

# Riding high on the digital transformation wave

Hidden like a backyard, data centres often go unnoticed. Yet, with rising demands and green expectations, they are set for increased attention and action



BY PRATIMA HARIGUNANI

**W**hat happens when we chew more apps, juggle more devices, stuff our lives with more technology and go crazy in the fast cruise of digitalisation? All that has to be powered from somewhere. All those pipes and engine rooms must be working furiously all the time.

If 2023 was any glimpse, and if what is coming in 2024 is watched closely, there would be no doubt that 'all that' is set to explode not just in demand but in capacity and consciousness too. Data centres are sputtering all

the power that IT needs, pushing forth businesses on the new oceans of Artificial Intelligence (AI) and digital transformation—and India is no exception.

## EXPLOSIVE GROWTH, EXCITING DRIVERS

A recent report by Dell'Oro Group indicates that the worldwide data centre capex is forecast to rebound to 11% growth in 2024 as select hyperscale cloud service providers return to an expansion cycle and the spending freeze in the enterprise markets starts relenting. The India data centre market size has been slated to grow from



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**Devroop Dhar**

Co-Founder, Primus Partners

USD 6.12 billion in 2023 to USD 10.89 billion by 2028, as argued by a forecast from Mordor Intelligence.

In India, data centre infrastructure is growing exponentially, and there is a growing preference for the Cloud and increased data consumption and generation by over half a billion digital users. Demand for new data centres is enormous in India, driven by the hyperscale facilities key internet players, such as Amazon Web Services (AWS), Microsoft, Google Cloud, and Alibaba Cloud, demand to power their clouds.

Dell'Oro outlook further highlights that server and storage system revenue is set for growth greater than 20% in 2024, while network and physical infrastructure revenues grow in single digit. The hyperscale cloud service providers could increase their data centre capex by 13% in 2024.

It is not hard to guess where this demand for more data centre coal is coming from. The ship of technology is moving at a staggering speed on waters like AI, Cloud and mobility. Interestingly, India is among the major data centre players in the APAC region. Also, as enterprises migrate to the Cloud, it drives more data centre muscle.

Devroop Dhar, Co-Founder, Primus Partners seconds that wave. “The data centre market in the APAC region is experiencing notable expansion, primarily fueled by emerging markets like India, Malaysia, and Thailand. India, in particular, is poised for substantial growth, with an anticipated doubling of its total data centre capacity in the coming years, positioning it among the fastest-growing markets worldwide.”

He also adds how the proliferation of Internet usage driven by 5G, the prominence of e-service delivery encompassing e-commerce, and the implementation of data protection and localisation regulations play a pivotal role in propelling the growth of data centres in the region.

According to a CBRE report, Global Data Centre Trends 2023, there was continued demand across industry verticals as businesses and governments move towards digitalisation and emerging markets such as Mumbai and Seoul recorded take-up growth. The report noted that the rapid growth of AI, along with other modern technologies, such as streaming, gaming and self-driving cars, will spur strong data centre demand; spawning innovations in data centre design and technology.

Vikas Sharma, Founder and Director, Hi-Com also brings in the part of how the implementation of the Data Protection Bill (DPDP) in India affects this space. “Organisations were expected to adapt their data handling processes to comply with the regulations, potentially influencing data centre strategies.”

“Yes, there is a huge surge in India to modernise the data centre, irrespective of whether it is Public Cloud or Private Cloud. It is a demand to run your business seamlessly otherwise you will be left behind in the business growth race,” points out Bhoopendra Solanki, Chief Information Officer, Sakra World Hospital.

All good and starboard then? Not really. A lot of new winds and factors are coming into play as the demand for more data centre coal piles up. It is kind of contradictory too as there is a need for more of this coal, and it needs to be green.

## IMPERATIVES AND IMPEDIMENTS

Data centres do not come up like fairies or genies. This coal has to be mined from difficult places and shoved into engines with expert hands. There are factors like real estate, space management, power use, carbon impact and utilisation that have to be considered here.

As the CBRE report pointed out that there was a worldwide shortage of available power is inhibiting the growth of the global data centre market. Sourcing enough power came up as a top priority of data centre



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### ZOOMING IN ON INDIA

- India’s data centre market is highly concentrated due to higher initial investments and low availability of resources.
- The Government of India and various state governments are revising their data centre policies to support the infrastructural growth of data centres in India through tax subsidies.
- The IT ministry in India intends to provide up to Rs 15,000 crore (~USD 1.83 million) as an incentive under the national policy framework for data centres.
- The government plans to invest up to Rs 3 lakh crore (~USD 36.5 million) in the data centre ecosystem, over the next five years.

