

# Expanding Horizon: Data Center Capacity to Hit ~2,000 MW by 2026









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## Synopsis

In this report, CareEdge Ratings deciphers the Indian Data Center ecosystem highlighting the key drivers catalysing large-scale Data Center capacity expansion, growth outlook and planned investments. The report also highlights some of the prominent industry challenges and risk mitigants.

## India's Data Center capacity Vs Global peers-significantly underpenetrated

The internet user penetration in India is the lowest whereas the mobile data consumption is highest compared to China, the USA and the European Union. The Data Center capacity per million internet users in India stood at just 1 MW as against 4 MW per million user in China and significantly lower than the USA and European Union. The exhibit below presents a comparative landscape -

	 India	 China	 USA	 EU
 Internet Users (%)	63	76	92	90
 Mobile Data (EB/Month)	26	26	10	17
 Data Centers (MW per Mn users)	1	4	51	12
 Data Center Capacity (MW)	877	3800	15,930	8300

Source: CareEdge Ratings and Industry Reports  
EB: Exabyte MW: Megawatt

India generates about 20% of the global data, however in terms of the Data Center capacity, it has a share of just 3%.

As evident from the data above, there is significant under-penetration of Data Center capacity leading the way for large capacity addition plans.

## The demand catalyst(s)

### Digital Transformation

India is transitioning towards a developed market economy, with technology expected to play a pivotal role in this evolution. The digital transformation is accelerating economic growth and leading to substantial data generation. This wave of digitization, driven by the expansion of e-commerce, fintech platforms, online streaming, and gaming services, is anticipated to increase the number of internet users and boost internet penetration (internet users as a % of population) from approximately 63% in FY23 (refers to the period April 1 to March 31) to 87% by FY29. Adoption of technologies such as 5G, IoT, and Artificial Intelligence are also expected to significantly augment demand for data and in turn Data Center. Collectively, these demand factors are projected to triple data consumption in India.

### Lower per MW cost

Data Center set-up is capital intensive with close to 40% cost allocation towards hard costs i.e. land & building (including fit outs), 40% towards the electrical system and a balance 20% towards Heating Ventilation and cooling

system. India offers low-cost benefit for setting up Data Center aided by relatively cheaper land and labour costs. The capex cost for setting up a Data Center in the country is roughly 45% lower vis-à-vis the world average. In CareEdge Ratings experience the per MW cost in India for setting up Data Center was close to Rs.40-45 crore and it has witnessed escalation due to incremental land, equipment and other soft cost with new capacities being set up at a cost of Rs.60-70 crore/MW. In CareEdge Ratings opinion cost of data centre is also contingent upon provisions for scalability, design and location.

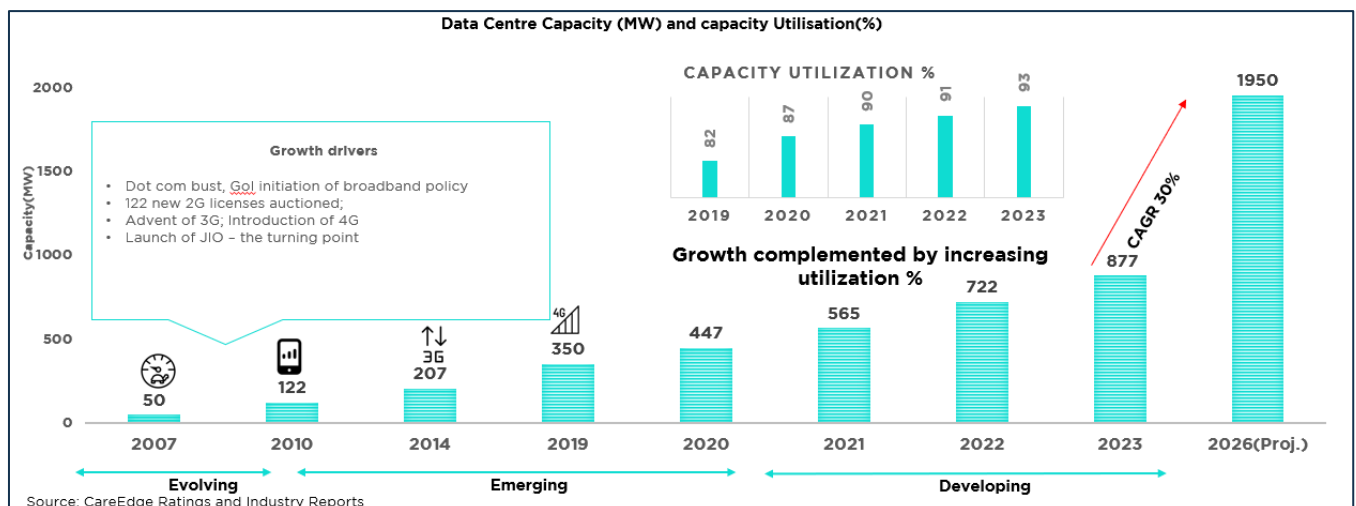
### Government incentives & regulatory push

