



DATA CENTRE

What is a Data Centre?

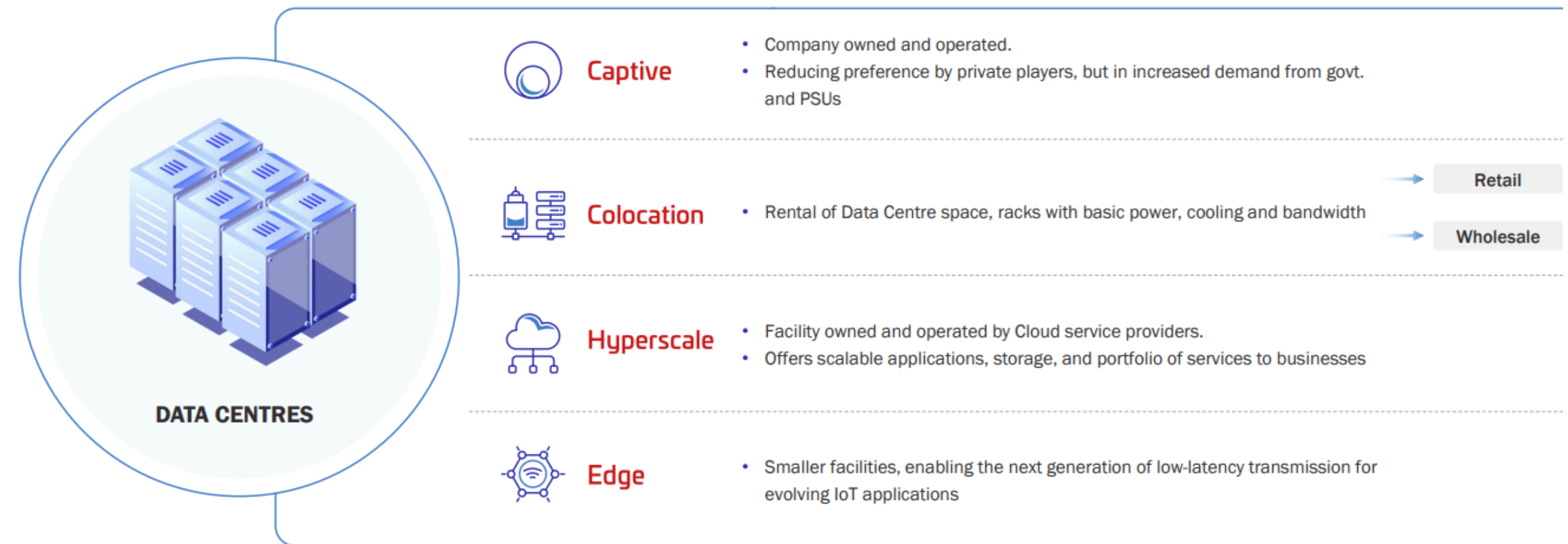
Data centres are specialised facilities used to house information, technology and communications equipment, including servers, storage devices, routers, and switches. The main function of a data centre is to provide secure and connected accommodation for data racks that have access to power and are adequately cooled to decrease excess heat.



There are four kinds of Data Centres

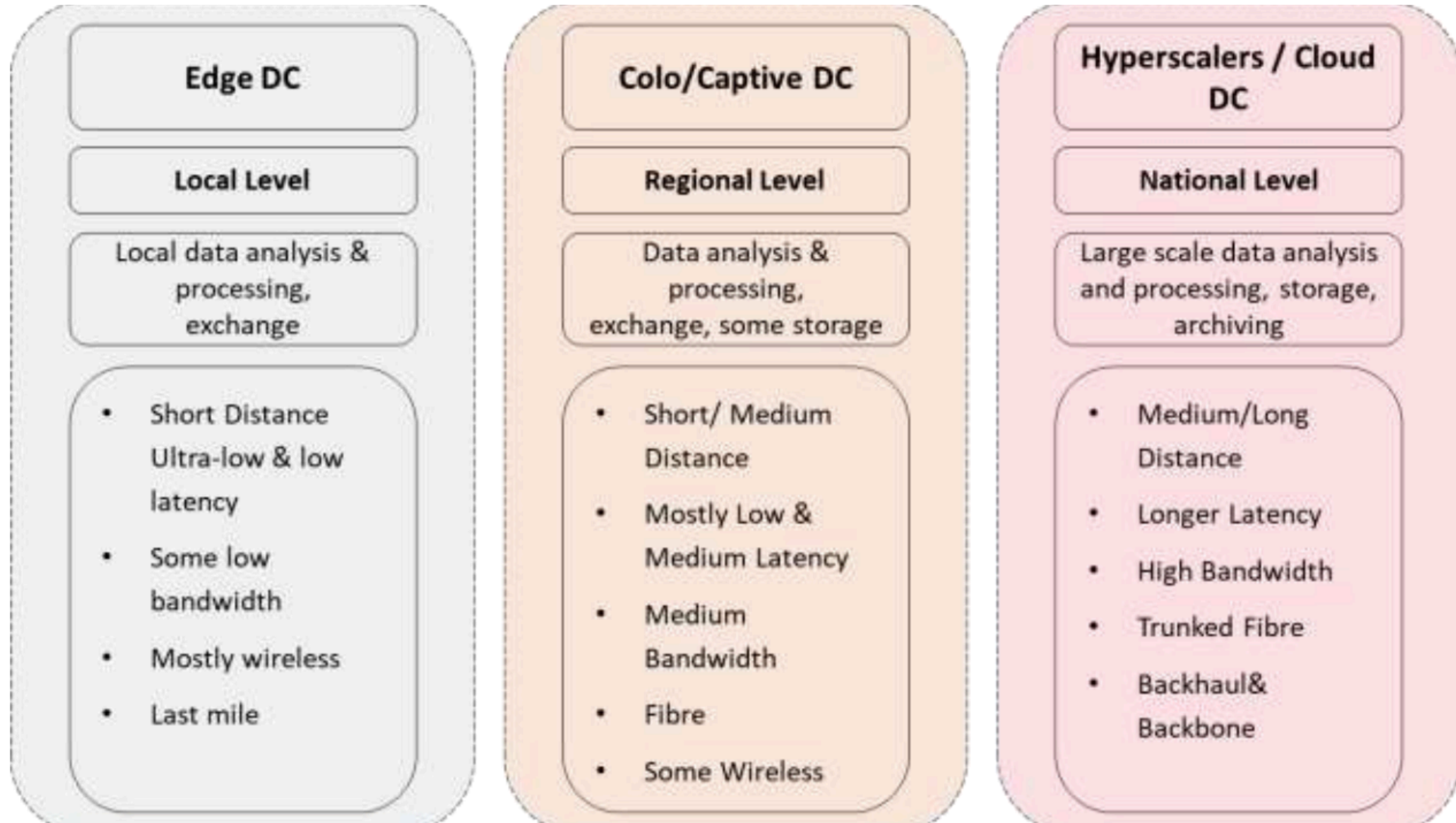
- **Captive** (company owned and operated)
- **Colocation** (large data center facilities that rent out rack space to third parties)
- **Hyperscalers** (large-scale cloud service providers)
- **Edge** (smaller sized, last mile, low latency)

As Per Tenancy



While Edge DCs may take couple of years to flourish, next 2-3 years will witness a shift from mid-sized Colocation Data Centres to large-sized Hyperscale Data Centres

