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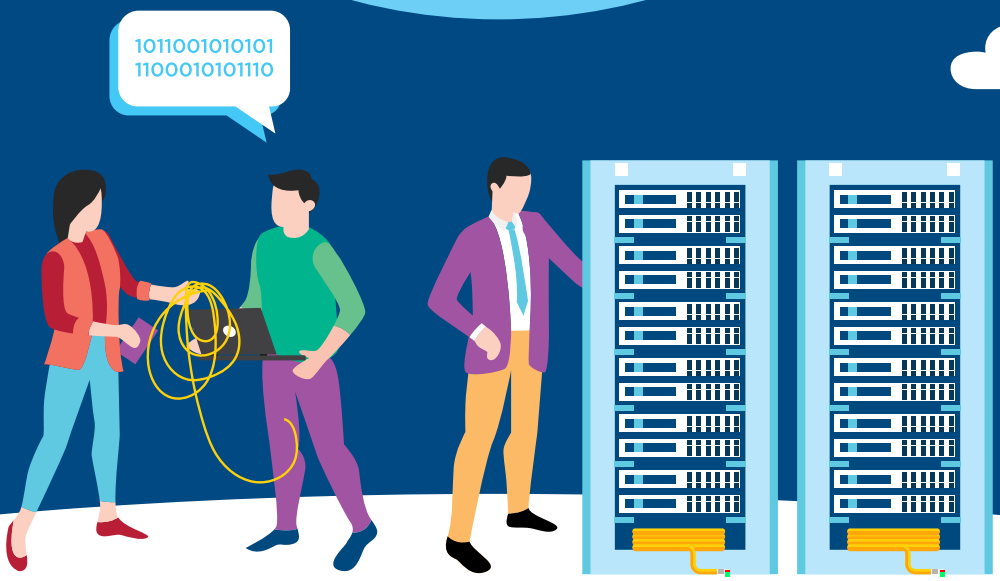
UNDER THE LENS: INDIA'S DATA CENTER EXPLOSION



FOREWORD

The unprecedented crisis created by the COVID-19 outbreak has propelled the data center business providing an unexpected tailwind. Technology adoption and digitization across the sectors were fast-tracked globally and India also leap-frogged at least a decade in the past couple of years.

The lockdown and subsequent restrictions threw life and business out of gear. However, this very black swan event became a massive catalyst for digital adoption across the country.

The government's initiative and drive towards a digital economy was accelerated further as all aspects of daily life from banking, education, and shopping were forced to switch and adapt to the digital ecosystem. This had led to increased use of data consumption and internet bandwidth across the country, driven by the ever-expanding reach of social media, increased use of smart devices, data localization, increased adoption of cloud services, and digital transformation journeys of several Indian companies.

India accounts for 14% of the world's mobile subscriptions and 15% of the total mobile data traffic. This is likely to increase to 17% by 2027 as our economy is poised to grow despite a global slowdown and other economic headwinds. Hence, it is evident that a substantial volume of data will be generated that will require enhanced storage capacity.

> THE CURRENT BUILDING-READY DC INVENTORY ACROSS TOP 7 CITIES IS ~668 MW WITH 65% OCCUPANCY WILL BE INSUFFICIENT FOR THE PROJECTED SCALE SOON.
>
> THE INDUSTRY IS COGNIZANT OF THE DEMAND AND THE NEW CAPACITY ADDITION PLANNED TILL 2025 IS ~1,015 MW.

> THE TOTAL STOCK ACROSS THE COUNTRY, WHICH IS THIRD-PARTY OPERATED, CURRENTLY ADMEASURES ~11 MN SF.
>
> THE FUTURE PLANNED ADDITION IS LIKELY TO BE ~13 MN SF BETWEEN 2022 AND 2025.

While the presence of data centers is primarily in the major metropolitan locations as of now, soon tier II & III cities will emerge and offer quality supply for this new-age asset class.

As manufacturing and warehousing spread out across the country to deliver and service demand from the non-metro market, data centers in the future are more likely to make their way to such locations.

Our survey of IT-ITeS professionals across the country reveals that improvement in operational efficiency is the topmost priority. The specialized operators in this domain are likely to rule the market as most companies are comfortable paying a premium for the efficiency in services and eased operations.

Our latest publication on the preparedness for the future of data centers reveals many more interesting and lesser-known details on this sunshine sector.

We are sure the report will be enriching and enlightening. Always happy to hear from you.

BINSWANGER
Established 1931

FRANK G. BINSWANGER III
Managing Director
Binswanger International

ANAROCK
VALUES OVER VALUE

ANUJ PURI
Founder & Chairman
ANAROCK Group

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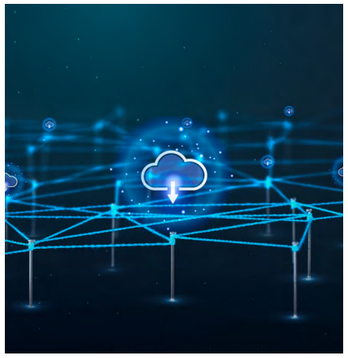

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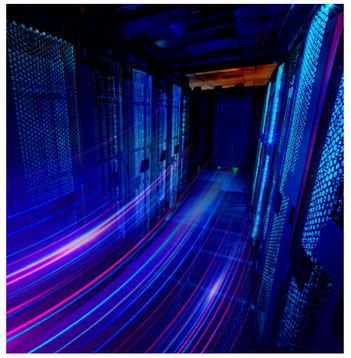

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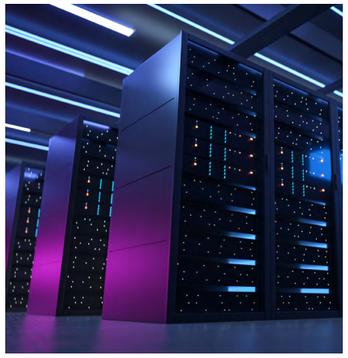

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CHAPTER 1

DATA EXPLOSION VS DATA CENTER EXPLOSION

DATA EXPLOSION VS DATA CENTER EXPLOSION

In our report titled **'Navigating the India Data Center Lifecycle'** released in November 2020, we brought about the compelling proposition of India data story that warranted a substantial capacity growth in data center infrastructure in India.

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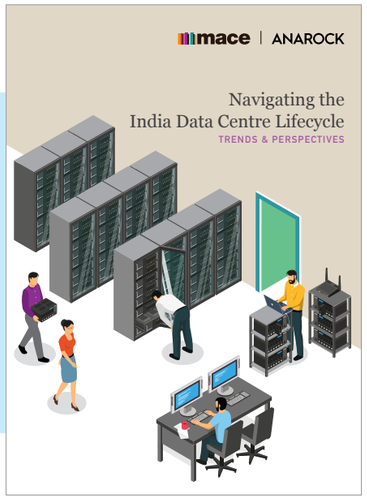

Since then, we have witnessed multiple announcements of land acquisitions and investment commitments by data center operators. The growing question that is now becoming more pertinent in industry circles is whether the magnitude of data center explosion is more or less than that of estimated data explosion itself.

In this report, we have attempted to analyze the industry dynamics and growth standpoint from a 360° perspective, scanning the industry for its fundamentals.

India Data Growth

The India growth story not only has remained strong but has fortified over the last year. The data consumption per user per month has increased from 1.24 GB[1] in Q2 2017 to 14.1 GB[1] in Q2 2021 and 17 GB[2] in 2022. The average traffic is estimated to rise to 50 GB[3] per month per smartphone in 2027 (almost at par with estimates for China).

India has consumed 32,397[1] petabytes of wireless data in Q2 2021 (~127 Exabytes on an annualized basis) making it one of the highest data users in the world. In fact, India region has the second highest average traffic per smartphone in the world (after GCC).

1 Economic Survey of India 2021-22
2 Nokia Mobile Broadband Index Report 2022
3 Ericsson Mobility Report

India

India has the **2nd highest average traffic/smartphone** in the world (after GCC)

32,397 PB[1]
Total data consumption (Q2 2021)

17 GB[2]
Data consumption/user/month (2022)

50 GB[3]
Average traffic/month/smartphone (2027E)

India Data Center Growth

The last couple of years have witnessed much traction on land acquisitions by data center operators. At this very initial stage of the data center (DC) lifecycle, some implicit concerns are surfacing on whether demand is expected to stack up to the heightened investments being sought and made to augment DC supply. We think it might be helpful to peg India vis-à-vis its global peers on some key data statistics (table below).

	India	Global	China	Europe	USA	India as a % of Global
Population (2021)	**1,390 Mn**	7,800 Mn	1,410 Mn	748 Mn	333 Mn	**18%**
Internet penetration (2021) **E-commerce shoppers (2020)** **Value of digital payments (2021)**	**45%** **150 Mn** **USD 547 Bn**	59% 2,140 Mn USD 7,360 Bn	73% 842 Mn USD 2,970 Bn	88% 500 Mn USD 1,446 Bn	91% 230 Mn USD 1,560 Bn	**14%** **7%** **7%**
Social media users (2020) **Mobile subscriptions (2021)** **Total mobile data traffic (2021)** **Total mobile data traffic (2027E)**	**518 Mn** **1,150 Mn** **113 EB[4]** **588 EB**	3,600 Mn 8,140 Mn 780 EB 3,456 EB	927 Mn 1,630 Mn 240 EB 888 EB	603 Mn 1,070 Mn 106 EB 384 EB	223 Mn 364 Mn 59 EB 240 EB	**14%** **14%** **15%** **17%**
No. of Data Centers **Data Center Capacity IT[5]**	**138** **737 MW**	4,900+ 13,800+[6] MW	400+ 2,100+ MW	1,400+ 4,300+ MW	1,800+ 3,400+ MW	**3%** **6%**

It is evident that there is phenomenal volume of data expected to be generated in India when compared to global benchmarks, which will need storage capacity in India.

This is in addition to all the historic data that will need to be migrated from offshore data centers to India, to ensure compliance with India's data localization law once enacted.

Creating and sustaining adequate supply infrastructure is core to India's digital program.

Hyperscalers & DC operators alike have taken note of India's strategic importance in the data story and thereby intensified focus on augmenting DC supply infrastructure.

4 1 EB (Exabyte) = 10^9 GB (Gigabyte)
5 Based on aggregation of supply in key cities within the respective country/region
6 By extrapolation

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CHAPTER 2

DATA SOVEREIGNTY: A GROWING WORLD PHENOMENON

DATA SOVEREIGNTY - A GROWING WORLD PHENOMENON

India ranked third in the world in data breaches in 2021. The data protection and privacy regulations in India, which is critical to ensure adequate data protection mechanisms, has been in draft stage for the last 5 years with multiple deliberations.

