahmedabad has positioned itself as the leading contender for hosting the 2036 Olympic and Paralympic Games, supported by rapid infrastructure development and integrated urban planning. Key projects include the Sardar Vallabhbhai Patel Sports Enclave, the world's largest Narendra Modi Stadium, metro network expansion, high-capacity expressways, and planned athlete villages, all designed as permanent urban assets rather than temporary facilities. Complementing these is the Gujarat International Finance Tec-City (GIFT City) expansion, which links sports, business, hospitality, logistics, and tourism into a unified development blueprint strengthening Ahmedabad's credentials as a global sports and business hub.

Cultural Inclusion as a Strategic Sporting Export: India's bid also emphasizes showcasing its cultural identity through the inclusion of native sports and disciplines such as yoga, kho-kho, kabaddi, chess, squash, and cricket. By proposing these sports for potential Olympic inclusion, India aims to globalize its own sporting heritage, making the event an avenue for cultural diplomacy. This aligns with IOC guidelines that allow host nations to recommend regionally popular sports, giving India a platform to fuse tradition with international competition and strengthen its soft-power narrative.

7.3.2 Overview on Sports Infrastructure in India (Including Budget Spending)

Sports Infrastructure Metrics – India

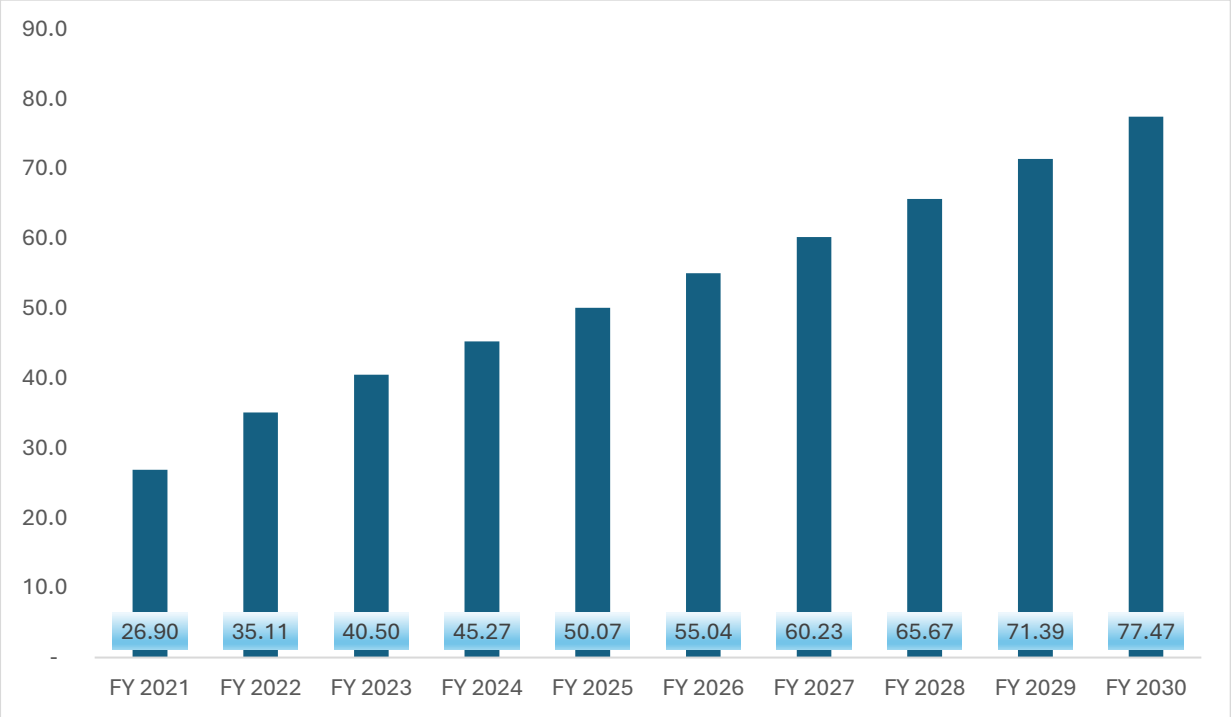
Metric	Value
Total Investment Value (USD)	Rs 200.86Billion (US$2.42 Billion)
National Infrastructure Pipeline (NIP)	Rs 90.69 Billion
Projects Approved (MoYAS)	282 projects, Rs 23.28 Billion
Khelo India Centres	1,000+ across India
Key PPP Projects	32 PPP-mode projects
Pure Private Projects	0 (government-led focus)
Top Performing States	Sikkim, Andhra Pradesh, Mizoram, Madhya Pradesh, West Bengal