Demand drivers for various data centres

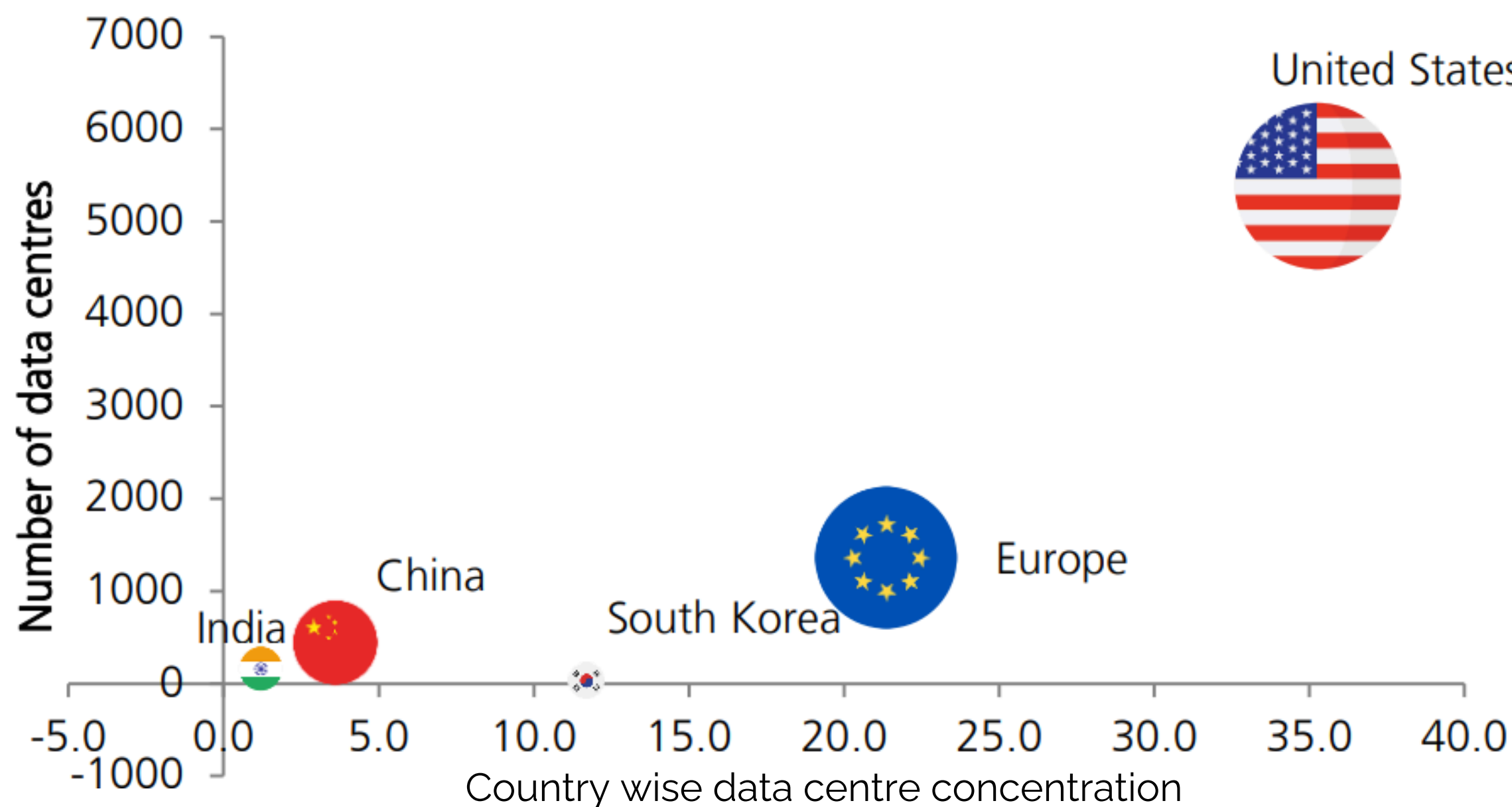


Key metrics

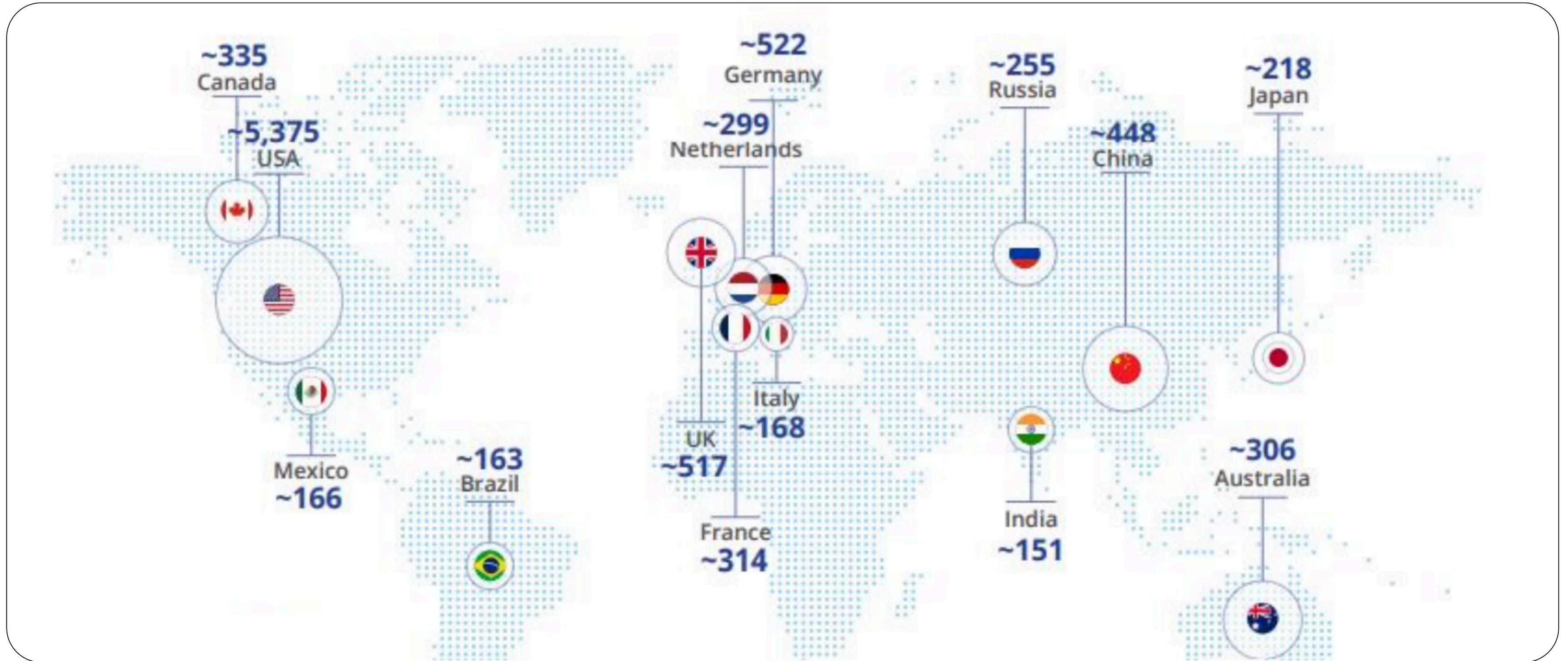
- **Power Usage Effectiveness (PUE)** measures the efficiency of a data centre by dividing total facility power by the power used by IT equipment.
- An ideal PUE is 1.0, that means 100% efficiency (i.e., all energy consumed is used only on IT equipment with no distribution losses or waste). The average PUE ratio for a data centre in 2007/2020 was 2.5/1.58 which improved to 1.55 in 2022. Since, 2022 PUE is stable, hovering around 1.5.

$$\text{PUE} = \frac{\text{Total Facility Power}}{\text{IT Equipment Power}}$$

- **Data Centre Concentration** (data centre capacity in MW per Internet user in million) depends upon the population (India 1.4bn/1.5bn in 2024/2030E) and the internet penetration (India 50% existing).
- India has the one of the lowest data centre concentration, 1.2 (3.6 for China) which is likely to grow around 3.0 in 2026 and may exceed 6-7 by 2030 driven by low cost data, higher adoption of 5G, and others.

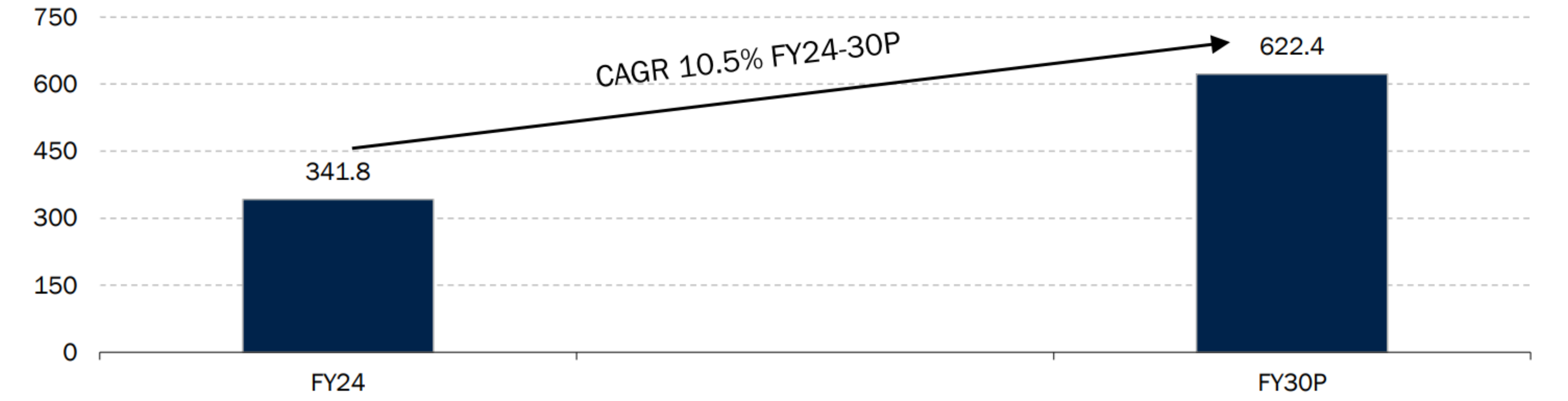


Number of data centres across the world



Global Data Centre Market Size

- The industry is expected to reach a market size of \$600bn achieving a CAGR growth of 10.5% over the period of six years.
- This growth is supported by various factors, like businesses adopting digital technologies, increasing demand for data storage, processing, and management. Along with this, internet usage is increasing, which requires robust data infrastructure for online activities which increases the need for fast communication lines and data transmission technologies.

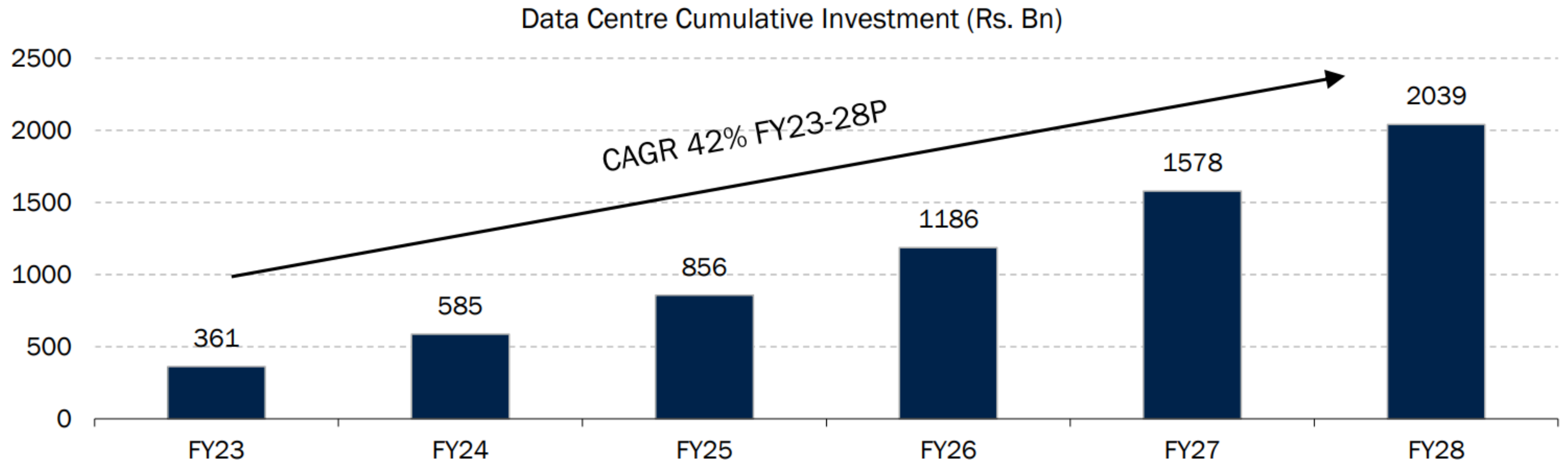


Source: PS market research

Global Data Centre Market Size USD bn

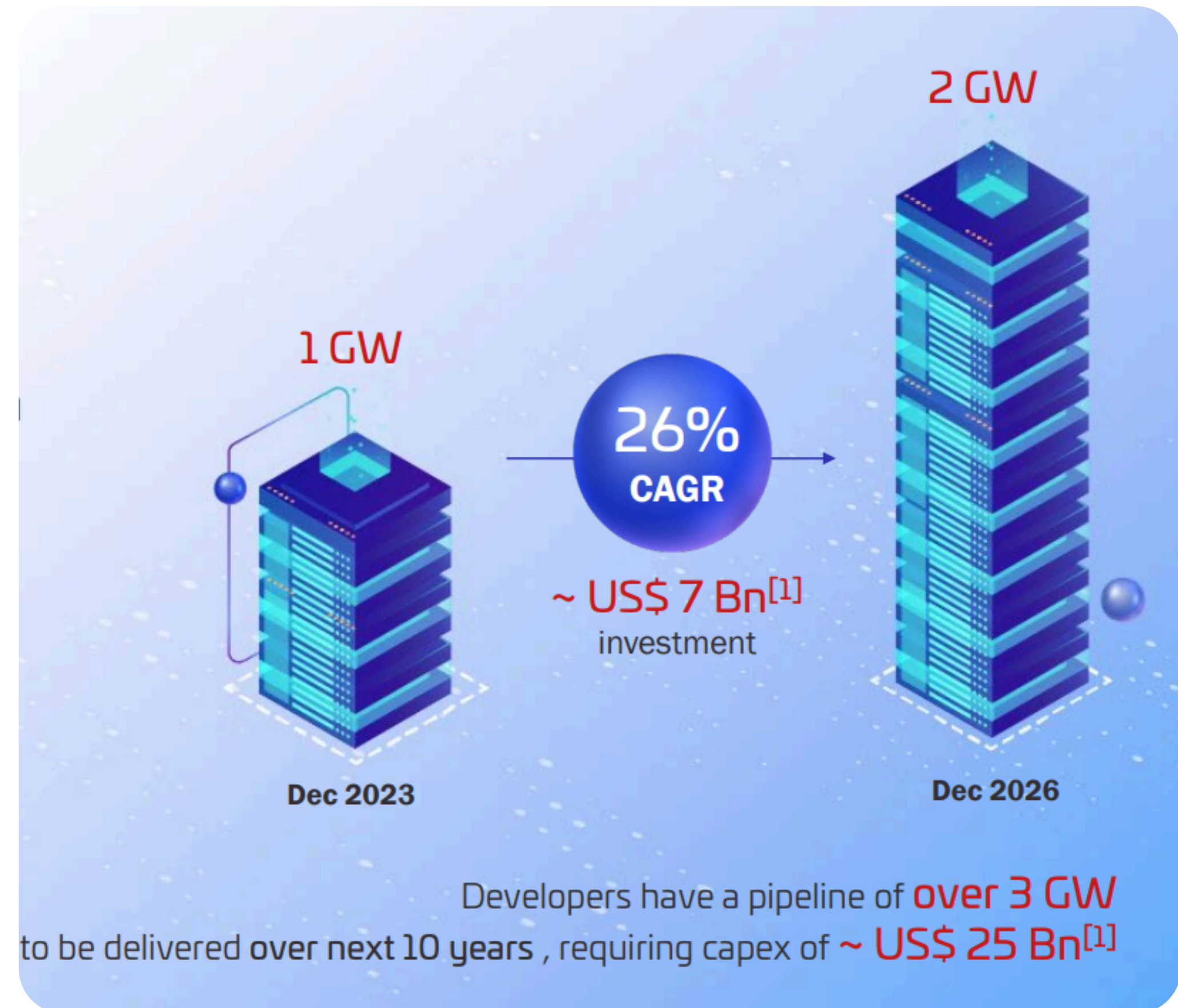
India Data Centre Market Size

While India is generating 20% of the global data, its share of Data Center is just 3%, which indicates a vast potential for growth. The adoption of technologies like AI and the further expansion of 5G and IOT will drive increased consumption in India.