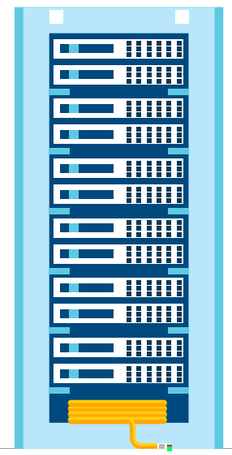
In December 2021, the Joint Parliamentary Committee presented its report on The Personal Data Protection Bill, 2019. This came in after over two years of deliberation. Under their recommendation, the draft law was renamed as Data Protection Bill, 2021 basing on its expanded reach of personal as well as non-personal data. Further, the Committee had recommended a period of 24 months for implementation of the provisions of the Act post enactment.

However, in August 2022, the Government decided to withdraw the Data Protection Bill, 2021 altogether and formulate a new privacy law from the scratch, keeping in mind India's digital eco-system.

With businesses growing online rapidly, data protection has been a matter of sovereign importance across nations. More and more countries are looking at mechanisms and laws to protect data privacy.

The comparison (below) is useful to understand the extent of India's protection laws vis-à-vis global yardsticks.

	India	China	California[7], USA	European Union (EU)	Russia
Privacy Law	Data Protection Bill, 2021	Personal Information Protection Law (PIPL)	California Consumer Privacy Act (CCPA)	General Data Protection Regulation (GDPR)	Data Protection Act (DPA)
Date of Enactment	**Withdrawn**	**1st Nov 2021**	**1st Jan 2020**	**25th May 2018**	**1st Sep 2015**
Timeline Threshold for Applicability	All data in possession (before & after enactment)	Law silent for data collected prior to enactment	All data in possession, but applicable only to data breaches post enactment	All data in possession (before or after enactment)	Only data collected after date of enactment
Personal Data Storage	Local storage	Local storage	No restriction	Local storage	Local storage
Processing	Local processing	Can be conditionally processed outside China	No restriction	Processing in 'adequate'[8] 3rd country permitted but with conditions	Can be conditionally processed outside Russia; critical data can only be processed locally
Cross Border Transfer	Permitted conditionally	Permitted conditionally	No restriction	Transfers to 'adequate' 3rd country permitted but with conditions	Permitted conditionally; critical data cannot be transferred
Non-personal Data	Governed - requires local storage	Not governed	Not governed	Not governed	Not governed



7 USA does not have a federal law on data privacy
Currently, California, Utah, Colorado & Virginia are the only states with data privacy laws
Further, these regulations are more on the lines of data privacy and protection rather than data sovereignty or residency

8 Countries that have adequate data privacy regulations like GDPR

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CHAPTER 3

360° WALK-AROUND THE INDIA DC INDUSTRY

360° WALK-AROUND THE INDIA DATA CENTER INDUSTRY

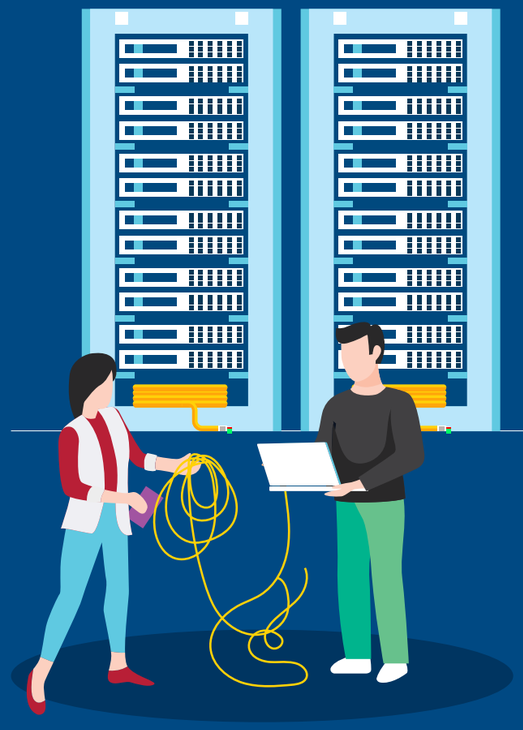
India

Data Center Supply

India is on the cusp of a data center evolution. From a small, fragmented industry, colocation data centers are transitioning into a large, potentially consolidated industry over the next 5 years.

India currently has 138 third-party colocation data centers operated amongst 52 players. 72% of this capacity is concentrated amongst 5 players, while 90% of the total capacity is concentrated amongst 9 DC operators.

Future planned supply capacity includes capacities on land that is procured and the entire project or specific phases of the project is either under planning or under approvals or under construction.

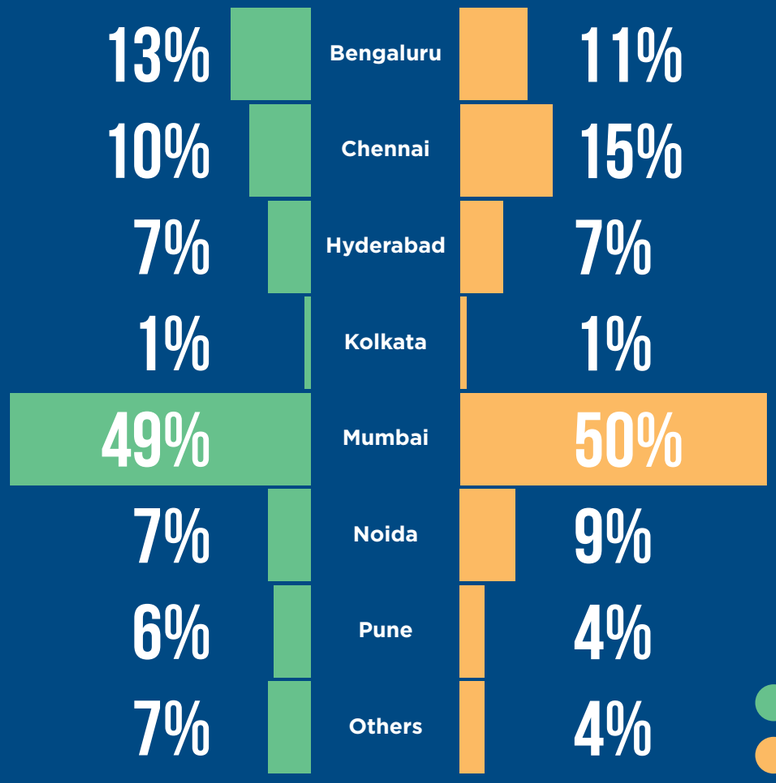


Existing DC Stock	As of Mar 2022	**Future Planned Supply** (in next 3 years)	**Future DC Stock**	As of Dec 2025E
138 No. of DCs (3rd party operated)		**45** No. of DCs (3rd party operated)		**183** No. of DCs (3rd party operated)
~11 MN SF Total area	›	**~13 MN SF** Total area	›	**~24 MN SF** Total area
~80,000 SF Average area/facility		**~282,000 SF** Average area/facility		**~130,000 SF** Average area/facility
737+ MW[9] Total IT capacity	›	**1,015 MW**[10] Total IT capacity	›	**1,752 MW** Total IT capacity
5 MW Average IT power/facility		**23 MW** Average IT power/facility		**10 MW** Average IT power/facility

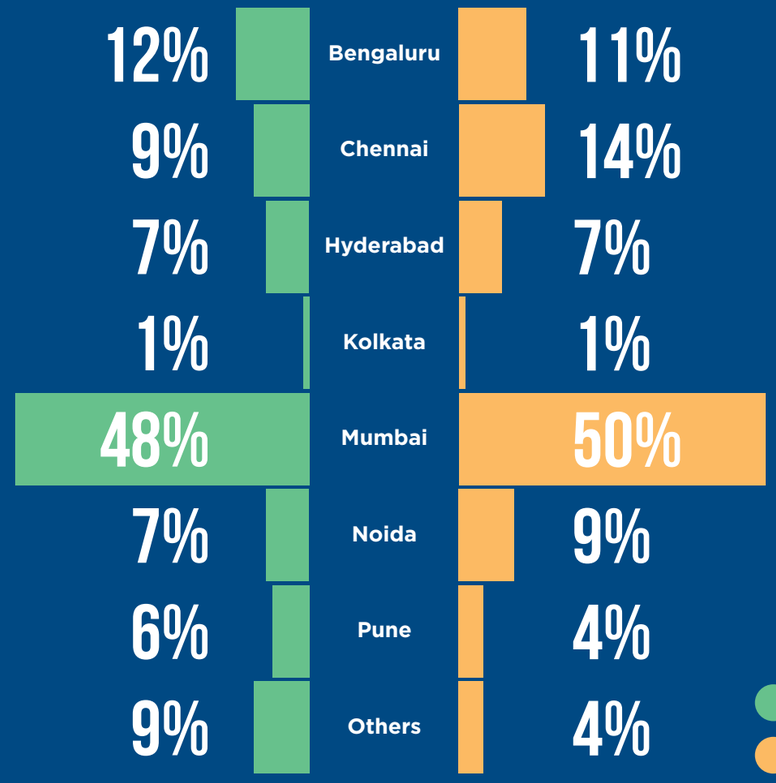
9 Capacity where building is ready irrespective of whether power has been brought in
10 Includes third-party operated facilities; excludes owned facilities announced by hyperscalers

City Overview: Existing Supply & Future Planned Capacity

By Area (Mn sf)



By IT Power (MW)



The above future planned supply excludes over 120 MW (IT Capacity) of facilities announced by two large hyperscalers in Hyderabad on an 'Own & Operate' model. We are already witnessing a domino effect of these announcements, with an increased interest for Hyderabad amongst data center operators, specifically around the micro-markets where the hyperscaler data centers are upcoming. This could potentially create more third-party colocation supply in Hyderabad in coming months.

Also noteworthy is that 76% of all the future planned supply will be concentrated in just 6 specific micro-markets across the country, with Thane-Belapur Road in Navi Mumbai gaining maximum share.

MUMBAI & CHENNAI

having maximum concentration of landing points, much of the supply is expected to be concentrated within these two cities

By Area (Mn sf)

59% Current supply (2021)

65% Future capacity (2025E)

By IT Power (MW)

57% Current supply (2021)

64% Future capacity (2025E)

ANAROCK Capital Research & Industry Sources

Future Unplanned Supply

In addition to the future planned supply, there is an additional potential of unplanned IT capacity of 2,688 MW directly in access of DC operators.

This represents capacity where land has been locked in by data center operators, but the projects are expected to be planned based on actual demand or outcome of earlier planned phases.