Source: Source: Sports Board India, PIB, MoYAS, Khelo India Programme, National Infrastructure Pipeline (NIP), Indian Investment Grid, ICRA Analytics

7.3.3 Key Projects Announced during FY2025 Catering to Sports Sector

S. No.	Project	Location	Investment	Key Features
1	Khelo India Scheme Projects	Nationwide	Rs 31.24 Billion	328 sports infrastructure projects approved under the Khelo India Scheme across multiple states to promote grassroots participation
2	Noida Sports Complex (Sector 123)	Noida, Uttar Pradesh	Rs 0.70 Billion (Phase 1)	Development of a 26.5-acre world-class complex with international running track, boxing and badminton courts; Phase 1 covers 14.9 acres
3	Omaxe Sports City	Dwarka, New Delhi	Rs 15 Billion	India's first integrated multi-sports and retail hub with stadiums, retail, and hospitality facilities
4	Visakhapatnam International Cricket Stadium & Sports Village	Visakhapatnam, Andhra Pradesh	Rs 4 Billion	Construction of an international cricket stadium and sports village in Gajuwaka under the "Adudam Andhra" initiative

7.3.4 Market Trends and Forecasts – Sports Infrastructure (in Rs Billion)



Source: IMARC Group, ICRA Analytics
Note: Data for FY2026–30 is forecasted

The sports infrastructure in India reached a value of Rs 50.10 billion in FY2025, reflecting a CAGR of 16.82% during the period from FY2021 to FY2025. Looking ahead, the sector is expected to grow to Rs 77.47 billion by FY2030, registering a CAGR of 9.11% from FY2025 to FY2030.

The growth of sports infrastructure in India is being fuelled by strong government support through initiatives like Khelo India, the National Sports Development Fund, and state policies promoting grassroots and elite-level facilities. The popularity of leagues such as IPL, ISL, and Pro Kabaddi, along with India's push to host international events, is driving demand for modern stadiums, training centres, and multipurpose complexes. Public–private partnerships, corporate sponsorships, and investment in smart, tech-enabled infrastructure are further boosting this growth, while rising health awareness, school and college sports programs, and expanding sports academies are creating sustained demand across cities and semi-urban regions. Additionally, the rising participation of women in sports, accelerated by landmark victories such as the Indian women's cricket team's 2025 ICC ODI World Cup win and the inaugural Blind Women's T20 World Cup, is inspiring greater investment and inclusivity in sports facilities nationwide.

7.3.5 Expected Growth in Sports Sector in India

- **Government Schemes Driving Sports Infrastructure:** India's sports infrastructure development is being significantly propelled by proactive government schemes and policy initiatives. Programs like Khelo India, the National Sports Development Fund, and various state-led policies are channelling investments into stadiums, training academies, and grassroots-level facilities. The Khelo India Scheme, for instance, supports nationwide sports development and the establishment of Khelo India State Centres of Excellence (KISCE), which enhance existing infrastructure for promising athletes. The National Infrastructure Pipeline (NIP) also includes dedicated sports development projects, encompassing stadiums, training hubs, and multi-purpose complexes. Additionally, the Rajiv Gandhi Khel Abhiyan, with a backing of Rs 9,000 crore, is geared toward promoting rural sports and infrastructure development in underdeveloped districts, thus ensuring inclusive talent discovery and participation.