Indian Landscape

- India with an operational capacity of 1,074MW has emerged as the 13th largest data centre market globally, with 163 data centres as of Mar'24.
- India is projected to lead global data consumption, reaching 62GB per user per month by 2028, outpacing developed markets like the U.S. and China.



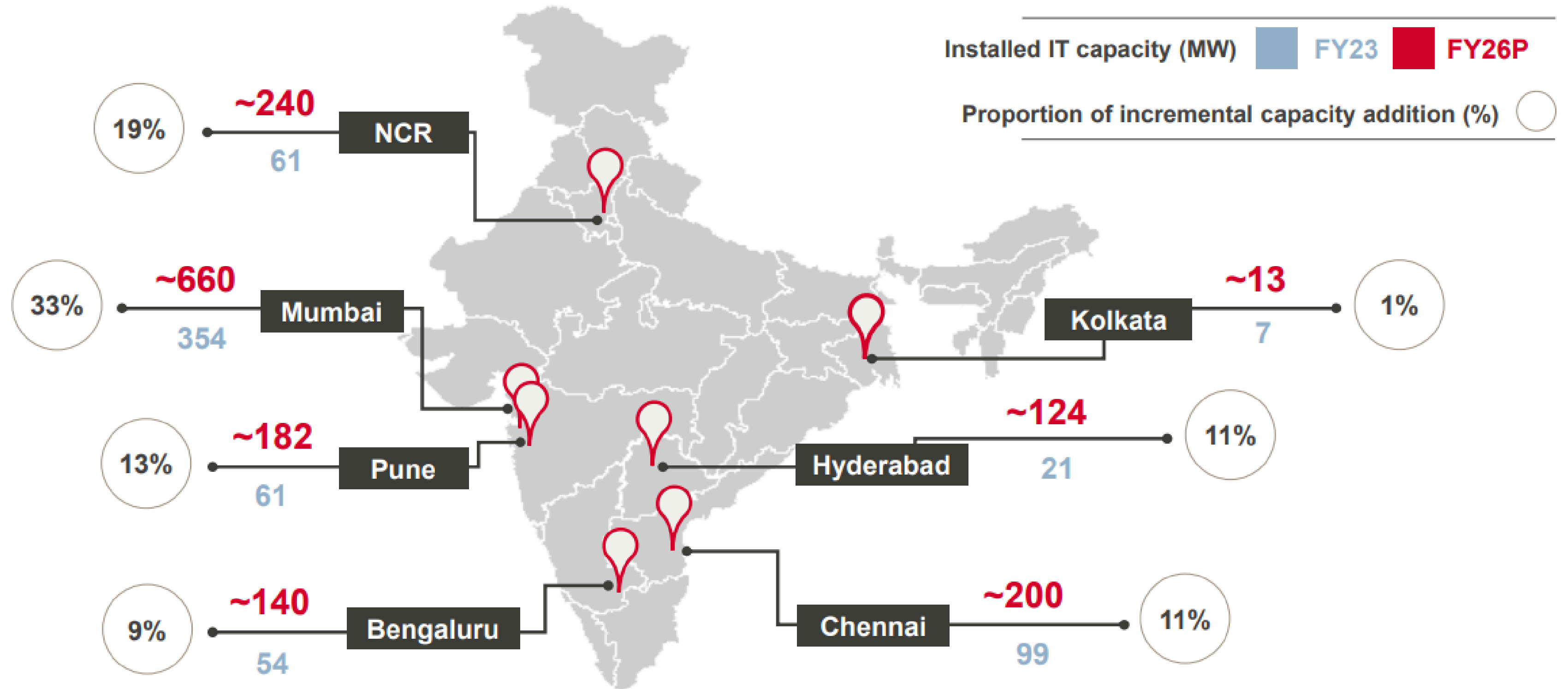
The 7 major cities account for more than 90-95% of the total demand and supply in India, led by Mumbai and Chennai (~60% share) due to their dense undersea cable ecosystems.

MW		Mumbai	Chennai	Bengaluru	Delhi – NCR	Pune	Hyderabad	Kolkata
Total capacity		490	147	97	94	64	48	10
Vacancy (%)		3.6%	6.9%	10.5%	16.5%	1.2%	6.4%	1.7%
Under – Cons. ^[1]		347	259	50	162	45	34	51
Total assets ^[2]		42	22	31	33	18	13	8
Landing Stations ^[3]		12	4	-	-	-	-	-
Supply		Most active market; has been on the radar of many international players	Ever-growing wholesale colocation market	New DC builds expected to attract occupiers	State policy with more incentives to push for more DCs	Majorly on pre-commitment by hyperscalers	Large self builds	Supplying to eastern India
Demand		Deal sizes are growing with larger hyperscaler deals getting signed	New cable landing to spur increased pre-commitments from cloud players	Technology, fintech, and e-commerce demand	Mostly hyperscale demand followed up by BFSI sector	Cloud / Hyperscaler dependent	BTS demand from cloud players	Enterprise demand. Landing station may change fortune
Pricing (\$ per kW per month)	< 250 kW	100 – 136	100 – 109	91 – 109	95 – 113	86 – 100	95 – 113	100 – 118
	250 kW – 1 MW	91 – 113	95 – 104	89 – 104	89 – 100	80 – 95	89 – 100	91 – 100
	1 – 5 MW	82 – 95	86 – 95	86 – 95	80 – 91	77 – 86	80 – 91	NA
	> 5 MW	77 - 91	77 - 82	79 - 82	77 – 86	73 – 77	77 - 86	NA
Remarks		Best location for DCs in the country	Strategic significance coupled with growing presence of enterprises	Secure location for DCs: India's least active seismic zone	Availability of land, attractive policies, & on-ground gov. support	BTS solutions – Proximity to Mumbai but better risk profile	Pledged investments from major tech-giants and hyperscalers	Meets East-India enterprise demand

Source:Avendus

Mumbai leads in colocation capacity addition

Edge data centres to be the next leg of growth and drive demand in Tier 2 and 3 cities



P: Projected; Source: Industry, company reports, CRISIL Ratings

SWOT Analysis for Data Centres in India

Strengths

Huge demographic advantage due to a large population base, 67% of the population between the ages 15–64 (active consumers of data)

Data localisation puts a legal onus on operators to store data locally

Presence of a **large affordable workforce** pool

Challenges

Headway to be made vis-à-vis fiscal and regulatory support at the national level to **recognise this industry as a priority sector**

Local approvals & liaisons can be time-consuming and complex

Higher development costs due to vertical developments (given preference to be closer to data density)

Opportunities

Huge scope for mobile penetration to smaller cities as well as rural areas

Prefabricated modularised developments can allow faster go-to-market

Availability of **large pools of patient capital**

Availability of renewable sources of power can facilitate sustainability

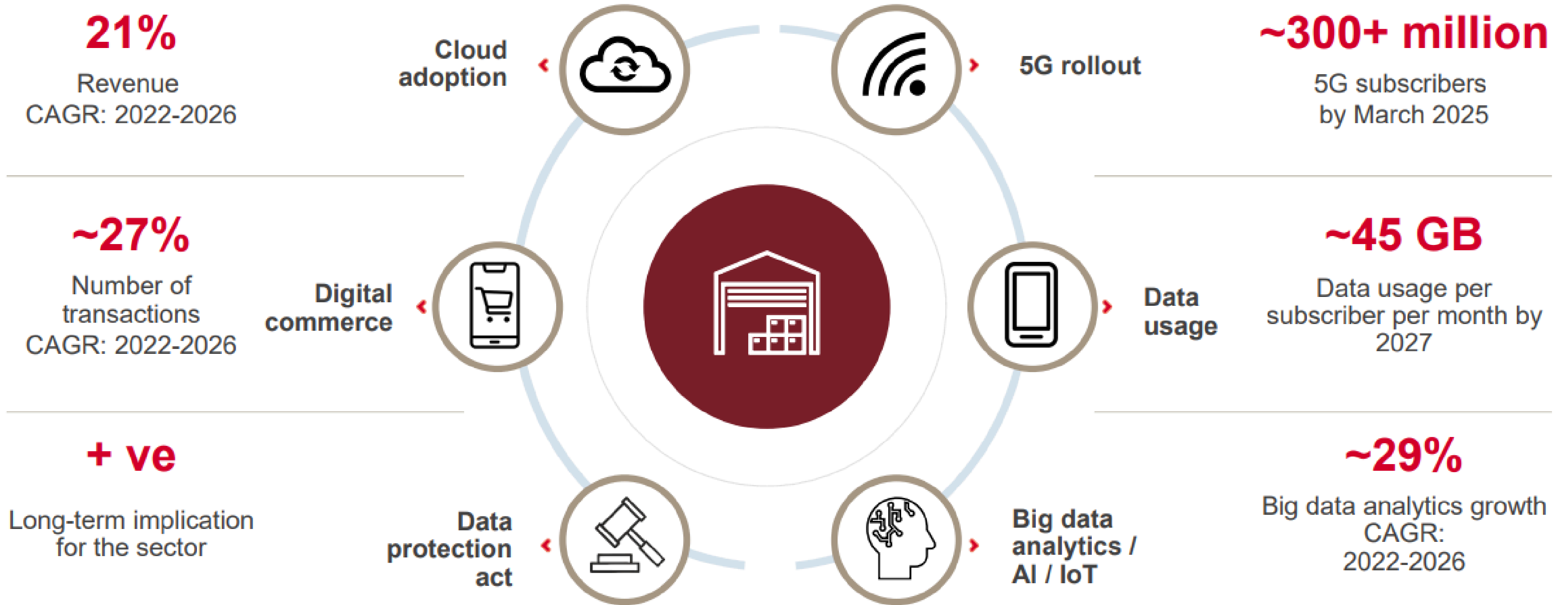
Threats

Power outage possibilities could dampen prospects of India becoming a regional data hub

