



INFRASTRUCTURE PLANNING REPORT

APAC - MUMBAI



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Iron Mountain Data Centers (IMDC) has compiled this Infrastructure Planner to give you a balanced overview of key colocation markets – their strengths and weaknesses, and the latest issues and opportunities.

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INDIAN INFRASTRUCTURE

2022 to 2028

INDIA colocation capacity is **GROWING**
at a **CAGR** of

>20%

=10M

+ SQFT
of new space

70%

of this growth is forecast to take place in
MUMBAI & CHENNAI

While 14% of the world's internet users live in India, the country only has 6% of global data center capacity. However, after many years of low investment, the Indian data center market is taking off. Data center capacity has grown by over 50% in the last three years and now exceeds 600 MW. This is forecast to more than double by end 2025, and over 400 MW of capacity is already under construction. Total capacity is forecast to be between 1500 and 1700 MW by end 2025.

The vast majority of data centers operate in the major metros; Mumbai, Bangalore, Chennai, Delhi-NCR, Hyderabad, and Pune. Many are still comparatively small. The current growth spurt will deliver many larger and more sophisticated facilities.

MASS MOVEMENT

India is one of the fastest growing digital markets in the world with over 800 million internet users and a rapidly growing number of businesses adopting digital transformation and moving workloads to the cloud. As well as the country's growing Internet user base, growing consumption of mobile data and an expanding cloud market, the rise in the data centre market is being aided by the Indian e-commerce sector which is forecast to quadruple in size to \$350 billion by 2030.

CLOUDBURST

The Indian cloud market grew at an average CAGR of 44% between 2016 and 2021. The world's leading cloud service providers are building fast, and launching high-availability zones, particularly in locations like Hyderabad, Delhi (NCR), Chennai, Mumbai, and Bangalore. Three Availability Zones are being built by AWS in Hyderabad. Microsoft has purchased property in Hyderabad for a new data center region, and Mumbai and Delhi-NCR are Google cloud computing hubs.

GOVERNMENT ACCELERATION

Government measures aimed at driving digital growth include the 'Digital India' initiative and six state-level data center policies; the classification of data centers as infrastructure assets as part of the 2022-23 Budget; and new data localization laws. Data center construction is also being encouraged by a range of financial incentives such as stamp duty exemptions, land cost subsidies, and Goods & Services Tax refunds. This regulatory support further reduces development costs, which are already significantly lower than in mature data center markets.

THE MUMBAI MARKET

Mumbai, with a population 18.4 million, is the financial and business capital of India, generating over 6% of the country's GDP. It is also far and away the largest and most established data center market, with the most advanced and diverse power and fiber infrastructure in the country. Mumbai currently provides almost half of all data center capacity and will account for the largest share of the current supply pipeline. Because it is the financial capital, the city is also a hub for numerous industries including media, entertainment, and e-commerce. These industries generate large amounts of data that need to be stored securely and accessed quickly.