- **Major Flagship Projects:** Landmark projects such as the Visakhapatnam Sports City—completed in August 2024 at a cost of $125.74 million—demonstrate India's commitment to creating world-class sports infrastructure. Built to Olympic specifications, the complex offers training centres, athlete accommodations, and spectator amenities, with an emphasis on sustainability and community engagement. It aims to support elite athlete development while also driving local socio-economic growth and improving India's Olympic readiness.

- **Public-Private Partnership (PPP) Opportunities:** India's sports infrastructure sector presents significant investment potential, with $2.2 billion worth of opportunities identified through PPP and EPC (Engineering, Procurement, Construction) models, as per Invest India. Out of 96 active projects, 32 are PPP-based and 29 follow the EPC model, showcasing the government's strategic inclination to harness private expertise and capital for large-scale development.

- **Professional Sports Leagues and International Exposure:** The surge in popularity of professional leagues like IPL, Pro Kabaddi, and ISL is fueling demand for cutting-edge, multi-purpose stadiums. Hosting international events is also incentivizing the development of elite training centers and globally competitive sports venues.

- **Technological Integration:** Modern sports infrastructure is increasingly embedding smart design elements, performance analytics, and digital coaching tools. These enhancements improve operational efficiency, athlete tracking, and fan experience—further aligning with India's broader goal of fostering elite sporting talent while engaging communities and promoting sustainable practices.

- **Expansion of Large-Scale Sports Infrastructure:** A notable example is the Karnataka Cabinet's approval of a Rs 2,350 crore international cricket and multi-sport complex in Bengaluru's Anekal taluk. Designed to seat 80,000 spectators, this facility is set to become India's second-largest cricket stadium. It underscores the country's focus on creating large-scale, world-class venues to host international tournaments and nurture multi-sport excellence.

7.3.6 Threats and Challenges in the Sector

- **Urban–Rural Disparity:** Investments in sports infrastructure are predominantly focused on metropolitan regions, leaving rural and semi-urban areas with minimal access to essential facilities. This disparity limits the scope for talent discovery, reduces grassroots participation, and hinders equitable sports development nationwide.

- **Maintenance and Technical Deficiencies:** Numerous sports facilities, especially those in distant regions, are plagued by inadequate maintenance owing to limited technical skills, staffing shortages, and insufficient operational budgets. These shortcomings curtail the usability of facilities, impact athlete performance, and diminish long-term infrastructure value.

- **Delayed Fund Utilization:** Administrative inefficiencies, multi-tiered approval mechanisms, and bureaucratic hurdles often result in sluggish disbursement and underuse of sanctioned funds. Even when funding is approved under schemes like Khelo India or Rajiv Gandhi Khel Abhiyan, delays in implementation slow down infrastructure development and benefits realization.

- **Weak Private Sector Engagement:** Private sector involvement remains limited due to ambiguous PPP regulations, complex compliance norms, and restrictive operational frameworks. These constraints reduce innovation, restrict funding avenues, and inhibit the scale-up of advanced and professionally managed sports facilities.

- **High Capital Requirements and Outdated Infrastructure:** Modern sports facilities demand substantial capital investment and the integration of cutting-edge technologies such as digital scoreboards, retractable roofs, and smart analytics systems. However, low utilization rates and occupancy levels in many venues make financial sustainability difficult to achieve.

- **Land Scarcity Outside Urban Centres:** The lack of adequate land in non-metropolitan regions poses a significant hurdle in developing new sports facilities and training hubs. In the absence of focused government interventions or innovative land allocation strategies, rural and semi-urban areas remain underserved in terms of quality sports infrastructure.

- **Complex Policy Guidelines:** The rollout of government schemes is frequently hampered by intricate funding mechanisms and stringent eligibility norms, which often favour government entities. These rigid frameworks reduce adaptability for private and local actors, slowing down project implementation and restricting the sector's overall growth trajectory.