Technology obsolescence could increase frequency of capex

Partner risk given limited established local partner options for global players

Growth Enablers

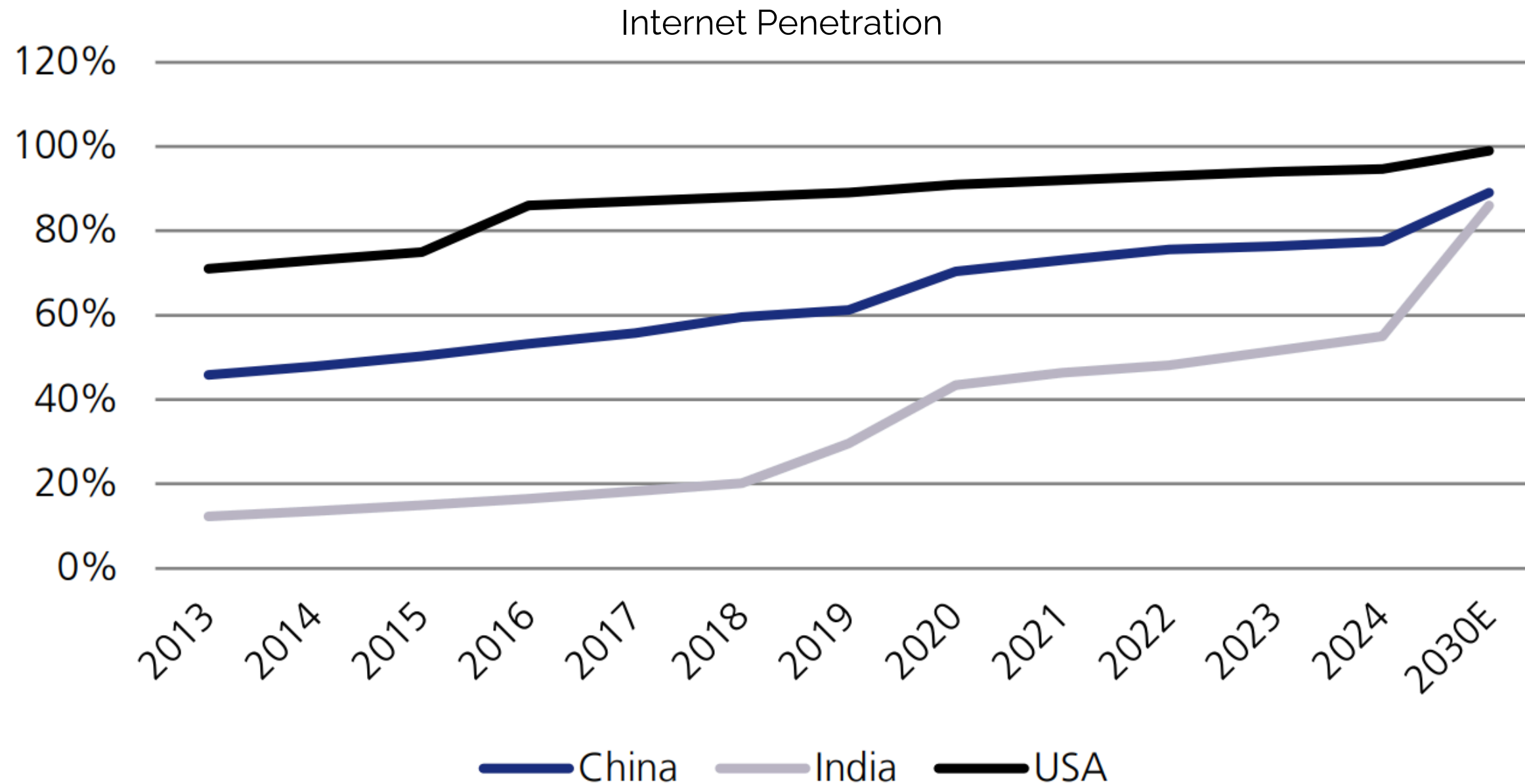


Note: CAGR are for calendar year

Source: Crisil Ratings

Internet Penetration

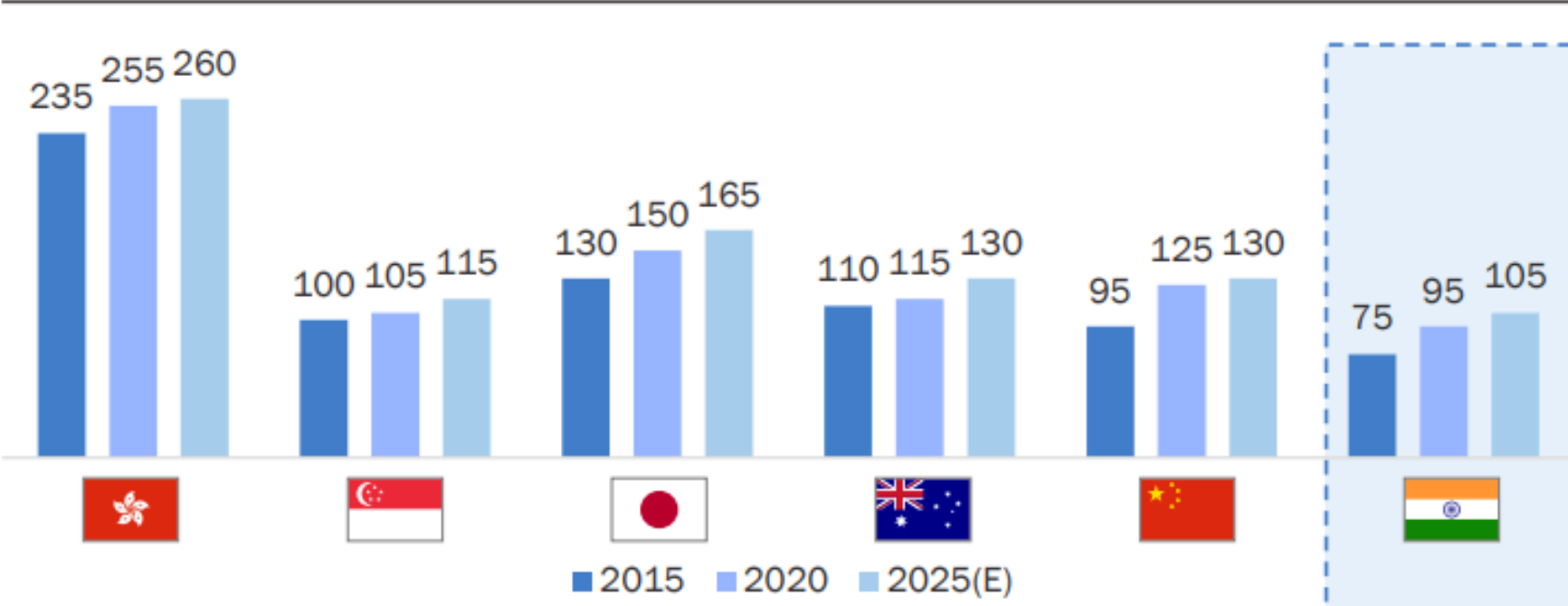
China leads the world with 1 bn internet users and a 77% penetration rate, while the USA boasts nearly 99% penetration. **India**, currently at **700 million users with a 50% penetration rate**, is rapidly catching up. By the end of the decade, driven by urbanization, increased smartphone adoption among the younger population, and digital initiatives, India is expected to reach a 90% penetration rate, positioning itself as a potential major data centre hub in Asia.



Deeper Penetration of Mobile Internet has led to increased demand for Data

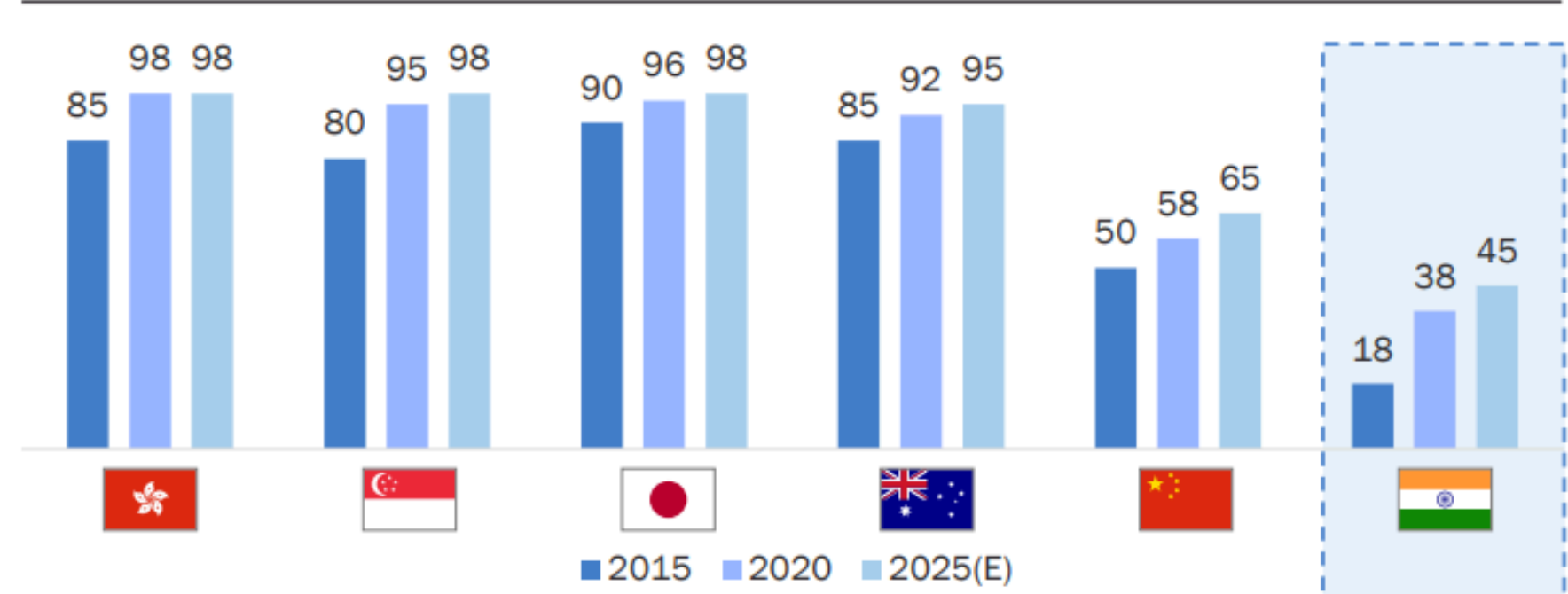
Acceptance Of Diversified Offerings Online, Will Lead To Exponential Demand For Data Storage And Data Centres