Source: Mordor Intelligence

operators across North America, Europe, Latin America, and Asia-Pacific.

Also, note that data centre establishment in India is cost-intensive which can be quite a barrier to entering the industry for many data centre companies. Considering the prevalent norms for commercial buildings applied to data centres, one stares at issues like wastage of space and increased cost. “Other factors like high real estate costs, expenses on improving wide area network connectivity, and increased equipment costs add to the weight of heavy Capex in the sector,” the Mordor Intelligence Report highlights.

However, the biggest pressure comes in the form of a clear and imminent need for data centres to embrace the sustainability model. Dhar concurs that the current focus should shift toward the environmental sustainability of data centres, a critical aspect as the industry aims for Net Zero emissions.

Speaking to Voice&Data, Tracy Baldwin, Global Lead, AWS Sustainability pointed out that the company is building the most sustainable infrastructure it can to deliver services to customers. “The core of what we focused on from the beginning is efficiency across every aspect of our infrastructure. And that is everything from designing our data centres and our hardware to modelling and tracking of performance to make sure that we continue to identify ways to increase efficiency.”

When big players like AWS embrace initiatives to use lower carbon, concrete, and steel in their data centres, it confirms that ‘going green’ is not a footnote anymore. “Lower carbon concrete, of course, needs to be a localised solution since you do not want to ship concrete. When we go to a new region, we will look at local climate patterns, to see what is the most efficient way to cool our data centres. We also have different designs, you know, depending on, we consistently update our design for data centres,



“Data centres are adopting renewable energy sources and energy storage solutions to enhance energy efficiency and reduce environmental impact.”

**Vikas Sharma**

Founder and Director, Hi-Com

so we get more efficient with each design generation,” Baldwin explains.

The carbon impact consideration is emerging as a crucial factor in the establishment of new data centres in India, although it is still in its early stages, underlines Dhar. “Major players in the data centre industry are increasingly emphasising the use of green and renewable energy to meet their energy requirements. Additionally, there is a concerted effort to incorporate green building practices, with some data centres obtaining LEED certification.”

But he also points out how Scope 3 emissions encompass a wide range of areas and pose challenges in terms of measurement. “Bodies like the Bureau of Energy Efficiency (BEE) may consider issuing new guidelines and best practices for enhancing the energy efficiency of data centres, addressing a current industry need. Government incentives for private entities establishing data centres should also factor in the broader spectrum of environmental considerations when calculating incentives, presenting a proactive approach to drive sustainability in the industry.”

Sharma observes that data centres are addressing infrastructure challenges through innovations in design and technology. “The rise of edge computing has prompted the development of smaller, decentralised data centres, reducing the need for extensive centralised infrastructure. This decentralisation enhances performance and responsiveness while mitigating latency issues.”

Solanki provides an optimistic perspective: “Today’s technology, such as energy-efficient Hyper-Converged Infrastructure (HCI) options and smart racks, is advanced. In the past, servers needed a cooled environment, but now, cooling mechanisms are integrated into the servers themselves, leading to significant energy savings.”

### WHAT COMES NEXT?

As we move into 2024, a lot of this appetite and issues will manifest themselves on the ground.

As for CIOs and industry players, the surge comes with a lot of responsibility. Solanki recommends that irrespective of whether the business is using a Cloud or private and on-premises data centre, it should have BCP for the data centre in place. “It is very important to keep the heart (data centres) healthy. There should be data centre refresh planning on regular intervals like we refresh our production environment every four to five years and this environment becomes a development environment,” he says.

Sharma is confident of the progress the sector is making. “There has been a notable increase in both domestic and international companies investing in establishing data centres within the country. Additionally, the Government of India has launched initiatives like the National Digital Communications Policy (NDCP) to promote the growth of digital infrastructure, including data centres. The geographical distribution of data centres is also noteworthy.”

Dhar feels that the year would see significant capacity addition, with more than 500MW capacity expected to be added, though most of the capacity addition would be concentrated in Mumbai/MMR, Delhi/NCR, Chennai, Bengaluru and Hyderabad. “Focus now needs to be on the greening of data centres and achieving carbon neutrality, which would be a critical factor going forward.”

If all goes as expected, then the backyard of IT would cease to be what it was. It would stop being hidden and non-consequential to many. It could become the kitchen. Still not in the front but always on the top of one’s mind, and in action. 🍳

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