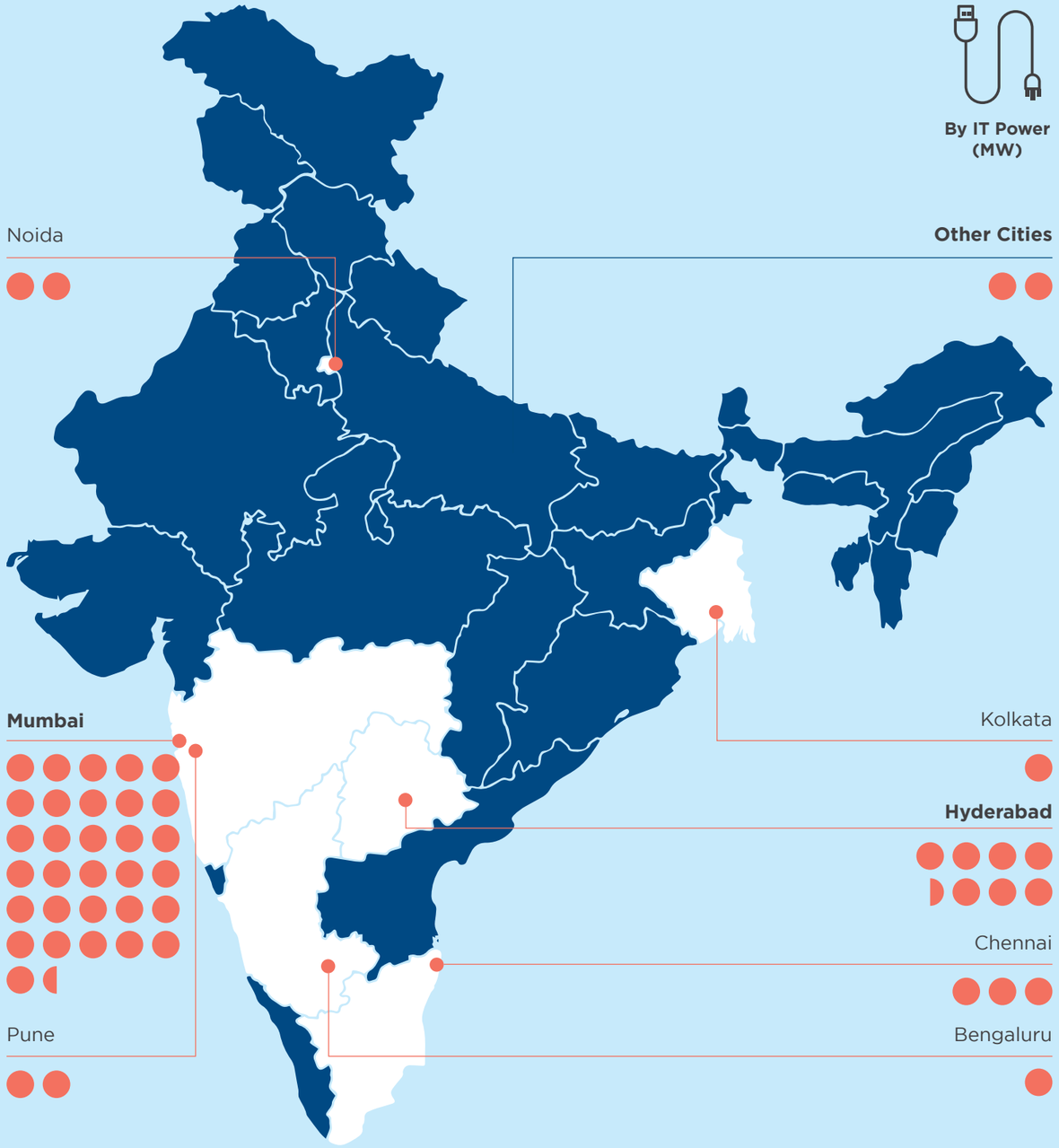
While this represents land banking for providing scalability to customers for future expansion, it will be important to ensure that this capacity is judiciously released into the market to ensure price stability.

India

2,688 MW
Total unplanned IT capacity

MUMBAI & HYDERABAD
together contribute

78%
of the total unplanned IT capacity



ANAROCK Capital Research & Industry Sources

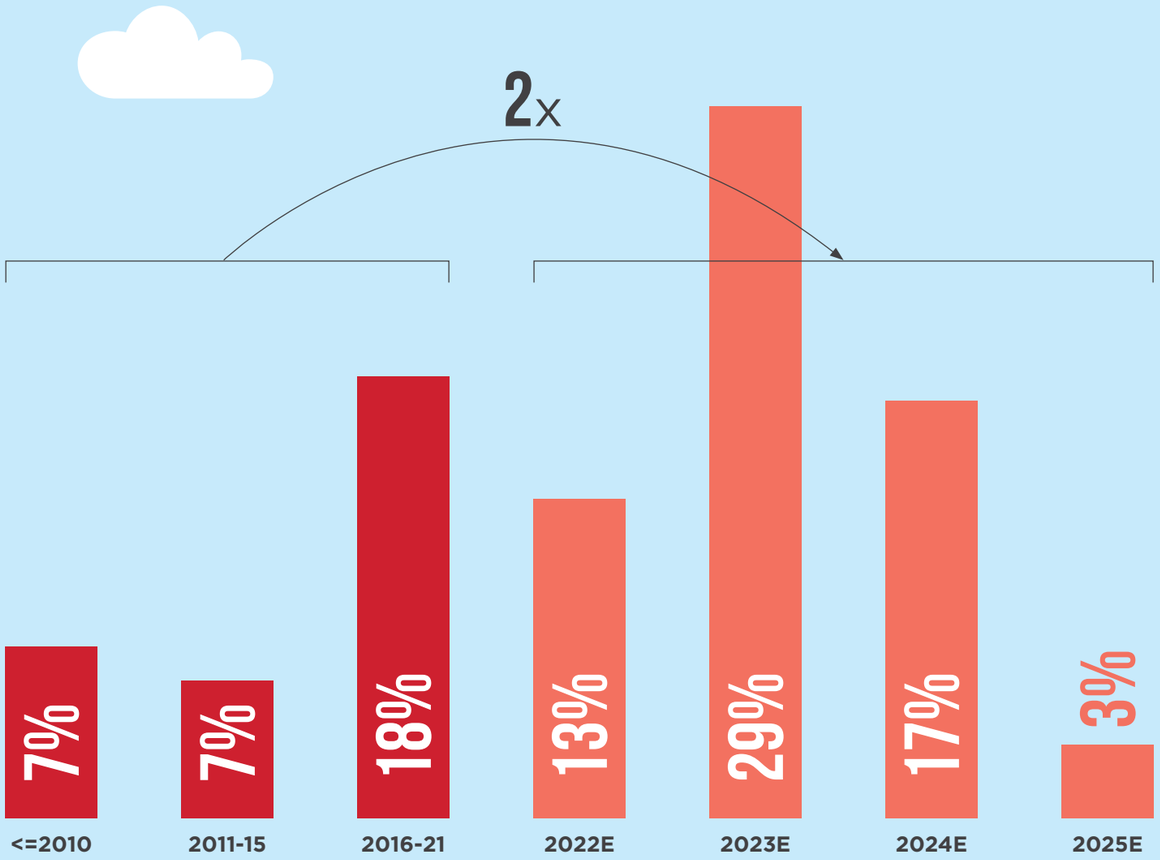
Map not to scale, for reference purpose only

Future Unplanned Capacity (As of Dec 2025E)
By IT Power (MW)

Commissioning Timelines

By IT Power (MW)

The expected supply over the next 4 years is expected to be double the capacity delivered during the last two decades, signifying a ramped up pace in growth of supply.

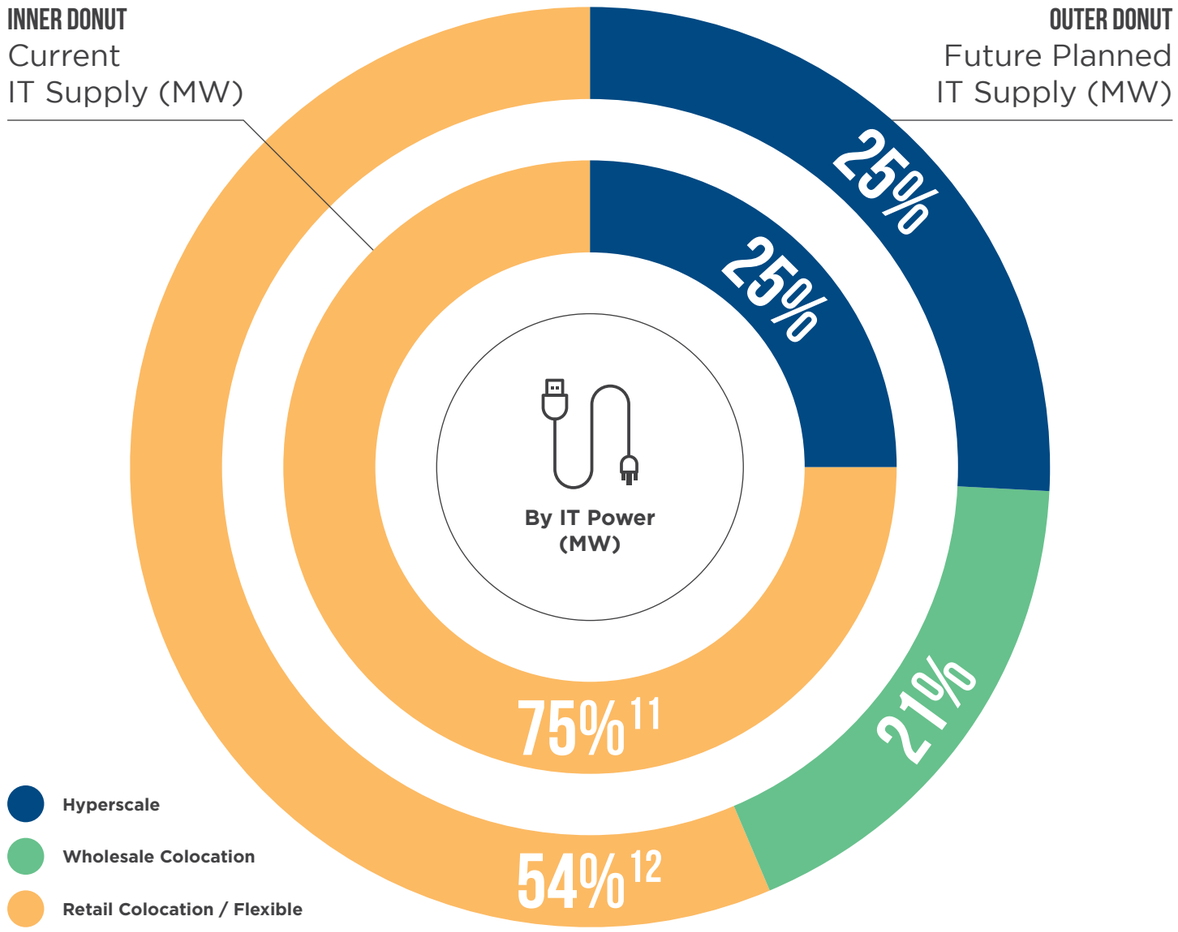


Typology Overview

We have classified data centers as:

- **Hyperscale** where they have been either contracted to or intended to be contracted to hyperscalers
- **Wholesale colocation** refers to facilities where operators have a minimum capacity threshold for sale
- **Retail colocation** have no such thresholds

The figure below represents building ready supply. Also, the classification is of supply and should not be confused with actual demand. The split represents flexibility or lack thereof by DC operators to sell capacity in lesser volumes. It is possible that some of the space classified as wholesale or retail colocation could be contracted to hyperscalers.