Mobile Phones Per 100 People



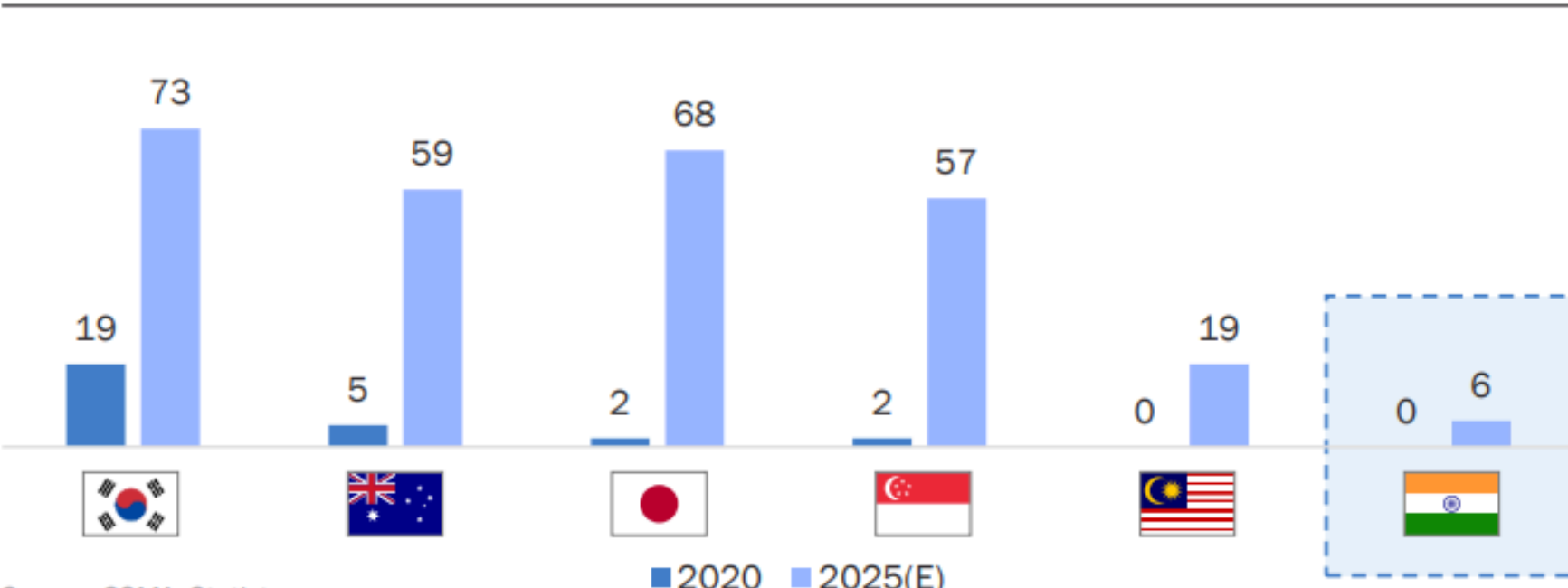
Source: Oxford Economics

Internet Users Per 100 People



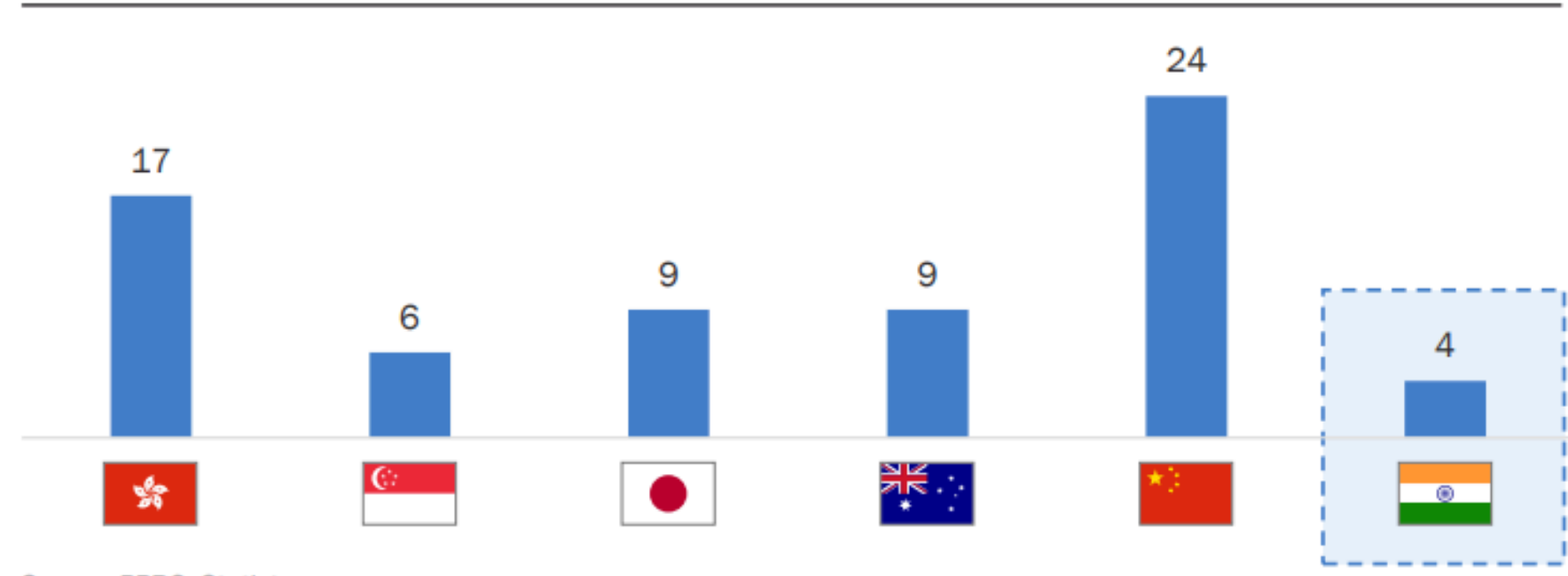
Source: Oxford Economics

Share Of 5G Mobile Connection To Total Connections (%)



Source: GSMA, Statista

E-commerce Share (%) Of Total Retail Sales In 2020

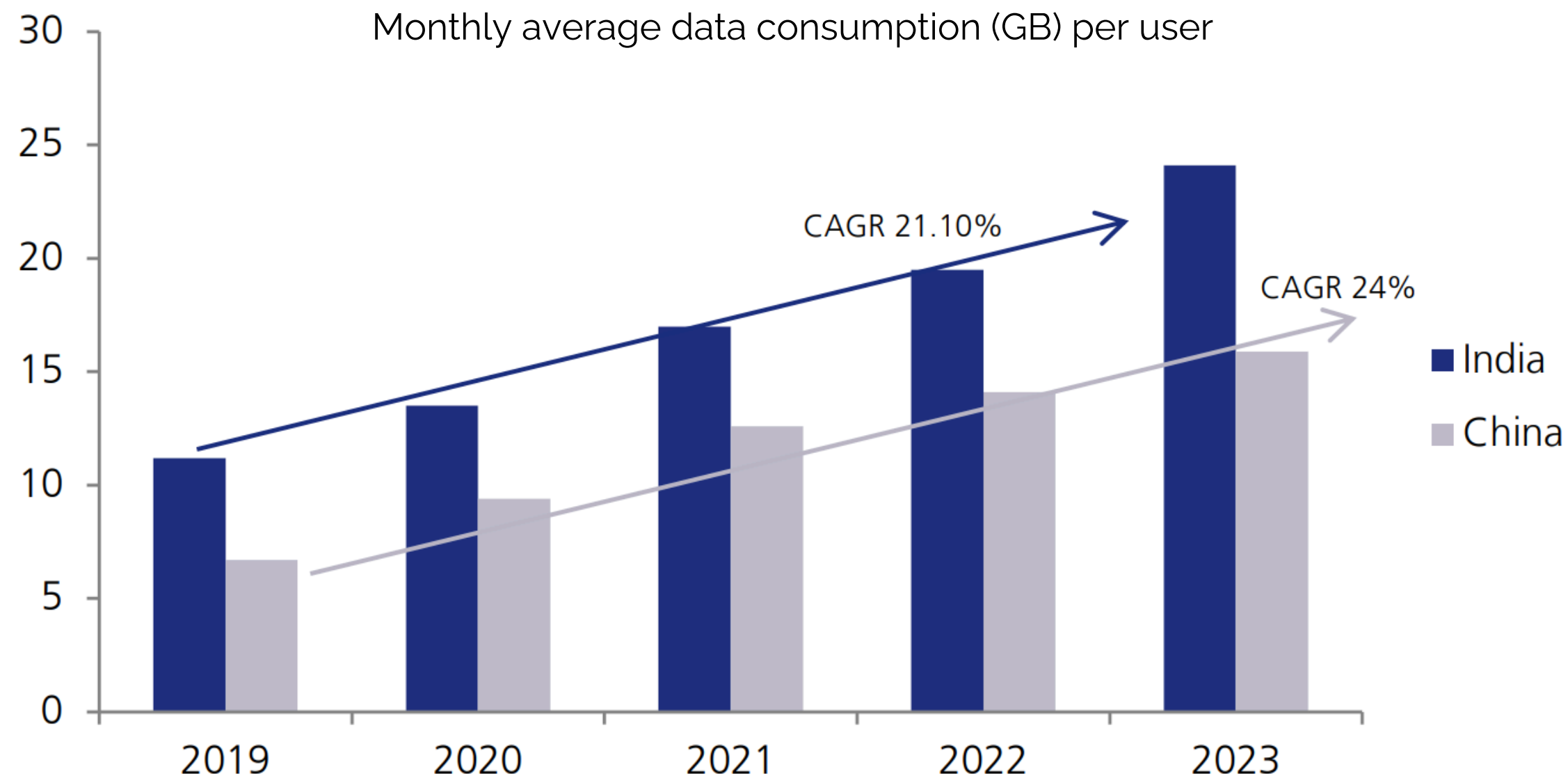


Source: PPRO, Statista

Source: Avendus

Data Consumption

- Indian users in 2023 consumed 24.1 GB of data per capita per month, which is expected to reach around 28 GB/ 62 GB in 2024/ 2028, outpacing developed markets like the U.S. and China.
- Over the past five years, mobile data traffic has grown at a CAGR of 26%, reaching 17.4 exabytes (EB) per month in 2023.




Increasing digitization is leading to increased demand


Data Consumption Has Increased On Account Of Evolving Work, Leisure And Several Other Avenues




Hybrid Work / Work From Home (WFH)




Global Talent Pool




Increased Video Conferencing



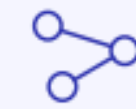
Cloud Storage




Increased Video/ Music Streaming




Online Gaming




Social Media



Mobile TV / OTT




Digital Education



Online Retail



Adoption Of Fintech/ Digital Payments

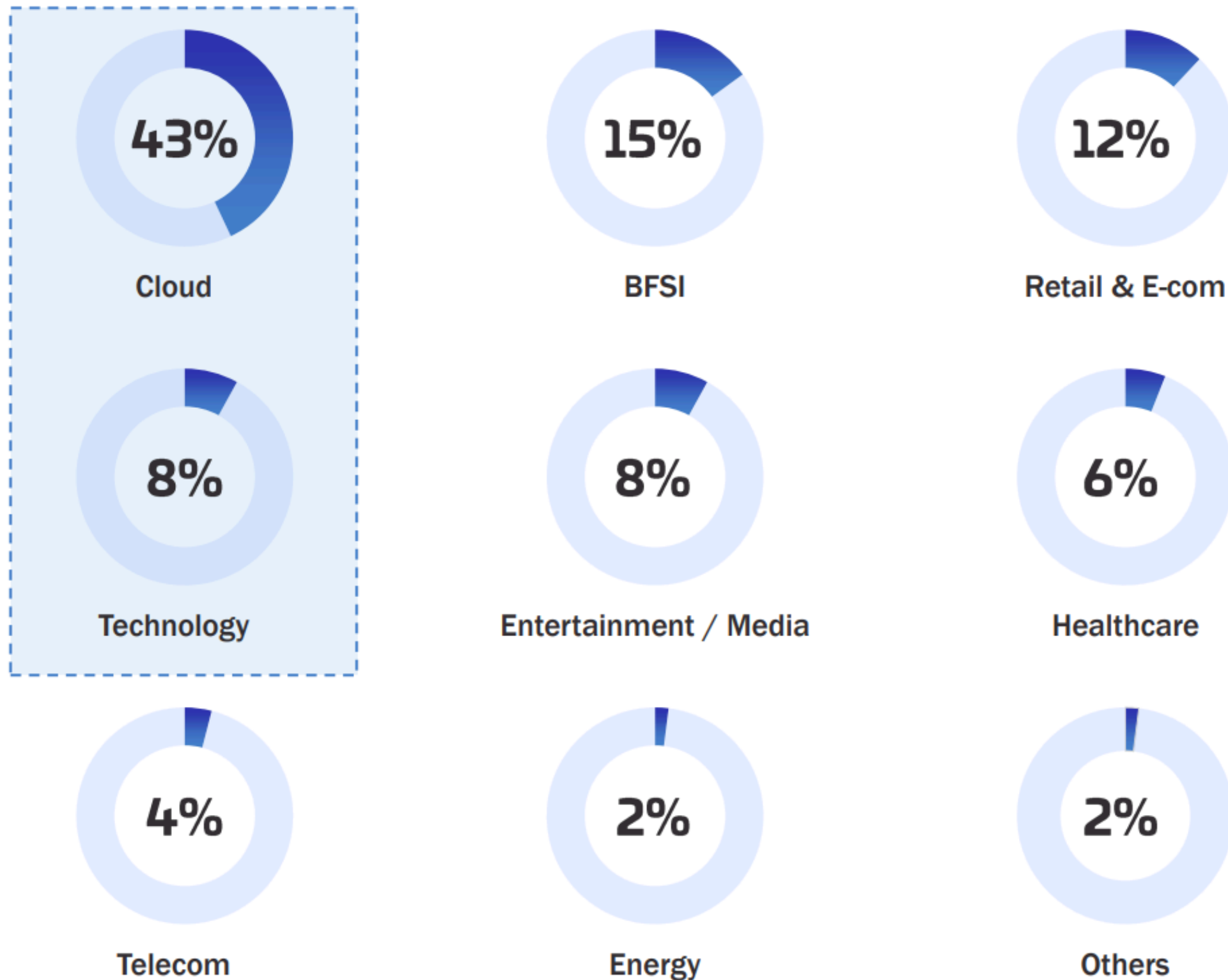







Online Food Purchase

The Digital Personal Data Protection Bill, 2022 focusing on data safety will lead to an enhanced demand for data centers in the country