8. Water Waste Management

8.1 Waste Management Activities

Wastewater Management Growth: Wastewater management is emerging as one of the most promising subsectors within India's environmental technology landscape. With the country's demand for water projected to be twice the available supply by 2030, effective water management has become a national priority. To address these challenges, both public and private sectors are implementing ambitious programs to build comprehensive water and wastewater treatment and distribution infrastructure. This growing emphasis on sustainable water use is driving demand for high-end treatment technologies across municipal and industrial applications

National Wastewater Initiatives: India's wastewater management efforts are largely anchored in flagship national missions such as the National Mission for Clean Ganga (NMCG) and AMRUT 2.0 (Atal Mission for Rejuvenation and Urban Transformation). These initiatives are mobilizing significant investments toward building sewage treatment plants (STPs), upgrading drainage systems, and promoting water recycling and reuse—helping to curb pollution and strengthen long-term water security.

Industrial Wastewater Treatment Trends: In the industrial space, sectors like power, food & beverages, chemicals, pharmaceuticals, refineries, and textiles are increasingly turning to sophisticated wastewater treatment systems to comply with tightening environmental regulations. Technologies such as reverse osmosis (RO) membranes are gaining ground for water purification, while the industry is shifting from conventional chemical treatment and demineralization to efficient, membrane-based solutions. Notably, concepts like wastewater recycling and zero liquid discharge (ZLD) are gaining traction, helping industries reduce water waste and stay aligned with sustainability norms.

Knowledge Sharing and Industry Collaboration: India is also becoming a hub for industry collaboration through events such as the Water & Waste Expo and Everything About Water Expo. These platforms convene policymakers, industry stakeholders, and researchers to promote innovation, showcase emerging technologies, and foster new partnerships across the water and waste management ecosystem.

There are five main steps in the wastewater treatment process: pre-treatment, primary treatment, secondary treatment, disinfection process, and release.

Pre-Treatment: This initial stage involves removing large solids, debris, and grit from the wastewater to prevent damage to equipment and clogging in subsequent processes. Common methods include the use of screens, grit chambers, and sedimentation tanks. This step helps safeguard pumps and pipelines, ensuring smoother operations downstream.

Primary Treatment: Wastewater is retained in large settling tanks, allowing heavier solids to sink to the bottom as sludge while oils and grease float to the surface and are skimmed off. The primary objective is to eliminate suspended solids and lower the organic load. This stage typically removes around 50–60% of total suspended solids.

Secondary Treatment: In this phase, biological methods are used to break down dissolved and suspended organic materials. Microorganisms consume these pollutants in aeration tanks or biofilters. This stage significantly reduces Biological Oxygen Demand (BOD) and further purifies the water.

Disinfection Process: Following biological treatment, disinfection eliminates or neutralizes harmful pathogens and bacteria, making the water safe for release or reuse. Common disinfection techniques include chlorination, UV radiation, and ozonation. This step ensures that treated water complies with public health and environmental regulations.

Effluent Release: The final stage involves releasing the treated and disinfected water, referred to as effluent, into natural water bodies such as rivers, lakes, or oceans—or reusing it for agricultural or industrial purposes. The effluent must meet regulatory standards to avoid environmental harm and protect aquatic ecosystems.

8.2 Overview of the Water Waste Management Industry

India's water and wastewater management industry has become a critical pillar for sustainable resource utilization, environmental conservation, and public health advancement. Accelerated urbanization, industrial growth, and rising population have significantly increased the demand for freshwater, placing immense pressure on the country's limited water reserves. Despite being home to 18% of the global population, India holds only 4% of the world's freshwater resources, making it one of the most water-stressed countries globally. Approximately 66% of the population faces water scarcity, while only 30% of the nation's wastewater is treated resulting in a daily treatment gap of nearly 60 billion litres.

Government-led initiatives like the Jal Jeevan Mission are playing a transformative role in addressing these challenges, channelling nearly Rs 1,000 billion annually toward water infrastructure development. Similarly, the Atal Mission for Rejuvenation and Urban Transformation (AMRUT 2.0), with a budget of Rs 2,990 billion for FY2022–FY2026, is focused on modernizing urban water supply and sewerage systems to improve living conditions and enhance urban resilience.

On the technological front, India's wastewater treatment sector is undergoing rapid modernization. Traditional methods such as the Activated Sludge Process (ASP) are being replaced by more advanced and efficient systems like Sequencing Batch Reactors (SBR), Membrane Bioreactors (MBR), and Moving Bed Biofilm Reactors (MBBR). These next-generation technologies not only improve treatment outcomes but also enable water recycling and facilitate resource recovery which is crucial components of India's move toward a circular economy.