11 Includes unsold space
12 Retail colocation facilities could potentially be sold in wholesale or to hyperscalers

ANAROCK Capital Research & Industry Sources

DC Demand

Of the current data center supply, occupancy on a pan-India level, stands at 68%. This is based on building ready supply, irrespective of whether power has been brought in. Of the total current occupancy, 39% of all contracted capacity has been sold to hyperscalers and 61% to enterprises. Of the future planned supply, 22% has already been contracted.

Going forward, hyperscalers are expected to follow a hybrid strategy with a mix of 'Own & Operate' and colocation data centers. Of enterprises, Banking, Payment Services, other Financial Services, Cloud & Technology industries are expected to be the largest off-takers of DC space in the next 4 years.

Based on an analysis of hyperscaler and enterprise demand over the past, demand estimates for the future and overall industry size, **we estimate an aggregate future demand for colocation data center space to be ~2,100 MW of IT Capacity over the next 3-4 years.**

This estimate excludes demand from hyperscalers that could be developed under an 'Own & Operate' model. **The mix between hyperscalers & enterprises is expected to be 35:65.**

However, if we add the aggregate demand for DC space of hyperscalers i.e. including proposed capacities under 'Own & Operate' model, the mix is likely to be 50:50.

Considering the planned future supply, the data center colocation industry could potentially have a supply shortfall of ~800 MW. The scenario can, however, change significantly in case the unplanned supply is released in the market without due consideration for demand or on a speculative basis.

An indicative snapshot of the data center market in India from a future stock and occupancy perspective as of FY25 is depicted here:

As of Mar 2022

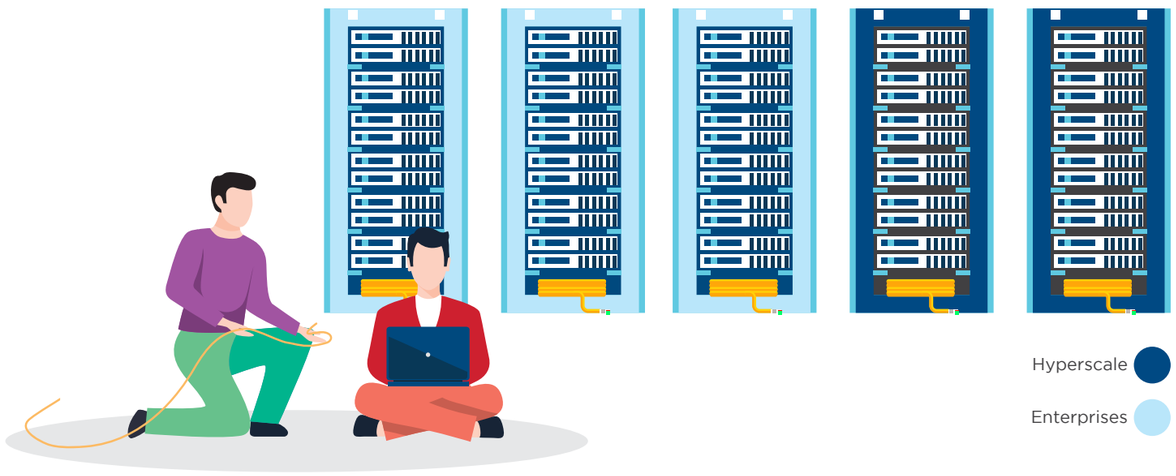
68% DC colocation occupancy

39% Hyperscalers **61%** Enterprises

As of Dec 2025E

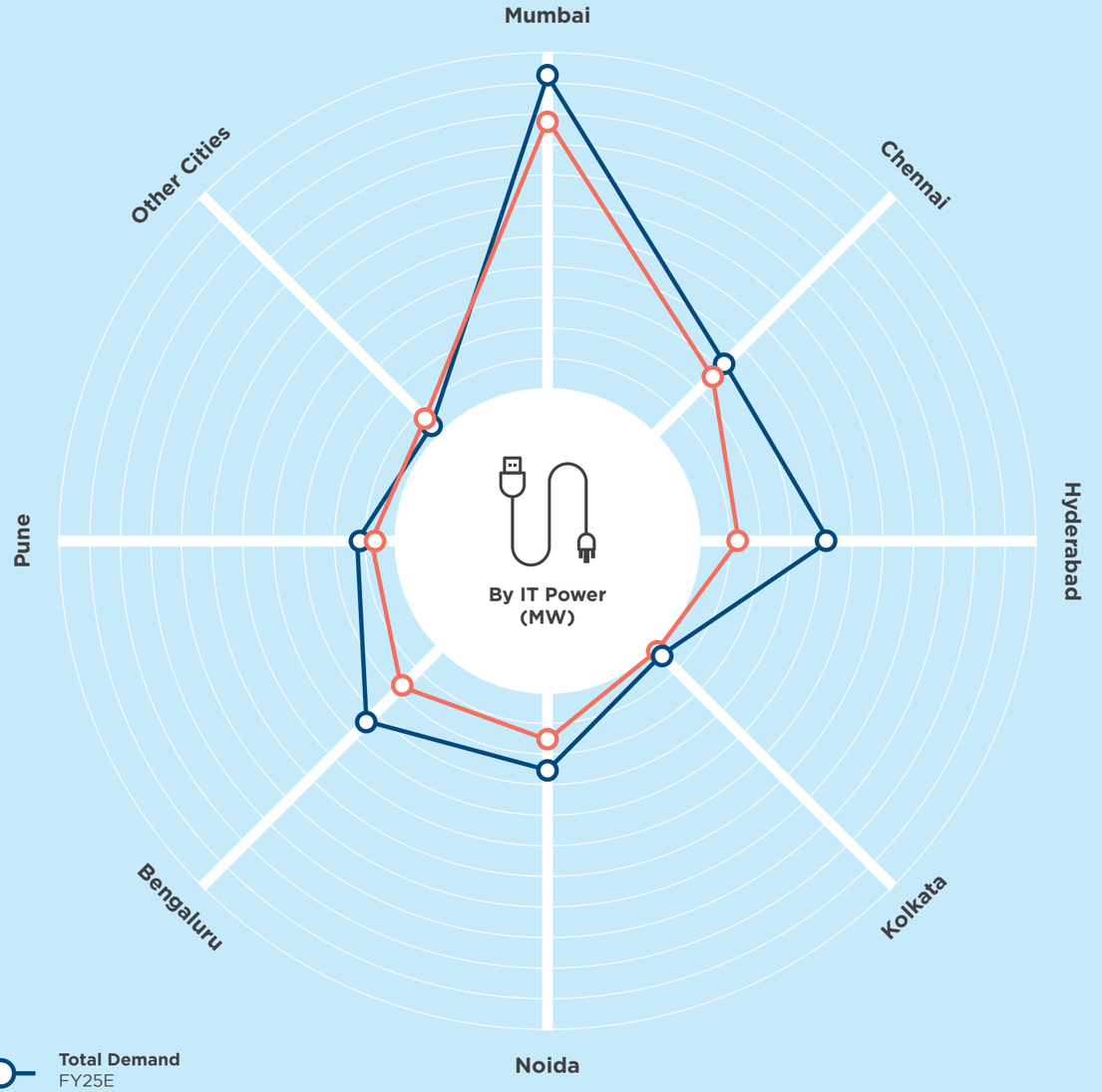
~2,100 MW Future demand colocation DC

50% Hyperscalers **50%** Enterprises



MUMBAI

Highest DC demand & planned supply by FY25E



ANAROCK Capital Research & Industry Sources

DC Market Size Overview

Data centers has been an actively traded asset class globally in 2021.

SIZE OF DC INDUSTRY IN INDIA

USD 5.6 BN

Based on EBITDA as of 31st March 2021 (assuming a 14x EV/EBITDA multiple[13])

The overall revenue of the DC industry has jumped from USD 385 Mn (2014) to USD 1.2 Bn (2021) and has grown at the rate of 10% per annum over the last 2 years.

The EBITDA margin has improved significantly from 24% (2019) to 33% (2021), which signifies improved operational efficiencies & economies of scale coming into the industry.

DC INDUSTRY REVENUE

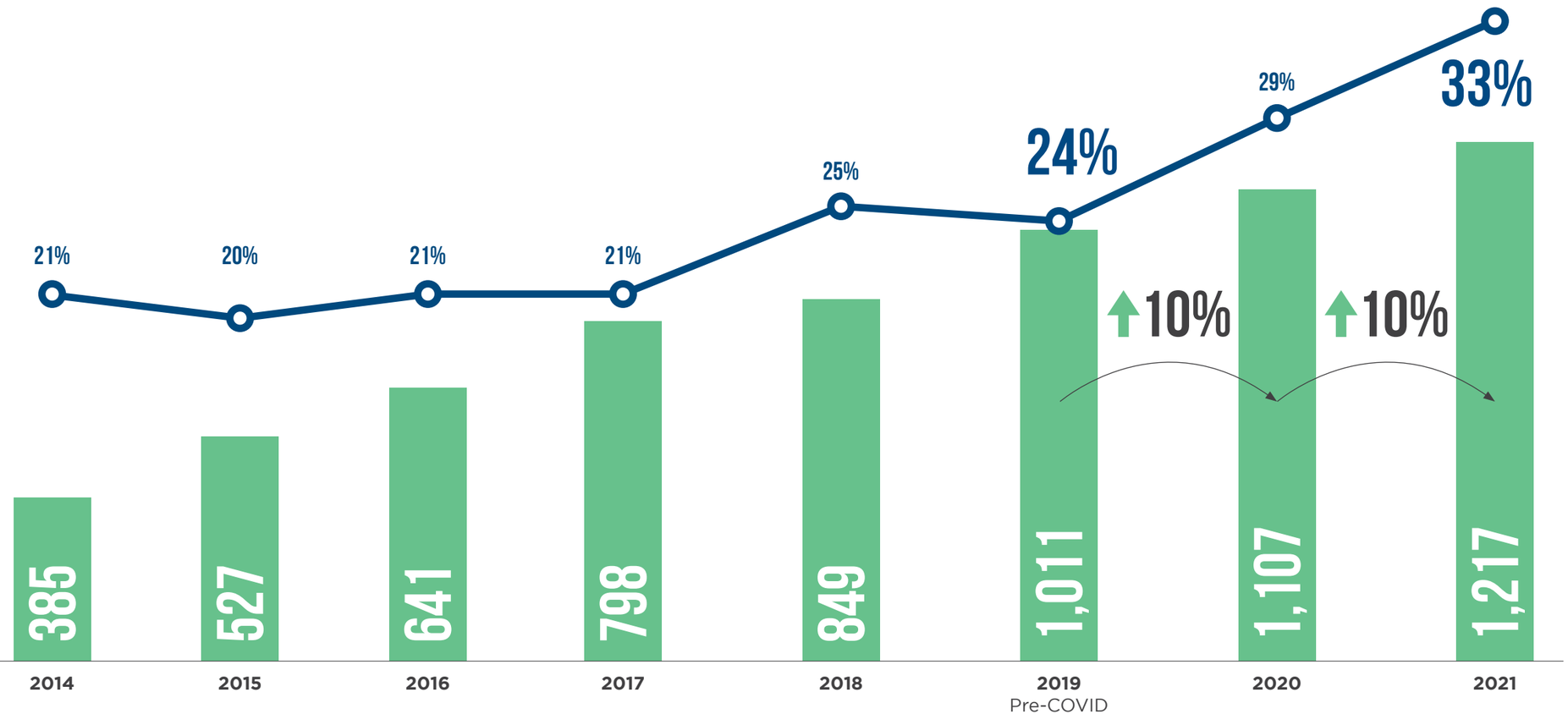
USD 1,011 MN
Pre-COVID (2019)