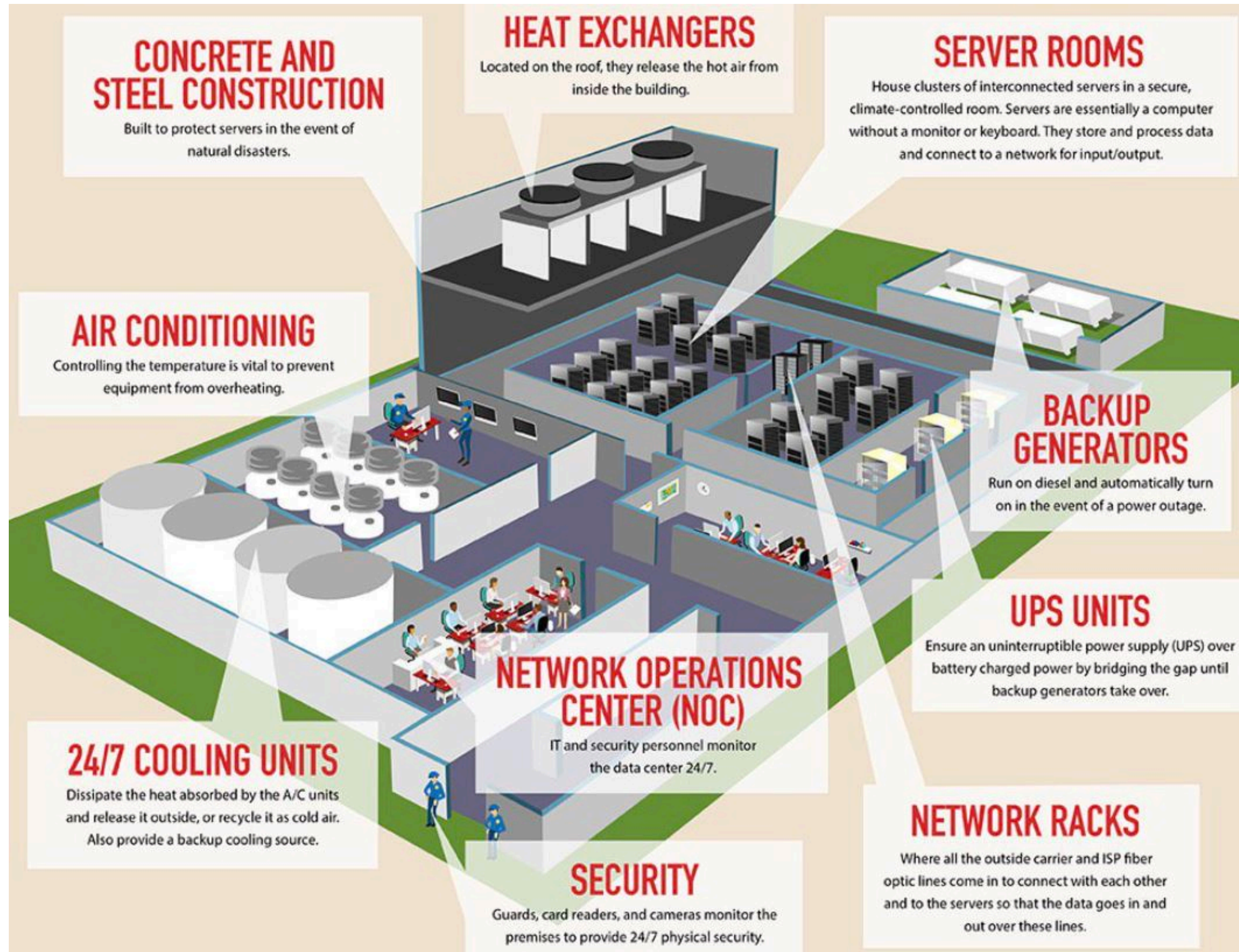
Cloud and tech sectors occupying 50%+ of total market size

Current Installed Capacity Of 800 MW Of Which ~95% Is Occupied



-  Average demand size increasing. More enquiries of 20+ MW capacity
-  Cloud consumers taking up majority of the capacity
-  Few IT majors setting up self-owned assets
-  Tenants investing INR 0.75 – 1.25 Bn in IT equipment per MW
-  Increased number of digital transactions are leading BFSI to invest more in Data Centre space

Core Components of Data Centre

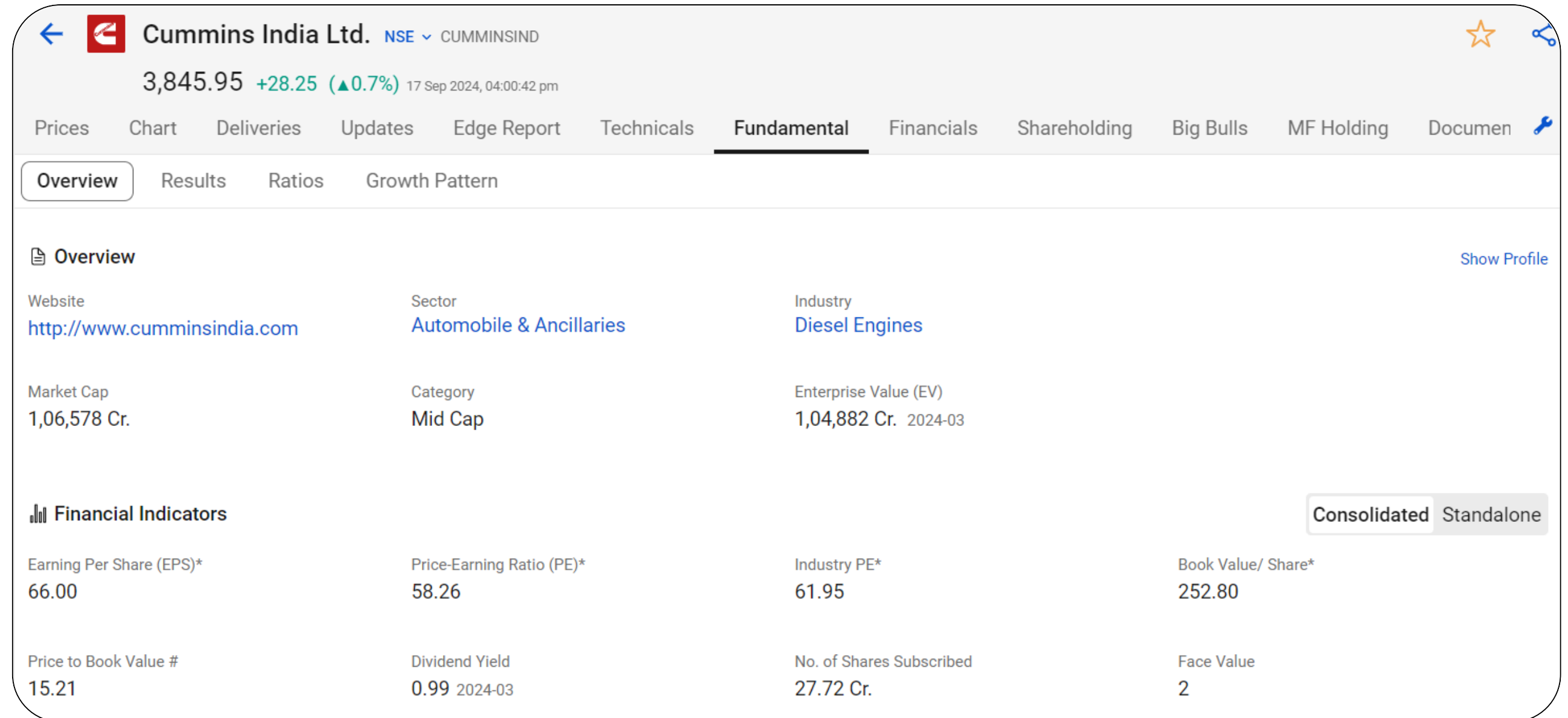



Industries to benefit due to Data Centre setups

- **IT Infrastructure Industry:** Companies providing network, storage and servers.
- **Electrical Infrastructure Industry:** Companies providing UPS Systems, Generators, Transfer Switches and Switchgears and other electrical infrastructure.
- **Mechanical Infrastructure Industry:** Companies providing Cooling Systems, CRAC & CRAH Units, Chiller Units, Cooling Towers, Dry Coolers & Condensers, Racks and other mechanical infrastructure.
- **General Construction Industry:** Companies providing core and shell development, installation and commissioning services, engineering and building designs, physical security, DCIM/BMS..
- **Energy Industry:** Companies providing energy.



- Cummins India Ltd is a part of the Cummins Inc. Group USA. It designs, manufactures, distributes and services diesel and alternative fuel engines from 2.8 to 100 liters, diesel and alternative-fueled power generator sets of up to 3000 kW (3750 kVA), as well as related components and technology.




[←](#)  **Cummins India Ltd.** NSE ▼ CUMMINSIND ★ [Share](#)


3,845.95 +28.25 (▲0.7%) 17 Sep 2024, 04:00:42 pm

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Website http://www.cumminsindia.com	Sector Automobile & Ancillaries	Industry Diesel Engines
Market Cap 1,06,578 Cr.	Category Mid Cap	Enterprise Value (EV) 1,04,882 Cr. 2024-03

 **Financial Indicators** [Consolidated](#) [Standalone](#)

Earning Per Share (EPS)* 66.00	Price-Earning Ratio (PE)* 58.26	Industry PE* 61.95	Book Value/ Share* 252.80
Price to Book Value # 15.21	Dividend Yield 0.99 2024-03	No. of Shares Subscribed 27.72 Cr.	Face Value 2

- Cummins India is a top global provider of backup power solutions for the data centre industry, with the largest dedicated support network coverage in the world.
- Cummins' diesel generators' time-tested ability to achieve 100% load acceptance with good controls ensure that the data centre customers can be confident of purchasing power generation systems at the leading edge of reliability and dependability.



- Blue star manufacturers air purifiers, air coolers, water purifiers, cold storage and speciality products. The Company offers turnkey solutions in MEP (Mechanical, Electrical, Plumbing, and Fire-fighting) Projects. It is the largest after-sales service provider for air conditioning and commercial refrigeration products in the country.

Blue Star Ltd. NSE ▾ BLUESTARCO

1,891.20 -43.70 (▼2.3%) 17 Sep 2024, 04:00:40 pm

Prices Chart Deliveries Updates Edge Report Technicals **Fundamental** Financials Shareholding Big Bulls MF Holding Documen

Overview Results Ratios Growth Pattern

Overview Show Profile

Website http://www.bluestarindia.com	Sector Consumer Durables	Industry Air Conditioners
Market Cap 38,809 Cr.	Category Mid Cap	Enterprise Value (EV) 38,598 Cr. 2024-03

Financial Indicators Consolidated Standalone

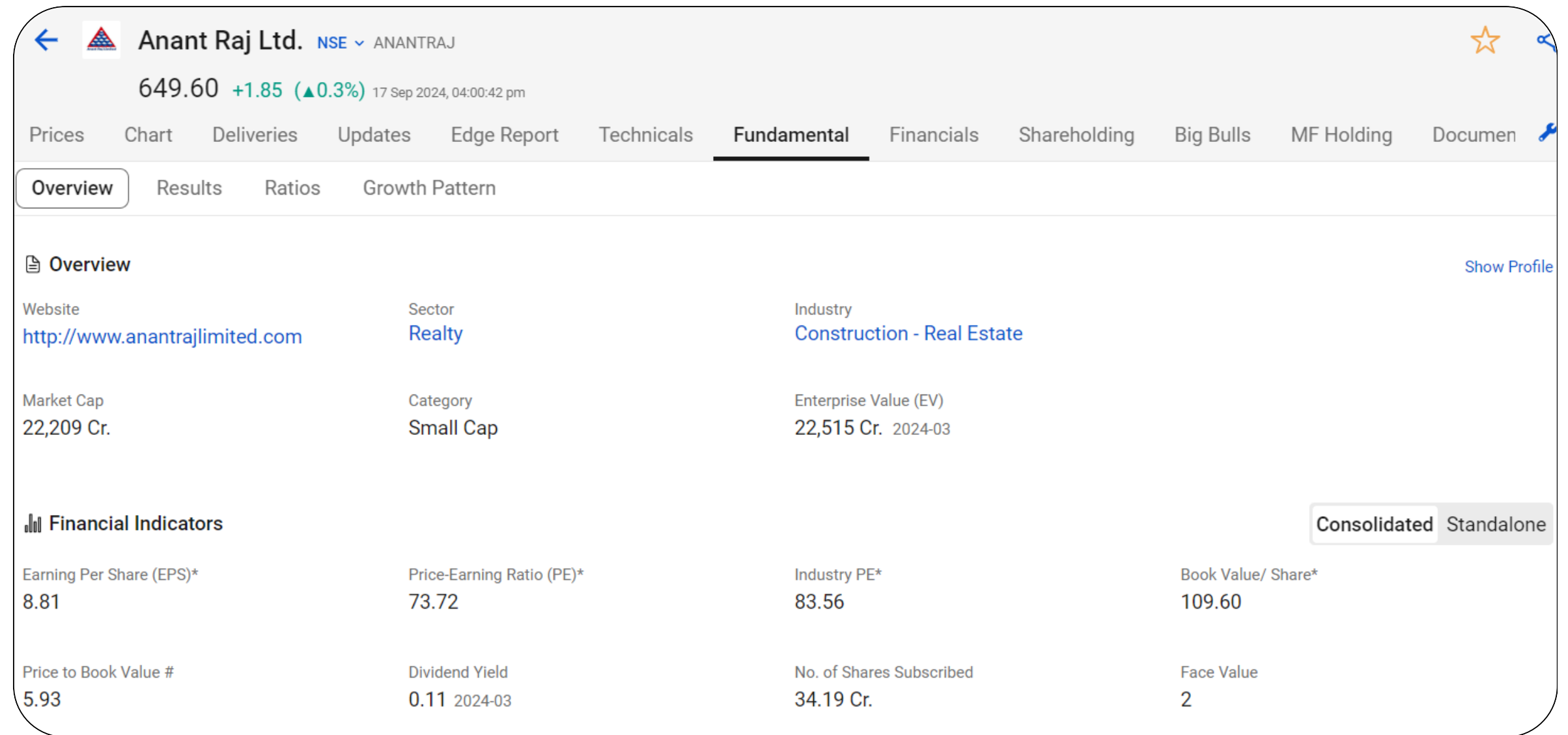
Earning Per Share (EPS)* 24.34	Price-Earning Ratio (PE)* 77.55	Industry PE* 111.38	Book Value/ Share* 135.14
Price to Book Value # 13.97	Dividend Yield 0.37 2024-03	No. of Shares Subscribed 20.56 Cr.	Face Value 2

- Blue Star provides Heating, Ventilation and Air Conditioning solutions for Data centres. It has already executed HVAC works at Yotta Data centre in Noida. There is strong pick-up in order inflow in infrastructure especially in data centres due to onset of construction and capex cycle.