Recognizing the increasing importance of the sector, the Central Government has initiated measures to attract investments and empower Data Center growth. Some of the measures undertaken by the Central Government include the issuance of a draft Data Center policy for 2020 and according infrastructure status to the sector in the Union budget 2022-23. The infrastructure status paves the way for easier access to institutional credit, availment of long-term financing at competitive rates and providing refinancing opportunities. In this direction, State Governments too have been providing incentives such as stamp duty exemption, power subsidies, rebates on property taxes and single window clearance etc. Regulatory push for data localization would also usher growth of DC capacities.

### Growth potential and planned investments

#### Rapid expansion to lead to capacity of ~ 2000 MW demanding investment of Rs.50,000 crore in next three years till 2026

The first commercial Data Center was set up in India in the year 2000 with the industry growing at a snail's pace, reaching a mere 122 MW by 2010 i.e. average addition of 12 MW per year. Thereafter the capacity witnessed swift addition with growth of almost 3x till 2020 i.e. average addition of 32 MW per year. While the dot com boom, broadband policy, advent of 2G and 3G contributed to this surge, the major boom came with the launch of new telecommunication company; JIO with wide spread network at a cheaper cost, as well as introduction of Unified Payment Interface (UPI) in the country in the year 2016. The growth of Data Center in the country is represented below -

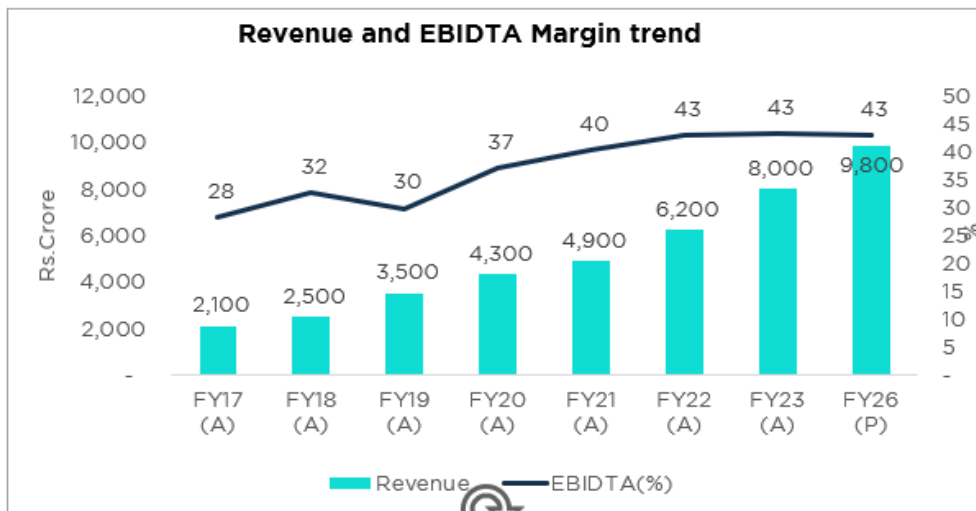


The industry witnessed per year addition of 100 to 150 MW during the three years 2020 to 2023 and within 3 years, the capacity reached close to 900 MW. The increased capacity was well complemented by the capacity absorption with the utilization increasing from 82% in 2019 to 93% in 2023 as seen in the exhibit above.