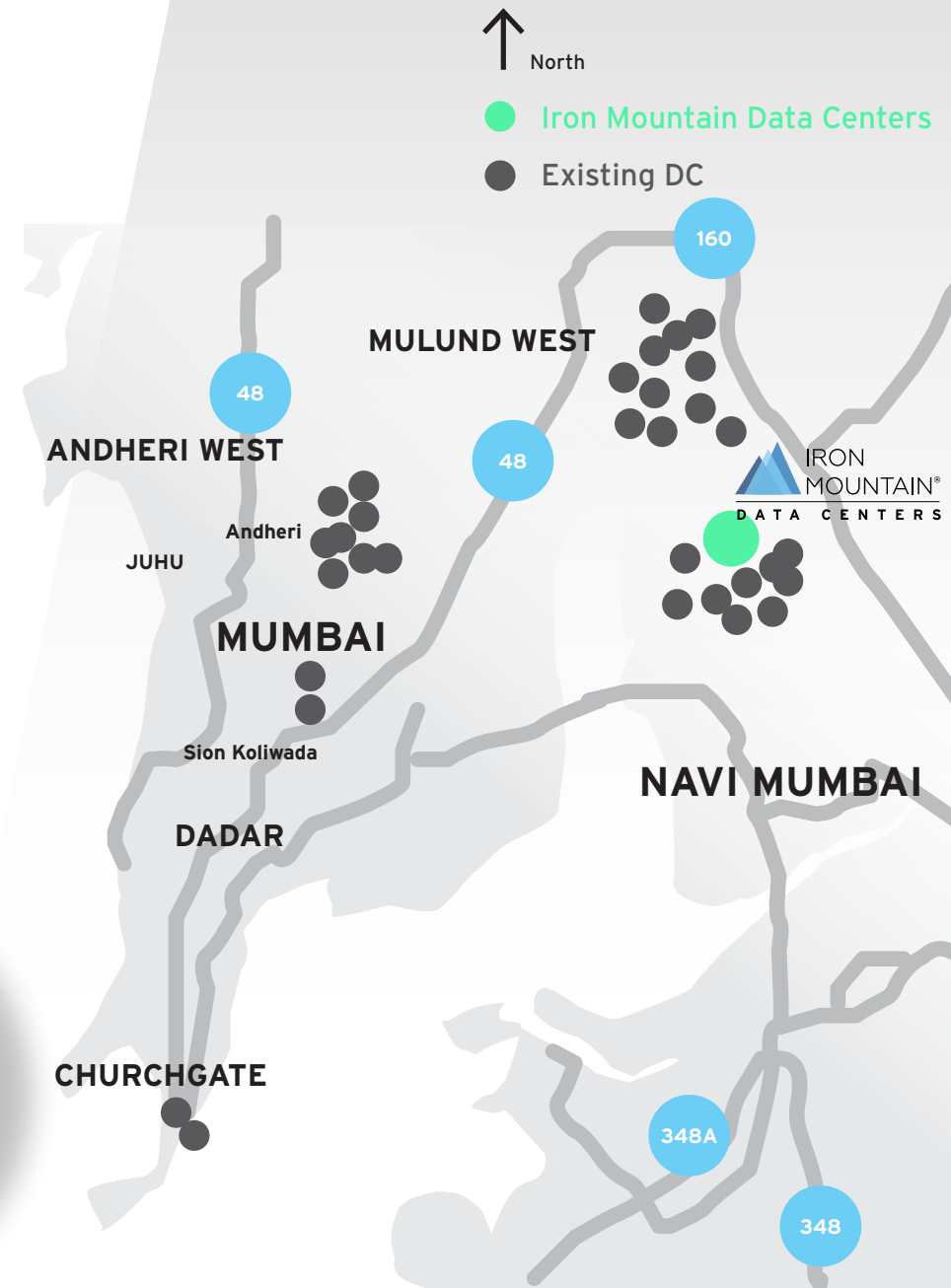
DISASTER RISK

While the risk of natural disasters is relatively high in India, Mumbai is comparatively secure, and is categorized as Seismic Zone 3 (moderate damage risk zone).

DATA CENTER DISTRIBUTION

There are two main clusters of data centers in Mumbai. One is in the city center, where facilities tend to be older and smaller. The other is in Navi Mumbai, the fast-growing planned city on the mainland side, which spans the Thane and Raigad districts.

Navi Mumbai is where the majority of data centers and the current large-scale developments are taking place, as there is more available space, it is closer to subsea cable landing sites, and the power and transport infrastructure are more advanced.



ISSUES & OPPORTUNITIES

There are a number of important drivers of data center development in Mumbai, and consideration should be given to the active roles being taken by national and regional governments, as these are having a much greater effect on data center deployment and design than in more mature markets

INCENTIVES

Maharashtra region offers data center operators and their customers a range of incentives which bring development and running costs down. These include stamp duty exemption, electricity duty exemption and refunds on VAT. Combined with subsidised power and fuel prices, the current regulatory climate in Mumbai makes it a financially attractive area for colocation.

DIGITAL INDIA

'Digital India' is the Indian Government's high-profile program to turn the country into a 'digitally empowered society and knowledge economy'. It includes plans to digitize public services, many of which (health, education) are already being implemented. And it requires reliable large-scale data centers and support services including IoT and big data analytics, promoting new capacity which can be leveraged by enterprises. Tier 2 data center locations often lack adequate infrastructure for development, so their growth is still slow. The bulk of these new larger data centers are being established in Mumbai, where demand and capacity are highest.

DATA LOCALIZATION

India's 2019 Personal Data Protection Bill proposed restriction of data flows out of the country, limiting physical data storage and processing to the country of origin. While the Bill has been temporarily withdrawn for better integration with the emerging regulatory framework, it is likely to be reimposed, resulting in strong and consistent demand for in-country storage and compute power.