USD 1,217 MN
(2021)

DC INDUSTRY EBITDA MARGIN

24%
Pre-COVID (2019)

33%
(2021)



13 We have taken lowest of the given traded multiples to discount for market maturity and other factors:

REIT	EV/EBITDA Multiple	As of date (Based on public sources)
QTS Realty	~29.7x	Date of acquisition (Jun 2021)
Coresite	~27.0x	Date of acquisition (Non 2021)
CyrusOne	~25.5x	Date of acquisition (Nov 2021)
Equinix	~24.5x	Year-end (31st Dec 2021)
Digital Realty	~14.2x	Year-end (31st Dec 2021)

CASH DEPLOYMENTS IN THE DC INDUSTRY

USD 235 MN
Pre-COVID (2019)

USD 515 MN
(2021)

The heightened traction in the DC industry is evidenced by increase in cash invested in business on an annual basis.

The deployments have more than doubled from USD 235 Mn (2019) to USD 515 Mn (2021).

Another noteworthy phenomenon is the increase in fixed assets.

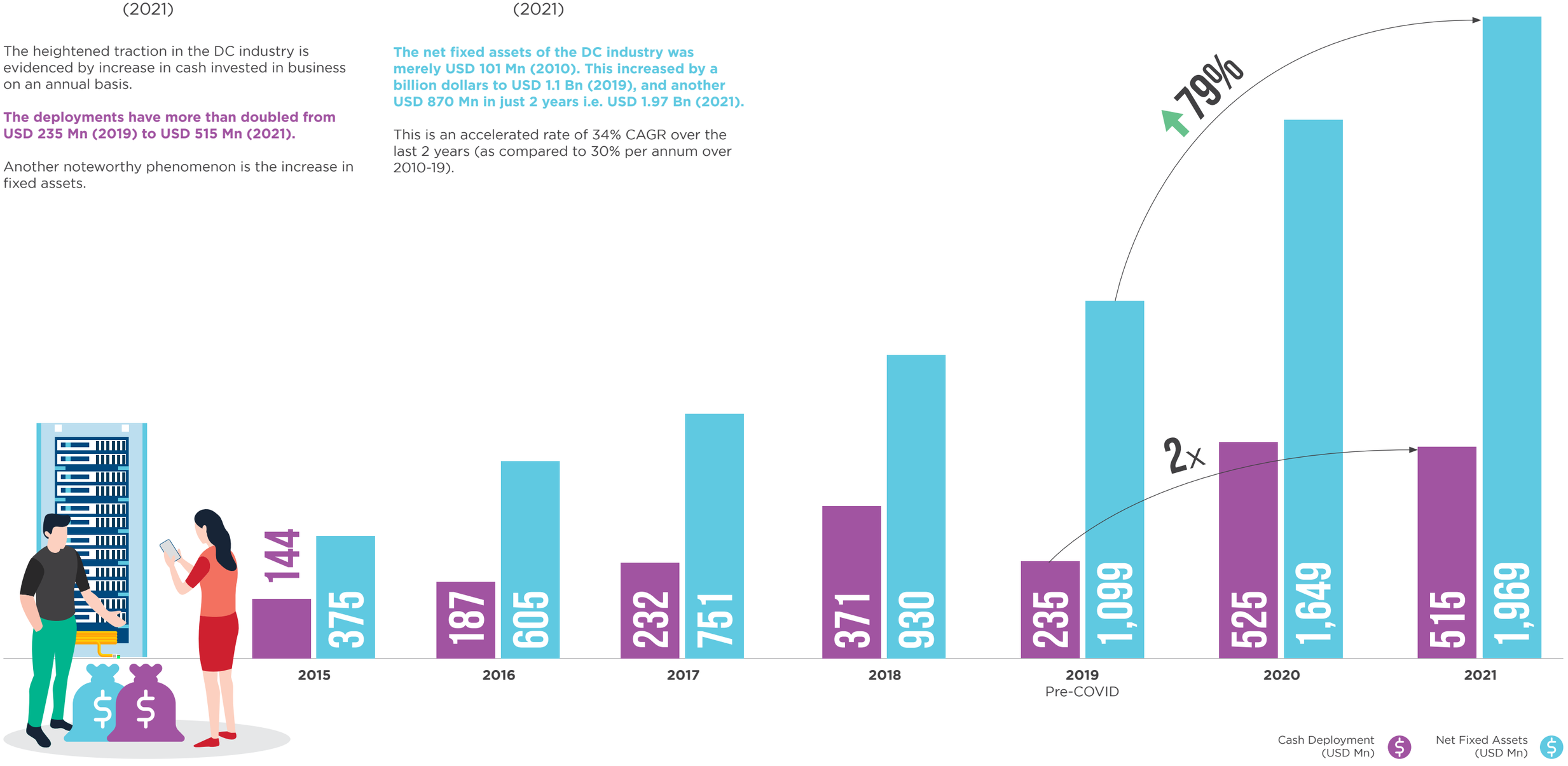
NET FIXED ASSETS OF THE DC INDUSTRY

USD 1,100 MN
Pre-COVID (2019)

USD 1,970 MN
(2021)

The net fixed assets of the DC industry was merely USD 101 Mn (2010). This increased by a billion dollars to USD 1.1 Bn (2019), and another USD 870 Mn in just 2 years i.e. USD 1.97 Bn (2021).

This is an accelerated rate of 34% CAGR over the last 2 years (as compared to 30% per annum over 2010-19).



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CHAPTER 4

DC TRENDS: INDUSTRY SURVEY 2022

DATA CENTER TRENDS: INDUSTRY SURVEY 2022

SURVEY 2022

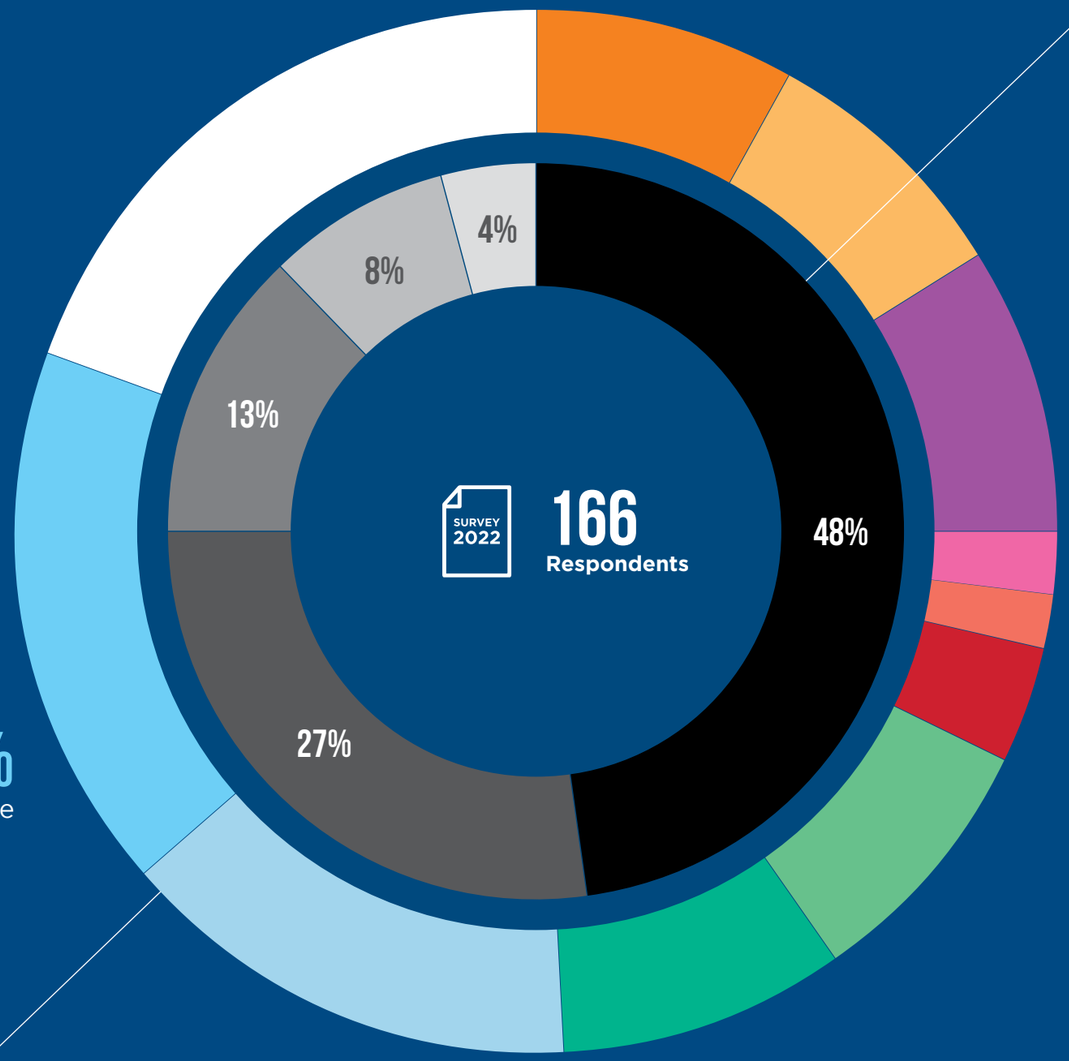
BINSWANGER & ANAROCK conducted a survey amongst IT professionals in India to analyze trends in Indian DC industry as perceived by relevant professionals who manage data related infrastructure within their organizations.

The survey was targeted at 'data managers' from diverse industries and company sizes:

166
Respondents consisiting of

- **Chief Information Officers (CIOs)**
- **Chief Information Security Officers (CISOs)**
- **Chief Technology Officers (CTOs)**
- **Head – Information Technology (IT)**

Based on the survey, we have highlighted some key trends of the industry.