The industry has entered a growth phase and CareEdge Ratings estimates that capacity is expected to double to around ~2000 MW by 2026. The growth plans have also created substantial investment prospects and CareEdge Ratings estimates a capex of Rs.50,000 crore in this space over the next three years till 2026.

**Revenue growth and margin stability of DC players**

Based on an assessment on the financials of major Data Center players in India, CareEdge Ratings observes that the revenue of Data Center operators has witnessed growth of approximately 24% CAGR from FY17 to FY23, corresponding with capacity additions. This trend is projected to continue, with CareEdge Ratings forecasting a revenue growth of 32% CAGR during FY24-FY26. Since FY19, EBITDA margins have expanded due to higher occupancies and better absorption of fixed costs and thereafter stabilising at ~43% during FY22-23. These margins are expected to remain steady for the next 2-3 years.

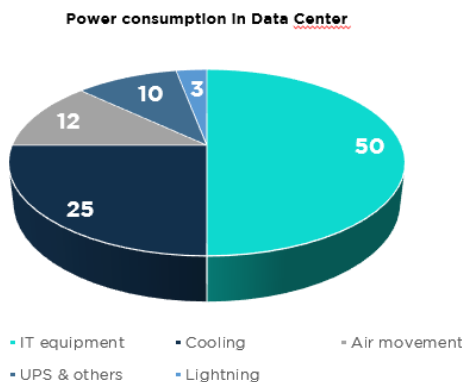


Source: CareEdge Ratings and annual reports

**Challenges and Way Forward**

**High power consumption cost: Evolution of Green Data Center**

Power cost – a significant input constitutes 65% of overall operating cost. The IT equipment and its cooling system consume nearly 75% of total power intake.



Source: EYP Mission Critical Facilities Inc. New York, NY, USA.

With the advent of technologies like AI which require more computational power, the power consumption by the Data Center is expected to go up further. Thus, the rising carbon footprint and stakeholders' demand for sustainable business practices has given rise to "Green Data Centres". Sustainability, as measured by Power usage effectiveness in the Indian context is close to 1.9 for conventional Data Center and approx. 1.3 for green Data Center due to high temperature. Thus, CareEdge Ratings foresees increased investments in renewable power deployment by Data Centre operators.

**Increasing competitive intensity**

Data Center co-location space is occupied by 4-5 major players (the pioneers and early entrants) who have a market share of more than 90%. The growth phase of the industry has seen new entrants from multiple domain expertise such as Construction, Power, and Real Estate as well as investments by global fund and private equity players. This is likely to moderate the market share of existing players to close to 70-75% going forward. Huge capex announcement needs to be corroborated with streamlining of execution on the ground. The new capacities are likely to get absorbed over the next 2-3 years and thereafter the supply may outpace demand. CareEdge Ratings expects an industry consolidation phase by FY31 consequent to commissioning of announced capacity additions.

**Balancing debt and profitability**

Based on an assessment on the financials of major Data Center players in India, CareEdge Ratings observes that, the financial profile of the existing players is healthy as represented by an interest coverage ratio above 4x during the period FY17 to FY23. However, driven by large-sized investments the debt requirement is on a witnessing trend. Going forward, with 70% of capex plans being debt-funded, debt coverage indicators may moderate but expected to remain at comfortable level.

**CareEdge Ratings View**

“The capacity addition of ~1.1 GW in Data Center space needs to be corroborated with increased absorption in future/ medium term, as cashflow stability is an important consideration for the debt-funded investments. A key risk mitigant is the annuity akin structure wherein Data Center operate on long-term/medium-term contractual arrangements with strong counterparties thereby providing revenue visibility and assured cash flow. However, rising costs need to be weighed adequately with competitive pricing to balance the leverage and profitability” said Puja Jalan, Associate Director, CareEdge Ratings.

Maulesh Desai, Director, CareEdge Ratings, adds, “the DC growth is driving/attracting large scale investments in the expansion of the network connectivity ecosystem which is critical for high volume data transfer at low latency levels. It is imperative that for such large scale capacity addition, Data Center players incorporate mix use of renewable energy and low carbon technologies to ensure cost competitiveness for sustainability.”

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