Urbanization remains a key force shaping this sector. With more than half the global population already residing in cities, a number projected to reach 70% by 2050, urban growth presents both opportunities and challenges. While it supports economic expansion, it also amplifies demand for freshwater, particularly in India's rapidly growing urban centers. Therefore, identifying and developing sustainable and resilient water sources will be essential for meeting future demand and safeguarding ecological balance as India continues its swift urban transformation.

8.3 Expected Growth in Water Waste Management Sector in India

India's water and wastewater management sector is witnessing robust growth, fuelled by accelerating urbanization, growing water scarcity, and proactive government initiatives. Key areas of opportunity include establishing advanced treatment facilities, utilizing reclaimed wastewater for irrigation and industrial purposes, managing both solid and liquid waste streams, and enhancing the infrastructure for efficient collection and distribution.

The private sector is emerging as a vital force in advancing wastewater treatment technologies. Regulatory mandates require industries such as power, food and beverage, and manufacturing

to treat wastewater prior to discharge. In response, these sectors are increasingly shifting from conventional chemical-based treatments and demineralization plants toward more efficient technologies like reverse osmosis membranes. This transition is unlocking substantial growth prospects for the water and wastewater management market in India.

Public-Private Partnerships (PPPs) offer a compelling solution to many of the sector's infrastructure, financing, and operational challenges. As urbanization intensifies and water resources remain under stress, PPPs are proving instrumental in delivering scalable, efficient, and inclusive wastewater solutions. For instance, the successful replication of India's first PPP model in the Ganga basin has mobilized over $1.5 billion in investments, including $650 million from private entities.

With rapid industrialization, companies are increasingly adopting circular water strategies—treating industrial wastewater as a resource. This approach not only enables the recovery of valuable materials like water, reducing freshwater dependency, but also creates new revenue opportunities. Such strategies are essential to promoting sustainability, mitigating environmental impact, and enhancing resilience against water scarcity and climate risks.

Technological innovation is expected to be a major catalyst for market expansion, driven by the need for better contaminant removal, water reuse, and resource recovery. Solutions such as membrane bioreactors (MBRs), reverse osmosis (RO), and intelligent monitoring systems are gaining traction. These technologies help meet tighter regulatory standards, lower operational costs, and align with broader sustainability and circular economy goals.

8.4 Government Outlay and Initiative

Government Outlay and Initiative	Description
Swachh Bharat Mission Urban 2.0	Swachh Bharat Mission (SBM-U) 2.0 aims to make all cities "Garbage Free" through comprehensive waste management, including 100% source segregation, door-to-door collection, and scientific processing of all waste. For the first time, the mission includes a Used Water Management (UWM) component for smaller cities. This new focus aims to safely contain, treat, and maximize the reuse of all wastewater (such as sewerage, septage, grey water, and black water) to prevent environmental pollution. This initiative is supported by a total budget of ₹1,416 Billion for 2021-26, which is over 2.5 times the outlay of the previous phase.
Atal Mission for Rejuvenation and Urban Transformation (AMRUT) 2.0	AMRUT 2.0 is designed to foster a circular water economy by implementing City Water Balance Plans (CWBP), which focus on recycling and reusing treated sewage, rejuvenating water bodies, and promoting water conservation. The scheme aims to extend universal water supply coverage from 500 cities to approximately 4,900 statutory towns across India, while also addressing sewerage and septage management in the 500 cities included in its first phase. The total estimated outlay for AMRUT 2.0 is ₹2,990 Billion, with a Central Government contribution of ₹767.6 Billion over five years.