Anant Raj Limited

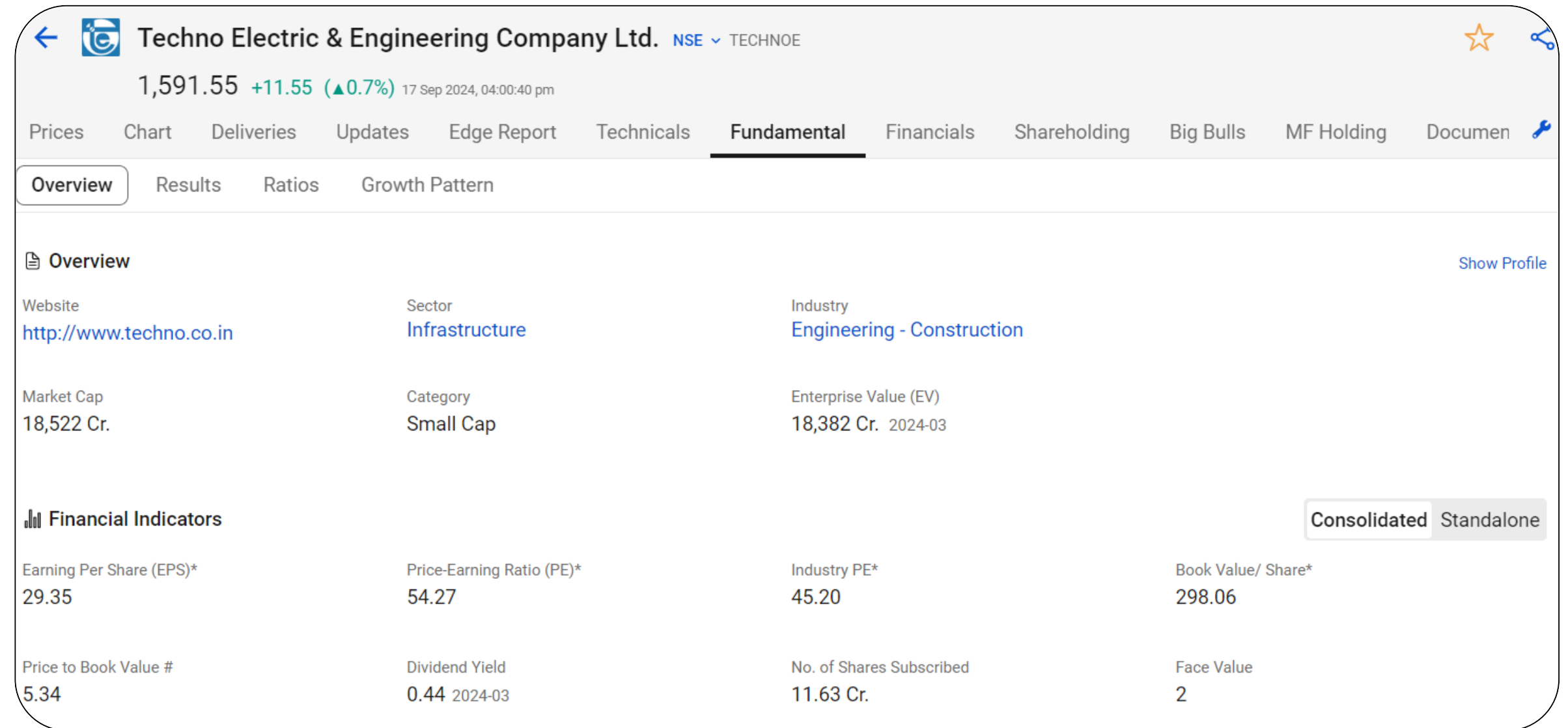
- Anant Raj Ltd is primarily engaged in the development and construction of IT parks, hospitality projects, SEZs, office complexes, shopping malls and residential projects in the State of Delhi, Haryana, Andhra Pradesh, Rajasthan and NCR.
- The Company has successfully developed more than 20 msf of real estate projects in the Commercial, IT Parks, Shopping Malls, Residential and Affordable Housing sub-segments.
- The company is foraying into Data centre with commercial property of potential leasable area 5.66 msf to be converted into 300 MW Data Centre. Company has tied up with key government agencies. Out of this 3MW was operational in FY23 at Manesar and 50MW is expected in few yrs





TECHNO ELECTRIC & ENGINEERING CO. LTD.

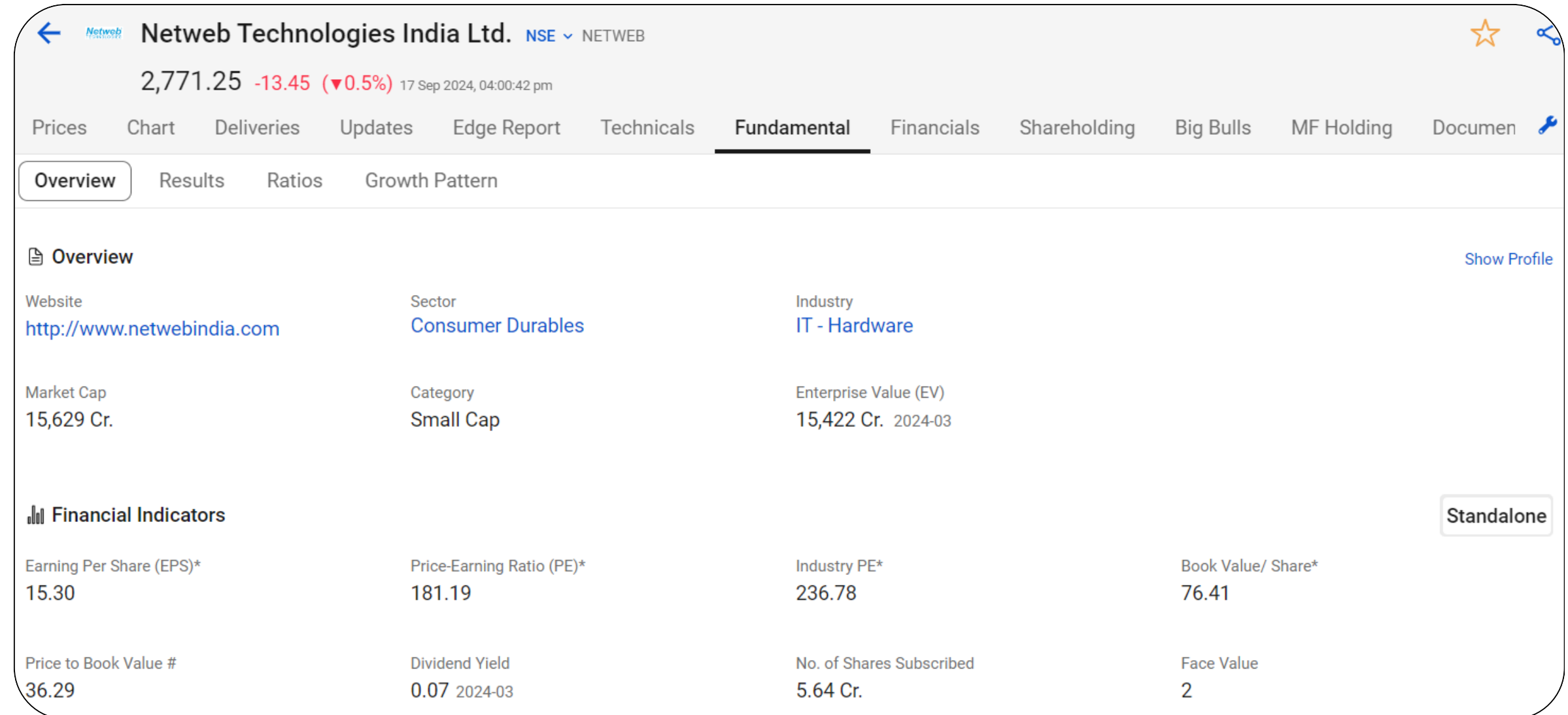
- Techno Electric & Engineering Company Ltd (TEECL) is engaged in providing Engineering, Procurement and Construction (EPC), asset ownership and operations and maintenance services in the power infrastructure industry.



- The company is setting up a scalable hyper-density data center with a 24 MW IT load in Chennai, with an investment of USD 160 million. This data center is scheduled to be commissioned in Q3 FY25.
- The company plans to develop a data center with a 24 MW IT load in Kolkata by FY26, and other data centers in Mumbai and Noida in FY26 and FY28, respectively.
- It will also develop, operate, and maintain the single largest deployment of edge data centers for RailTel Corporation of India Ltd. over the next five years in 102 cities across India.