OUTER DONUT

By industry/sector

INNER DONUT

By company size (No. of employees)

- 5,000+
- 1,001-5,000
- 501-1,000
- 201-500
- 0-200

9%
Cement (1%)
Steel (1%)
Electronics & FMCD (1%)
Gems & Jewellery (1%)
Biotechnology (1%)
Infrastructure (1%)
Media (1%)
Metals & Mining (1%)
Oil & Gas (1%)

10%
Automobile

2%
Engineering & Capital Goods

2%
FMCG

4%
Chemicals

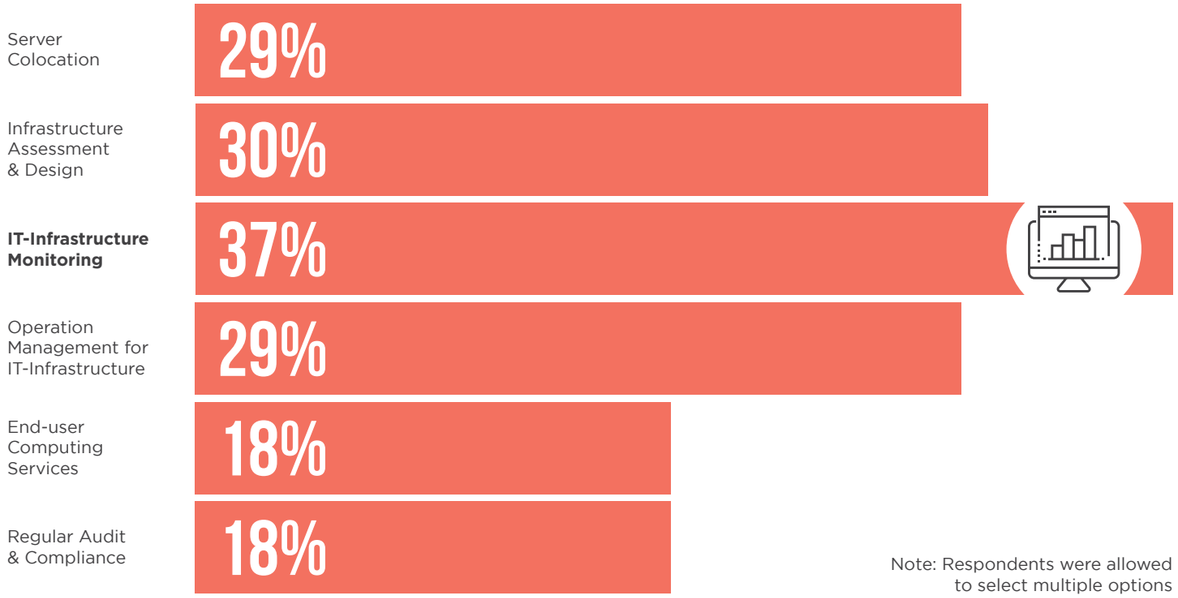
9%
Pharma

01

Which type of hosting services do you feel is more well-roundedand suits your organization's growth trajectory better?

02

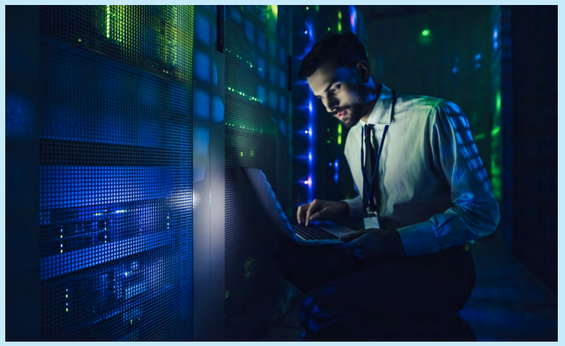
Select services that you have been or will be open to outsourcing to third-party service providers?



Note: Respondents were allowed to select multiple options

A hybrid strategy with a fair mix of cloud and data center for different applications seems to be a preferred strategy for data management moving forward.

Maintaining captive DCs also seems to be a preferred option for data managers. This is specifically applicable for data that is expected to be on edge going forward e.g. floor systems maintained by manufacturing and B2C companies.



37%

of all respondents voted for **IT-infrastructure assessment, monitoring and operations for outsourcing**

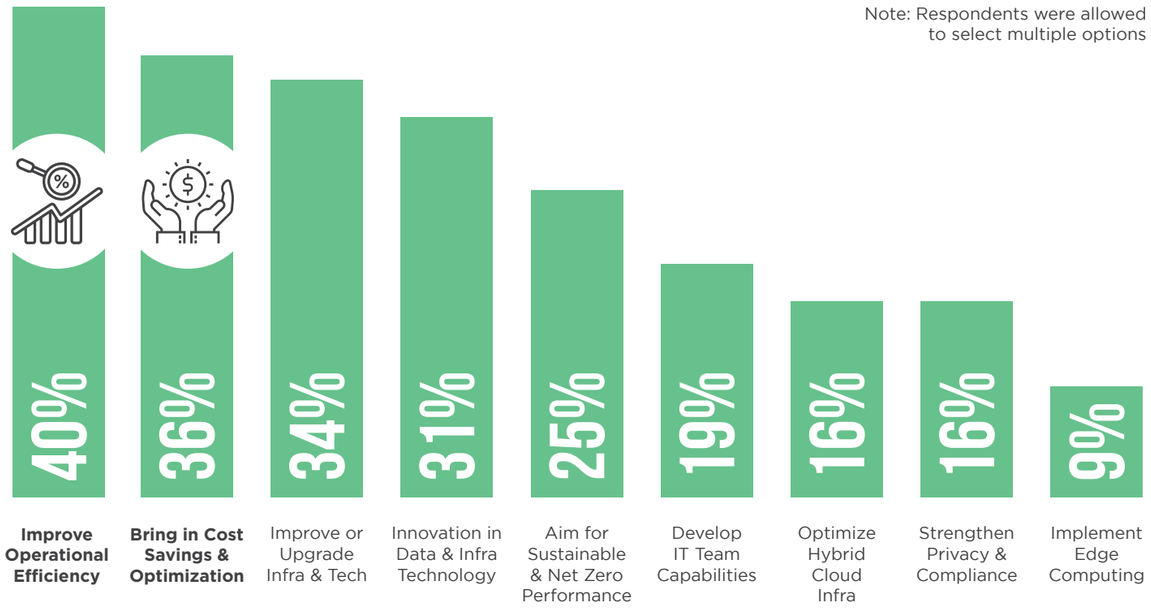
29%

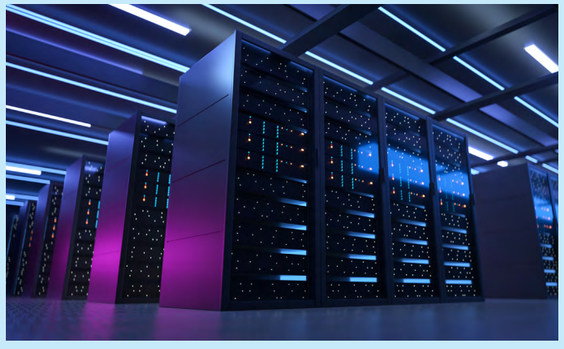
of all respondents also are open to evaluating third-party facilities **for server colocation**

03

What should be the topmost priority right now for you / DC industry, from the point of view of DC performance?

Note: Respondents were allowed to select multiple options

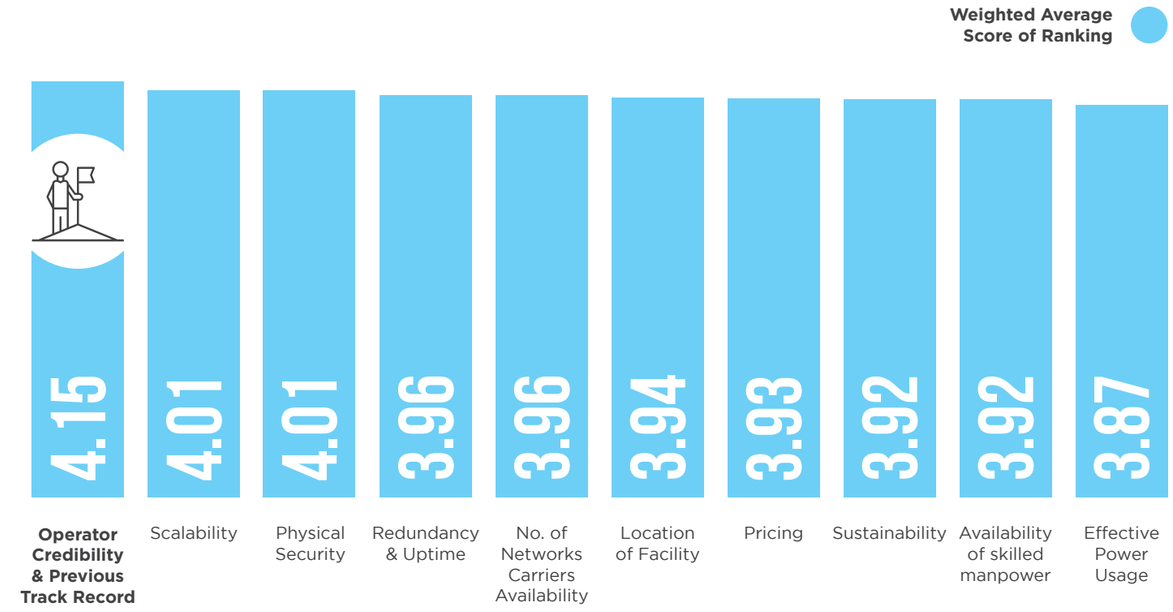




Improving operational efficiencies of DCs and bringing in cost savings are the topmost priorities of data managers from the point of view of DC performance

04

If you are already in a colocation facility, or would have to consider one in future, how important is each of the below selection criteria on a scale of 1 to 5? (1 = most important)

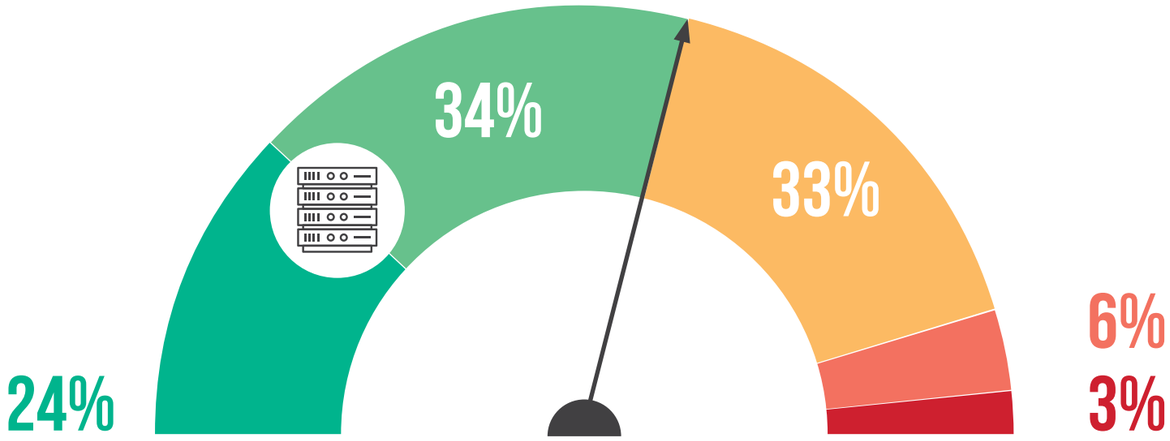


Operator credibility ranks highest in selection criteria of DC by enterprises. Operator's previous track record in ensuring low latencies & redundancies seems critical in decision-making by data managers.