Government Outlay and Initiative	Description
National River Conservation Plan (NRCP)	NRCP is a government initiative aimed at cleaning and conserving rivers in India. It emphasizes pollution reduction, water quality improvement, and sustainable river management. The program targets major rivers such as the Ganga, Yamuna, and Godavari, with the goal of restoring their ecological balance and providing safe water for both people and the environment. The total approved budget for these projects is ₹82.41 Billion, which will create a sewage treatment capacity of 2,910.50 million litres per day (MLD).
Namami Gange Programme (NGP)	The Namami Gange Programme (NGP) focuses on the rejuvenation of the Ganga River and its tributaries. Initially, it had a budgetary allocation of ₹200 Billion for five years, up to March 2021, and has now been extended to March 2026 with an increased allocation of ₹225 Billion. Additionally, the National Ganga Plan (Central Sector) has been assigned a financial outlay of ₹34 Billion for 2025-26. These investments aim to expand sewage treatment capacity, improve water quality, and regulate industrial effluent discharge, with the objective of rejuvenating the Ganga and achieving the prescribed bathing water standards by 2025.
Ministry of Jal Shakti	The Ministry of Jal Shakti seeks to tackle India's growing water challenges by providing access to safe drinking water, cleaning the Ganga and its tributaries, and managing water resources through conservation and equitable distribution. In the 2025 Budget, the government allocated ₹995.03 Billion to the Ministry, with ₹742.26 Billion (74.59%) earmarked for the Department of Drinking Water and Sanitation.

9. Competitive Landscape

9.1 Company profiling and benchmarking

1. Krishna Buildspace Limited (KBL)

KBL was incorporated in 1995 as a partnership firm with name and style of Krishna Developers, later in August 2013 the partnership firm was converted to private limited company. KBL headquartered in Ahmedabad, Gujarat, KBL is a private construction and infrastructure company with expertise in civil engineering and EPC projects. The company focus is on residential, commercial, and industrial developments. It has team of engineers, architects, and project managers and is ISO-certified for quality and safety standards.

KBL offers services in complete construction solutions, EPC contracting, and project management. Its portfolio includes residential complexes, commercial spaces, industrial facilities, and infrastructure projects.

2. Garuda Construction & Engineering Ltd (GCEL)

GCEL was established in 2010 and is headquartered in Mumbai, GCEL is a public EPC (Engineering, Procurement, and Construction) company delivering projects across residential, commercial, hospitality, and infrastructure sectors. The company is ISO-certified.

GCEL offers turnkey EPC solutions, including civil construction, mechanical, electrical, and plumbing (MEP) services, and operations & maintenance support.

3. Ahluwalia Contracts India Ltd (ACIL)

ACIL was founded in 1979 and headquartered in New Delhi, Ahluwalia Contracts is a civil engineering and construction companies. It is publicly listed on the NSE and operates across India and internationally. The company is into Engineering, Procurement, and Construction (EPC) services and has projects in residential, commercial, institutional, hospitality, healthcare, and infrastructure sectors. ACIL is ISO-certified.

ACIL provides turnkey solutions in civil construction, including high-rise buildings, hospitals, hotels, IT parks, metro stations, data centers, and redevelopment of railway stations.

4. B.L. Kashyap & Sons Ltd (BLK)

BLK was founded in 1978 and headquartered in New Delhi, BLK is a construction and infrastructure company in India. It is publicly listed on the NSE and operates nationwide with expertise in Engineering, Procurement, and Construction (EPC) services. The company has delivered major projects across IT parks, commercial spaces, malls, hotels, residential complexes, and industrial facilities. BLK is ISO-certified and recognized for its commitment to quality, safety, and timely execution.

BLK provides turnkey EPC solutions in civil construction, including metro systems, airports, hospitals, water and wastewater management, and urban infrastructure.

5. Globe Civil Project Ltd (GCPL)

GCPL was founded in 2002 and headquartered in New Delhi, Globe Civil Projects Limited is a public EPC (Engineering, Procurement, and Construction) company specializing in infrastructure and building projects. The company operates across multiple states in India and has delivered projects in transportation, logistics, education, healthcare, and commercial sectors. It is ISO-certified company.

Company offers turnkey civil construction solutions, including roads, bridges, airport terminals, railway stations, schools, hospitals, and commercial complexes. It also provides MEP services, structural and architectural work, HVAC systems, firefighting installations, and facility management.