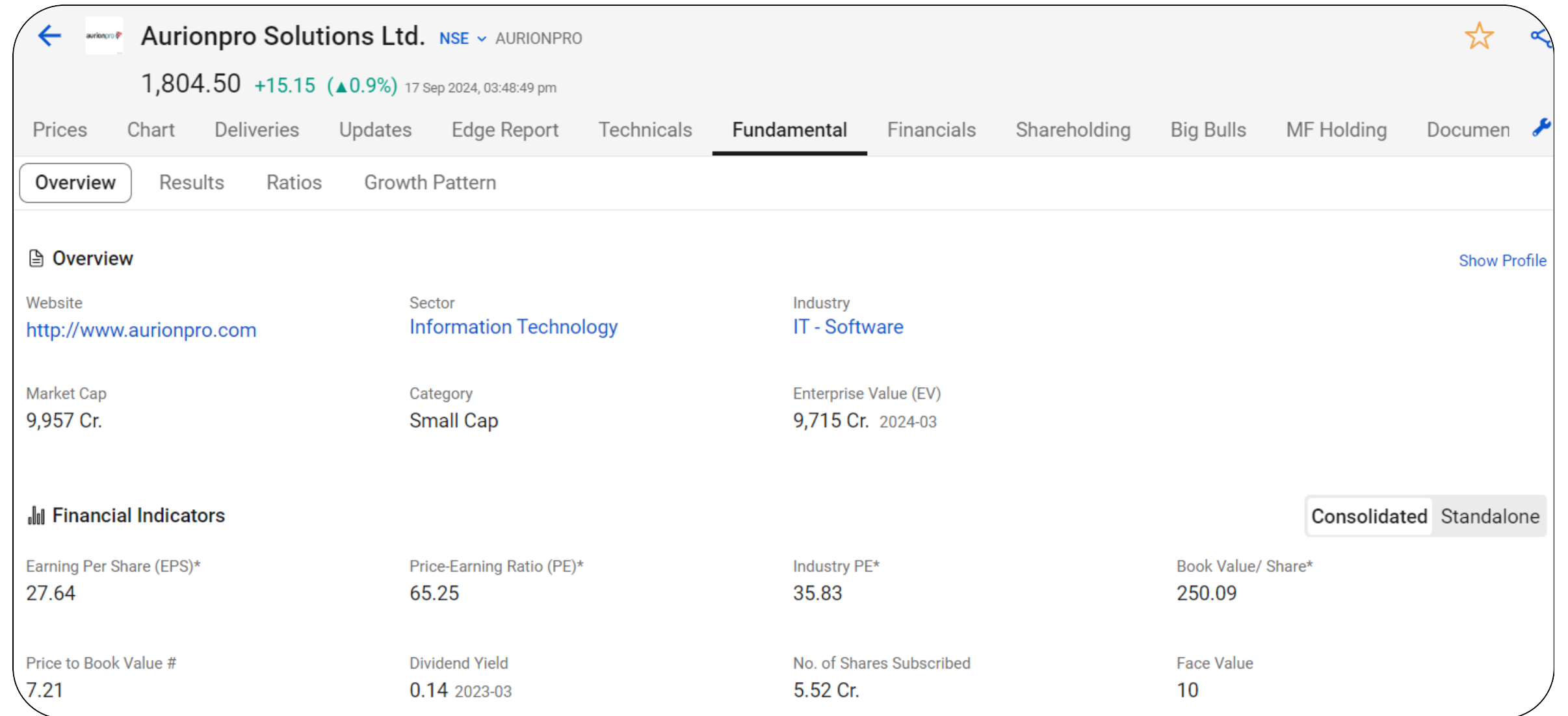
Netweb[®] TECHNOLOGIES

- Netweb Technologies India (NTI) is one of India's leading high-end computing solutions (HCS) providers, with fully integrated design and manufacturing capabilities.
- Clientele includes IIT Jammu, IIT Kanpur, NMDC Data Centre Private Limited, Graviton Research Capital LLP (Graviton), Institute of Nano Science and Technology (INST), etc.

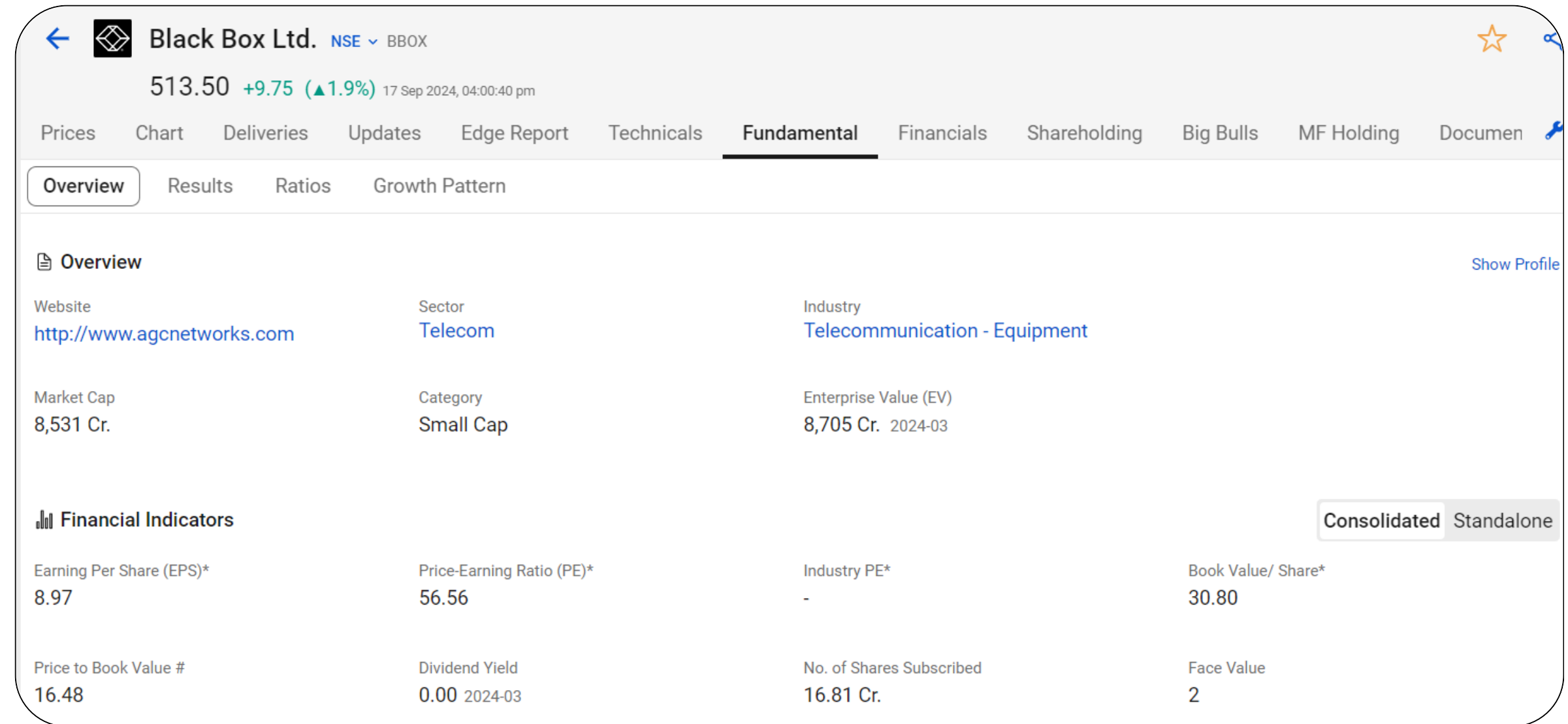


- Business Offerings are High-performance computing (Supercomputing / HPC) systems, Private cloud and hyper-converged infrastructure (HCI), AI systems and enterprise workstations and Data centre servers
- Three of the company's supercomputers have been listed 11 times in the world's top 500 supercomputers. Company is one of the few OEMs in India eligible to seek incentives in terms of both the IT Hardware PLI and Telecom and Networking PLI schemes

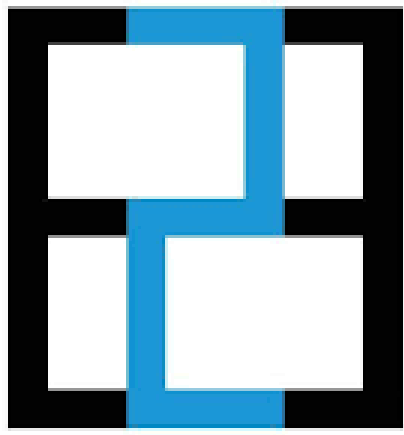
- Aurionpro Solutions Limited works in providing business solutions in the fields of Transaction Banking Platform, Customer Experience (ACE Platform), Smart city and Smart Transportation experience and Cybersecurity solution.
- The company has signed up with some customer for providing consultancy and assistance for rolling out of 100 MW Data Centers within next few years.
- Aurionpro partnered with Webwerks to successfully operationalise Tier 3 data centres (DC) in Navi Mumbai, Hyderabad and Bangalore. Aurionpro is supporting Webwerks with DC Design, Consultancy, Master Planning and also DC turnkey build, in these projects.



- Black Box is an information & communication (ICT) solutions provider and integrator with a differentiated vertical approach in business communication systems, applications and services mainly within India. It is present at multiple geographies such as Middle East, Africa, North America, Australia, New Zealand, Singapore, Philippines and UK servicing over 8000+ customers.

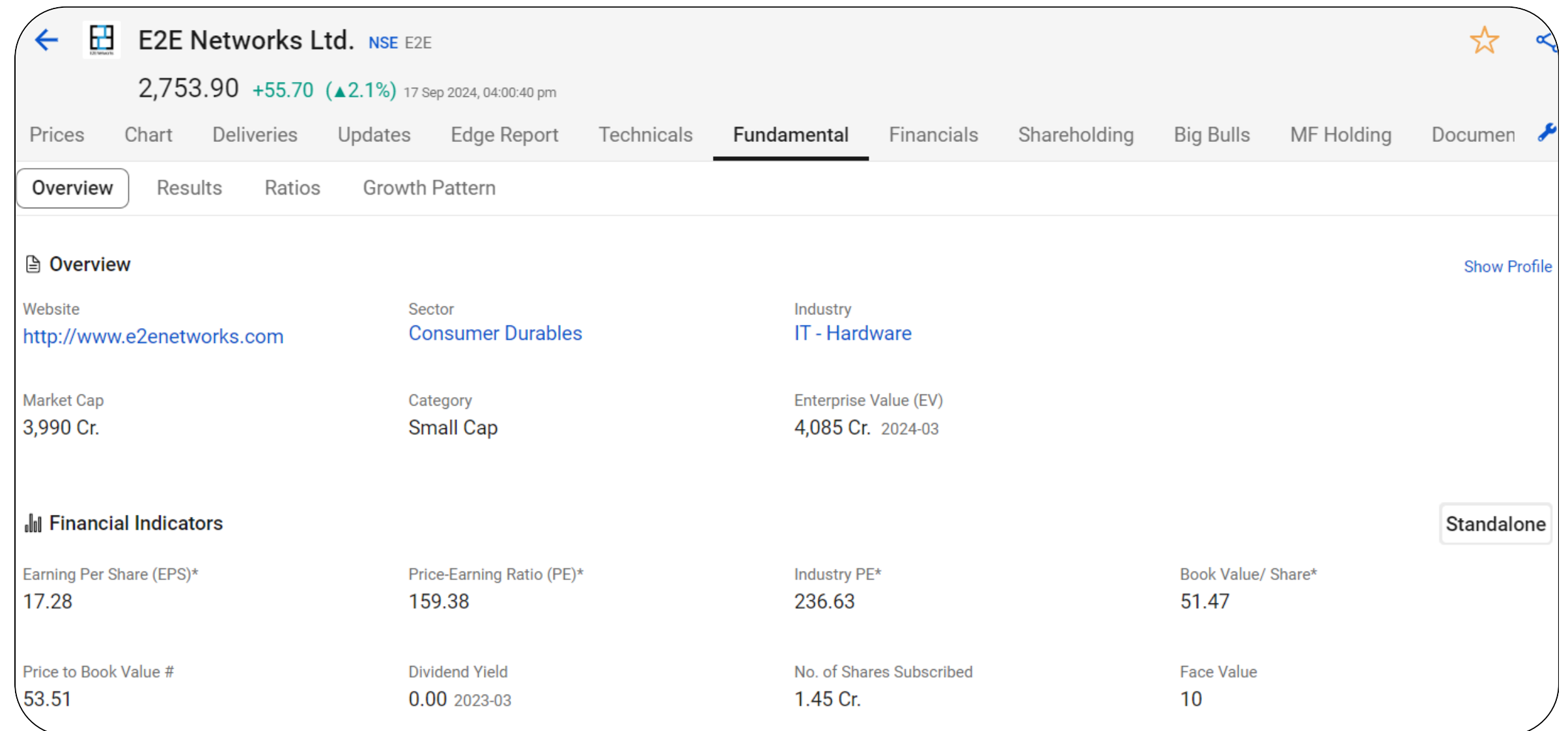


- 86% revenues come from System Integration: Offerings under this segment include Unified Communication, Data Center & Edge IT, Cyber Security, Digital Solutions & Applications, and Seamless Customer Support and managed services.
- In FY24, the company bagged a \$105 Mn deal for Data Center and In-Building 5G/OnGo solutions, a \$21 Mn deal for On Demand and Connected Building solutions, and a few more deals worth \$5 Mn+.



E2E Networks

- E2E Networks is an AI-focused hyper scale cloud platform, offering a comprehensive ecosystem of cloud technologies designed for the development and deployment of AI/ML applications
- Company is planning to expand its capacity for data center facilities taken from one of the Company's vendors at their newly launched data center. The capacity will be increased from 1000 KW to 4200 KW. The capacity will be added in 7 years.



B&K Securities

JM Financial

StockEdge

Avendus

Dam Capital

Thank you

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PS Market Research

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Crisil Ratings

Company Reports