It is interesting to note that pricing is lower in criteria over parameters such as location, scalability, physical security, redundancy, uptime; no. of network carriers availability weighs over pricing in DC decisions.

05

Colocation is better than Captive DCs



33%

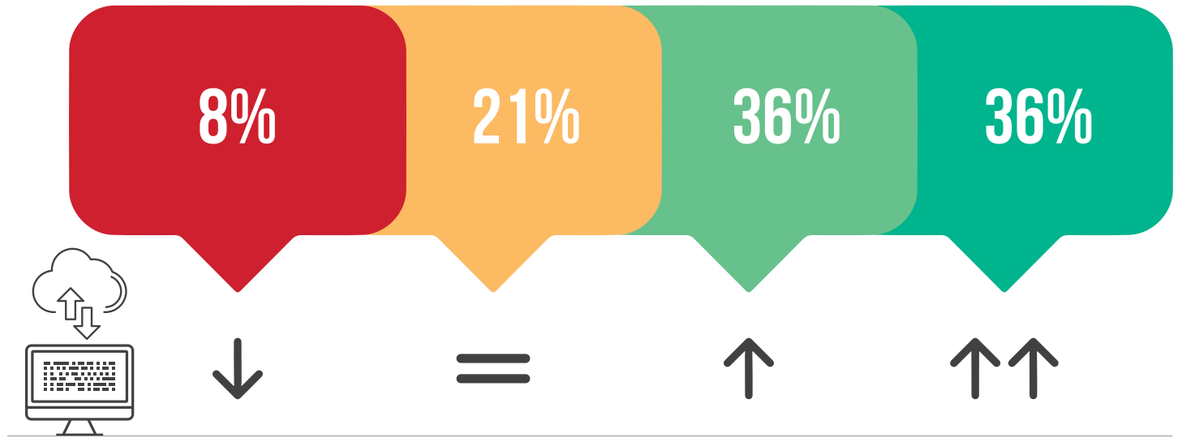
of the respondents are neutral between maintaining a captive DC & third-party colocation facility

58%

A majority repondents find it more advantageous to be colocated in a third-party facility

06

Has the pandemic situation increased data generation at your company and accentuated need for data storage through cloud or DCs?



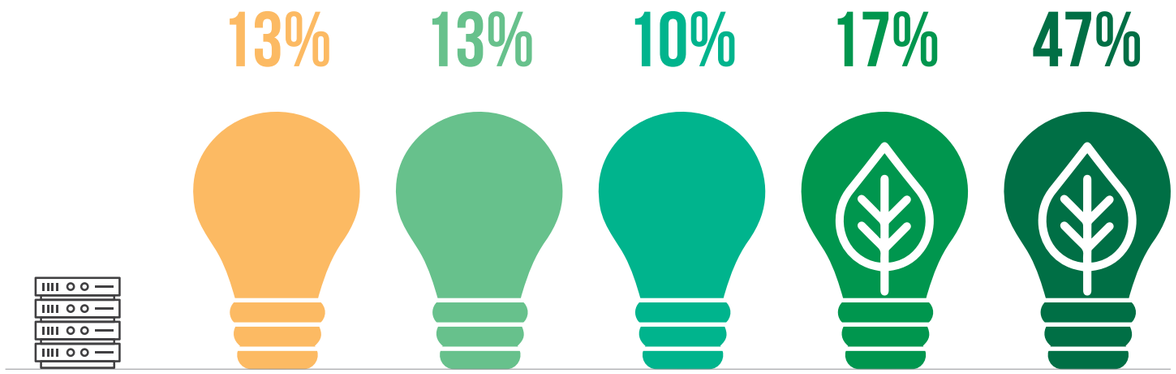
72%

of the organizations have witnessed a data surge post COVID-19

This has clearly increased the focus on cloud and data centers making enterprise architectures a key area of focus.

07

In the next two years, what percentage of your DC energy consumption do you envision being powered by green power?



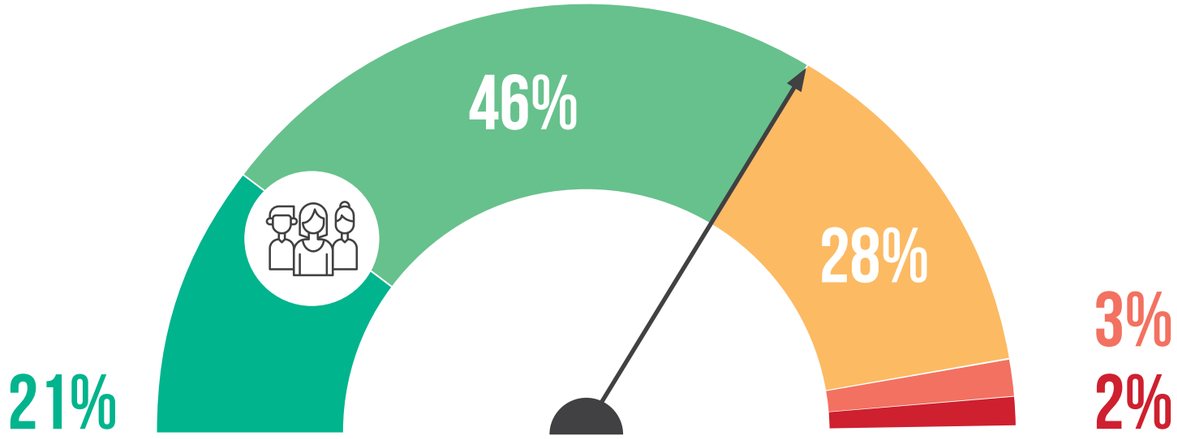
64%

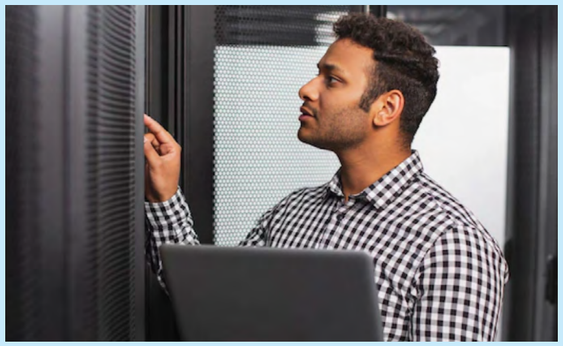
of the respondents intend to have >60% of their DC power consumption met through clean and green sources

This is an encouraging sign showing increased focus to improve carbon footprint of data centers.

08

There is a challenge identifying, recruiting, retaining and upskilling quality talent in implementation / maintenance /management of IT infrastructure





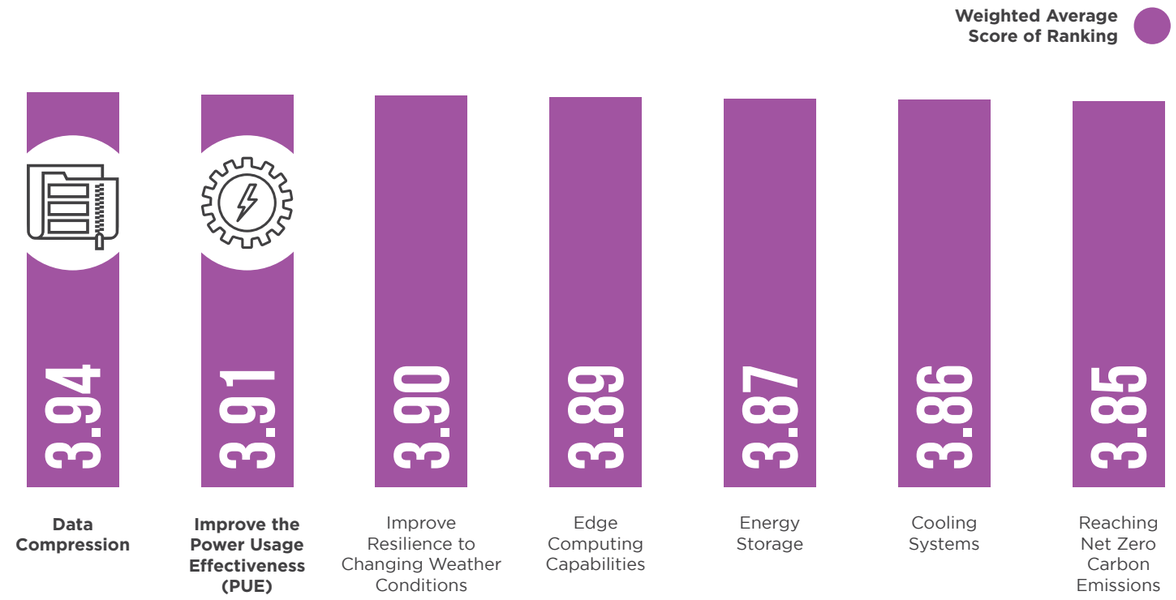
In general, there is a shortage of quality talent for management and operation of IT-infrastructure.