9.2 Financial benchmarking of key peers in the sector

Table: Financial benchmarking of key peer companies for the H1FY2026

Comparison with industry peers

For the period ending September 30, 2025					
Particulars	**Krishna Buildspace Limited**	**Garuda Construction & Engineering Ltd**	**Ahluwalia Contracts India Ltd**	**B.L. Kashyap & Sons Ltd**	**Globe Civil Project Ltd**
Order Book (₹ in million)	4,649.62	NA	NA	NA	NA
Book to Bill	NA	NA	NA	NA	NA
Revenue from Operations (₹ in million)	959.53	2,416.48	21,821.79	6,915. 51	1,611.08
Total Income (₹ in million)	964.82	2,451.16	22,130.28	6,962.06	1,624.79
EBITDA (₹ in million)	168.87	743.12	2,453.08	510.84	258.57
EBITDA margins (%)	17.50%	30.32%	11.08%	7.34%	15.91
PAT (₹ in million)	88.58	551.15	1,297.77	22.34	110.25
PAT margins (%)	9.18%	22.49%	5.86%	0.32%	6.79%
Debt-Equity Ratio (In times)	1.27	0.00	0.00	0.59	0.63
RoE (%)	17.62%	15.31%	6.97%	0.43%	6.66%
RoCE (%)	14.40	20.62	11.07%	5.76	7.86%
Net Worth (₹ in million)	544.50	3874.45	19,241. 40	5257.35	2,248.56
Net Working Capital Days	171	236	82	151	342

Source: Company Financial Statements, ICRA Analytics
NA: Not Available

Table: Financial benchmarking of key peer companies for the Financial Year 2025

Comparison with industry peers

For the period ending March 31, 2025					
Particulars	**Krishna Buildspace Limited**	**Garuda Construction & Engineering Ltd**	**Ahluwalia Contracts India Ltd**	**B.L. Kashyap & Sons Ltd**	**Globe Civil Project Ltd**
Order Book (₹ in million)	3,086.22	NA	2,35,390.00	30,210.00	6,691.00
Book to Bill	1.68	-	5.74	2.62	1.77
Revenue from Operations (₹ in million)	1,832.87	2,256.74	40,986.23	11,536.33	3,785.76
Total Income (₹ in million)	1,845.33	2,274.07	41,539.97	11,797.62	3,815.68
EBITDA (₹ in million)	284.14	682.64	3,977.43	914.71	565.85
EBITDA margins (%)	15.40%	30.02%	9.57%	7.75%	14.83%
PAT (₹ in million)	151.01	497.95	2,020.81	274.75	240.51
PAT margins (%)	8.18%	21.90%	4.86%	2.33%	6.30%
Debt-Equity Ratio (In times)	1.29	0.00	0.01	0.60	1.39
RoE (%)	39.81%	22.07%	11.89%	5.39%	26.15%
RoCE (%)	28.64%	30.10%	19.59%	13.27%	23.23%
Net Worth (₹ in million)	460.73	3323.31	17,984.47	5,236.08	1,062.73
Net Working Capital Days	153	473	114	185	203

Source: Company Financial Statements, ICRA Analytics
NA: Not Available

Table: Financial benchmarking of key peer companies for the Financial Year 2024

Comparison with industry peers

For the period ending March 31, 2024

Particulars	Krishna Buildspace Limited	Garuda Construction & Engineering Ltd	Ahluwalia Contracts India Ltd	B.L. Kashyap & Sons Ltd	Globe Civil Project Ltd
Order Book (₹ in million)	3,072.68	NA	1,70,102.40	25,240.00	9,808.56
Book to Bill	1.79	-	4.41	2.03	2.95
Revenue from Operations (₹ in million)	1,720.83	1,541.78	38,552.98	12,445.34	3,321.62
Total Income (₹ in million)	1,727.56	1,544.69	38,919.40	12,567.65	3,348.14
EBITDA (₹ in million)	225.20	500.86	6,194.41	1,224.73	473.06
EBITDA margins (%)	13.04%	30.32%	15.92%	9.75%	14.13%
PAT (₹ in million)	113.00	364.35	3,748.26	525.29	153.79
PAT margins (%)	6.54%	23.59%	9.63%	4.18%	4.59%
Debt-Equity Ratio (In times)	1.75	0.00	0.03	0.62	1.60
RoE (%)	46.65%	36.14%	26.51%	11.16%	21.95%
RoCE (%)	29.10%	49.40%	39.29%	16.08%	24.19%
Net Worth (₹ in million)	297.95	1,190.06	15,999.45	4,963.44	776.69
Net Working Capital Days	111	217	107	153	223