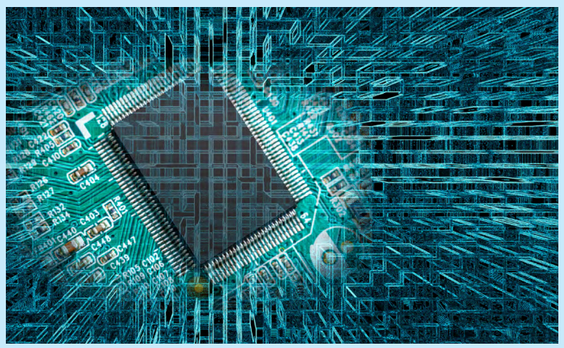
67%

of the respondents find it challenging to recruit and retain quality talent in this space, signifying need for training and upskilling

09

What areas of technology improvements do you track closely vis-à-vis your organization's digital infrastructure strategy? Provide a rank for each (1 = most important)



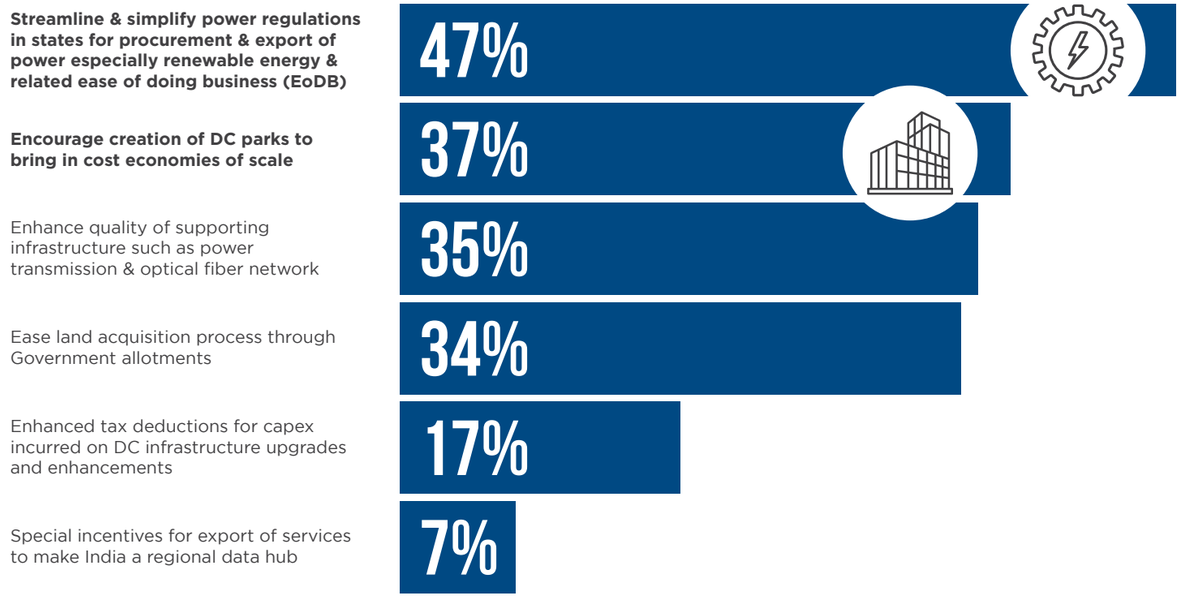


Innovations in data compression & improvements to the Power Usage Effectiveness (PUE) are high on sought after technology advancements by data managers.

It is noteworthy here that while PUE was not a selection criteria for DCs in Q4, respondents nevertheless feel there is a general need for the industry to strive to lower their PUEs and ensure more power efficiencies.

10

Data centers have been classified as 'infrastructure' in Union Budget 2022. What, in your view, are the top 2 most important government support / initiatives required to improve this essential infrastructure in India?



Power is a critical infrastructure to DCs and it is imperative that power procurement (including clean energy) procedures and regulations are streamlined. This aspect has got the highest vote from respondents in Government initiatives desired.

Respondents have also voted high for creation of large data parks. This can bring in economies of scale in development and operations brining down operational costs.

10 DC TRENDS: SUMMARY

SURVEY 2022

Trends analysed from **survey responses** received from

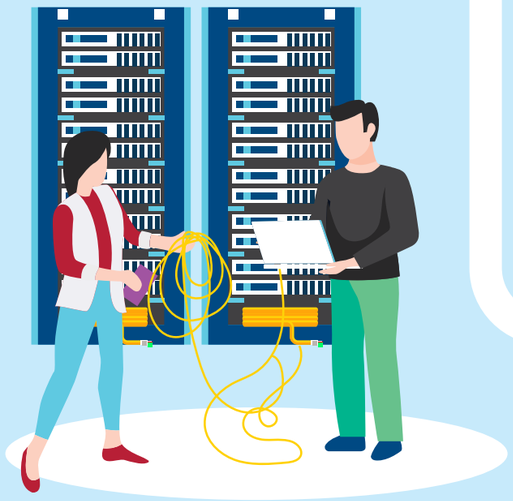
166

Respondents (IT professionals) consisting of (CIOs, CISOs, CTOs & Head – IT) across different industries in India

Top priorities of IT professionals are to bring in **operational efficiencies** and **cost savings** to their data centers

37% voted for **IT-infrastructure assessment, monitoring and operations** for outsourcing

30% of companies looking at **hybrid (cloud + data center) hosting services** for data management

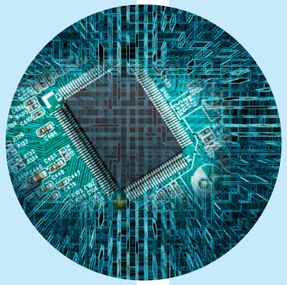


Operator credibility, track record and **future scalability** top criteria in DC selection

58% of IT professionals feel **colocation is better than captive DCs**

72% of IT professionals have **witnessed data surge** in their organizations post COVID-19

Streamlining power procurement regulations and **creating of large DC parks** - key Government support envisaged by the DC industry



Data compression and **enhancing power usage effectiveness** - top technology improvements sought

67% of IT professionals find it **challenging to recruit and retain quality talent** in the IT domain

64% of organizations are looking to **power their DCs by more than 60% clean power** in the next 2 years

CONTENTS

CHAPTER 5

THE WAY FORWARD: A SUNSHINE SECTOR

THE WAY FORWARD: A SUNSHINE SECTOR

DC Industry on a Hockey Stick Growth Curve

One could surmise that the Indian data center (DC) industry has taken an upward trajectory in its hockey stick growth curve.

Establishment of DC Edge Nodes

With the advent of 5G, rising mobile penetration and data traffic, it is now becoming increasingly important to establish edge nodes close to the data consumer.

We are likely to witness setting up of atleast 150-200 edge DCs across India over the next 3 years.

DC Expansion in Tier II Cities

With 1+ GW of capacities under various stages of development, India is making a leapfrog to claim its place within the region, as a notable player in DC infrastructure. This is now a crucial time for all stakeholders to ensure quality and timely execution.

In addition to the large-scale facilities coming up, **another trend that is taking shape is setting up of edge DCs across Tier II cities of India.**

Initiatives & Support from the Goverment

Building this level of digital infrastructure cannot be accomplished without the active support of the Government, including relevant State Governments.

Faster permissions, single-window clearances, seamless power procurements, etc. can go a long way in establishing India as an attractive destination for data storage across the region.

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CHAPTER 6

BINSWANGER ANAROCK DC SOLUTIONS

BINSWANGER ANAROCK: DC SOLUTIONS

ENTERPRISE SOLUTIONS

1. Colocation & Migration Services

We help hyperscale & enterprise clients identify the right server colocation options (or migrate from current) at third-party data center facilities. Colocations that are successful are based on thorough evaluations and analysis of key metrics such as the redundancy, rack space real estate and proximity.

We help identify distinct factors in each data center & benchmark its essentials of redundancy, efficiency & security. We understand client's needs and business goals to assist and advice on the best suitable DC solutions. We handhold our clients in supplier identification, total cost analysis, proposal management, service provider contract negotiation. The goal is to assist our clients through the entire DC lifecycle.

2. Land Advisory

We help clients identify the right land parcel(s) for building captive data center facilities. We also assist in strategic partnership with a data center operator for development, operation and management of such captive facilities.

Land decisions depend on multiple criteria viz. micro-market dynamics, power proximity, fiber mapping for a location, susceptibility to natural disasters, soil and air quality, etc.

Our real estate expertise and location advisory services allows enterprises to identify and shortlist the right land parcels with adequate information to make informed decisions.

3. DC Audit

We offer comprehensive DC audits, assessments and certifications. Our audit and assessment cover all aspects of DC. This includes Power and Electrical, Cooling and Mechanical, Civil and Architecture, Safety and Security, IT and Telecom and all other feasible criteria across the DC eco-system.

OPERATOR & INVESTOR SOLUTIONS

1. Investment Banking

Fund Raising
Assist Data Center (DC) operators in raising equity platforms or project specific equity from institutional capital providers.

Buy-side Advisory
Advise global DC operators or private equity funds on their entry strategy into India, for DC investments. We also aid institutional players understand the sector in terms of capital and financing.

Corporate Finance
Raise construction & project finance at competitive rates & terms from private or public banks or NBFCs

2. Land/Asset Sale

Land Acquisition
Assist DC operators acquire the right land parcels in DC micro-markets through outright sale or joint ventures (JVs), joint developments (JDs), built-to-suit, etc. through a transparent process. We facilitate operators acquire land through private sale or Government allotment.

Asset Sale
Assist operators, developers, investments funds or enterprises dispose of built-out assets either through outright sale or sale and lease back.

Portfolio Sale
Advise & run portfolio divestments for developers, DC operators and funds for exit through sale to strategic or financial investor.

3. Joint Ventures (JV)

Strategic JV
Assist strategic joint ventures between global and Indian DC operators to create synergistic value proposition for India market.

Operator–Developer JV
Set up joint ventures between DC operator and real estate or infrastructure developer for land acquisition, approvals and development.

Energy & Sustainability JVs
Assist DC operators execute long term PPAs under captive or group captive scheme for purchase of renewable power for DC operations.

4. Strategic Consulting & Valuation

We provide factual, data-driven market evaluation and unbiased recommendations to enable decision making by DC operators and PE funds.

With our rich experience in business valuation we help operators and funds in financial feasibility and asset valuation as per the business needs.

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BINSWANGER
Established 1931

ANAROCK

Binswanger, a global leader in full-service commercial real estate, has been helping its clients realize their full real estate potential since 1931. Founded by real estate innovator and pioneer, Frank Binswanger Sr., the company operates with the understanding that real estate has the ability to strengthen businesses and transform communities.

The company offers a variety of services benefitting both owners and occupiers including global real estate brokerage, location consulting, investment sales, tenant representation, corporate advisory, strategic consulting and a variety of management services.

Having worked with more than half of the Fortune 500, the employee-owned company has long been known as the industry leader in the acquisition and disposition of industrial and commercial facilities around the globe.

For more information, please visit **www.binswanger.com**

ANAROCK is India's leading independent real estate services company with a presence across India and the Middle East. The Company has diversified interests across the real estate lifecycle and deploys its proprietary technology platform to accelerate marketing and sales. The ANAROCK services suite includes Residential Broking & Technology, Retail (in partnership with Vindico), Commercial, Investment Banking, Hospitality (in partnership with HVS), Land Services, Industrial and Logistics (in partnership with Binswanger), Investment Management, Research, Strategic Advisory & Valuations and Project Management Services (in partnership with Mace), Flexi Spaces (in partnership with myHQ & Upflex) and Society Management Services (acquisition of ApnaComplex, India / ANACITY, EMEA).

ANAROCK has a team of over 1,800 certified and experienced real estate professionals who operate across all major Indian and Middle East markets. ANAROCK also manages over 80,000 established channel partners to ensure global business coverage. Our assurance of consistent ethical dealing with clients and partners reflects our motto - Values Over Value.

For more information, please visit **www.anarock.com**

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