Source: Company Financial Statements, ICRA Analytics
NA: Not Available

Table: Financial benchmarking of key peer companies for the Financial Year 2023

Comparison with industry peers

For the period ending March 31, 2023					
Particulars	Krishna Buildspace Limited	Garuda Construction & Engineering Ltd	Ahluwalia Contracts India Ltd	B.L. Kashyap & Sons Ltd	Globe Civil Project Ltd
Order Book (₹ in million)	3,966.80	NA	1,39,306.70	24,020.00	9,378.00
Book to Bill	2.41	-	4.91	2.16	4.02
Revenue from Operations (₹ in million)	1,647.61	1606.88	28,383.93	11,099.76	2,333.45
Total Income (₹ in million)	1,654.17	1,610.24	28,679.11	11,298.75	2,351.69
EBITDA (₹ in million)	156.45	559.92	3,335.06	818.10	226.22
EBITDA margins (%)	9.46%	34.77%	11.63%	7.24%	9.62%
PAT (₹ in million)	74.94	407.95	1,939.77	221.39	48.51
PAT margins (%)	4.53%	25.33%	6.76%	1.96%	2.06%
Debt-Equity Ratio (In times)	2.03	0.00	0.00	0.72	1.55
RoE (%)	51.18%	65.59%	17.14%	5.10%	8.09%
RoCE (%)	29.94%	81.77%	26.69%	10.24%	13.59%
Net Worth (₹ in million)	186.52	826.12	12,283.32	4,446.96	624.40
Net Working Capital Days	66	131	67	161	232

Source: Company Financial Statements, ICRA Analytics
NA: Not Available

Table: List of Formulas used for the key peer comparison

Sr. No.	Formula	Definition
1	Order Book	Order Book is the estimated aggregated contract value of the unexecuted portion of existing assigned construction project.
2	Book to Bill	Book-to-Bill Ratio is calculated as the Order Book at a particular period endeddivided by the Revenue from operations for that period.
3	Revenue from Operations (₹ in million)	Revenue from operations means the revenue from operations as appearing in the restated statement of profit & loss for the relevant year/period.

Sr. No.	Formula	Definition
4	Total Income (₹ in million)	Total Income Generated by the company from revenue from operations and other income.
5	EBITDA (₹ in million)	EBITDA = PAT + (finance Costs+ depreciation and amortization expenses+ total tax expense) – exceptional items less other income.
6	EBITDA margins (%)	EBITDA Margin is EBITDA as a percentage of total income.
7	PAT (₹ in million)	Profit after tax (PAT) refers to profit/(loss) for the year from continuing operations as appearing in the restated statement of profit & loss for the relevant year/period.
8	PAT margins (%)	PAT Margin is calculated as profit/ (loss) for the year/ period as a percentage of total income.
9	Debt-Equity Ratio (In times)	Debt Equity Ratio means Total debt divided by total equity.
10	RoE (%)	Net profit after tax for the year/ period divided by Average Shareholder Equity
11	RoCE (%)	Earnings before interest and taxes divided by average capital employed. Capital Employed includes Tangible Net worth (i.e. subtracting Net worth by Intangible Assets and Deferred Expenditure, if any), net deferred tax (asset)/ liability, Long-Term Borrowing and Short-Term Borrowing.)
12	Net Worth (₹ in million)	Net Worth is Total Equity
13	Net Working Capital Days	Days working capital cycle is arrived at by dividing working capital (current assets excluding cash and cash equivalents less current liabilities excluding borrowings) by revenue from operations multiplied by the number of days in the year/period.

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