SUSTAINABILITY

During 2022, extreme weather events were recorded in India during 80% of the year, underlining how much India is already suffering the effects of climate change. According to the United Nations Intergovernmental Panel on Climate Change, India will continue to suffer more frequent and intense extreme weather events in the coming decades, making sustainable design and construction and operation, as well as resiliency, critical factors for data center owners and users.

To support India's COP26 pledge to reach net-zero emissions by 2070, new infrastructure will need to be efficient, low impact, and renewable-powered, and the Indian Green Building Council (IGBC) data center guidelines, as well as international standards such as LEED and BREEAM, will be critical in reduce embodied carbon and encourage operational efficiency. Currently just over 20% of data centers are LEED-certified.





POWER & INTERCONNECTIONS

Mumbai offers the most diverse local and long-distance interconnection in India, and a growing renewables market. Both are critical factors in operator and user site selection.

GLOBAL CONNECTIONS

14 intercontinental subsea cables land in Mumbai - the highest number of cable landings in the country. They run to Singapore, Hong Kong and Southeast Asia, China and Japan in the north, Australia in the south, and the Middle East, Southern Europe and East Africa to the west. Key cables include GBICS, EIG, FALCON, SEA-ME-WE-3,4, AAE-1, BBG, FEA, IME-WE. Half a dozen new cables are under construction, most of them landing in the next year.

CLOUDS & EXCHANGES

Every major cloud provider is investing in availability zones in the key Indian metros. One of Mumbai's major attractions as a data hub for businesses, clouds and consumers is the presence of a good selection of Internet Exchanges for traffic peering. These include DE-CIX Mumbai (formerly Mumbai-IX), currently the largest Internet Exchange Point in Asia Pacific by member network numbers. Mumbai is also a key location for the National Internet Exchange of India (NIXI), Extreme IX, and AMS-IX India.

RENEWABLES CAPACITY

India's GHG emissions are the third highest in the world, and India's installed renewable energy capacity is 175 GW, slightly over 40% of the country's total capacity. Solar power leads, followed by large-scale hydro and wind. Renewables capacity growth is accelerating fast, with excellent potential to power digital growth and operations. At COP26 India committed to generating 500 GW of carbon-free energy by 2030, the world's largest national renewables expansion plan.

IRON MOUNTAIN DATA CENTERS IN MUMBAI

IMDC and Web Werks, India's leading managed hosting and cloud solutions provider, operate two facilities on a 5.5-acre campus in Navi Mumbai. The campus is located on top of many of the city's international subsea cables and has diverse power supplies for guaranteed redundancy. It has excellent road and public transport infrastructure and domestic and international airport access, with a new metro and an international airport under construction.

MUM-1



In 2020 IMDC partnered with Web Werks, to upgrade and expand MUM-1, one of India's busiest and most successful data centers. This Uptime Tier 3-designed 4,600 m²/ 50,000 ft² facility offers 4 MW of total power and houses a an 850-strong customer ecosystem.

Customers have convenient in-house access to 9 carriers, 160+ ISPs and four major Internet Exchanges: AMS-IX, De-CIX, Extreme IX and NIXI

The facility also offers direct cloud connects to AWS, Microsoft Azure, Oracle and Google.

MUM-2



Our Mumbai campus offers significant room for growth, so we constructed a second data center next door to MUM-1. Opened in February 2023, MUM-2 is a 9,300 m²/100,000 ft² facility with 10.5 MW of total power and redundant fiber links to the MUM-1 facility for no-latency ecosystem access.

REST OF INDIA

IMDC and Web Werks also own and operate data centers in Bangalore, Delhi-NCR, Hyderabad and Pune.



ABOUT IRON MOUNTAIN DATA CENTERS

Iron Mountain Data Centers operates a global colocation platform that enables customers to build tailored, sustainable, carrier and cloud-neutral data solutions. As a proud part of Iron Mountain Inc., a world leader in the secure management of data and assets trusted by 95% of the Fortune 1000, we are uniquely positioned to protect, connect and activate high-value customer data. We lead the data center industry in highly regulated compliance, environmental sustainability, physical security and business continuity. We collaborate with our 1,300+ customers in order to build and support their long-term digital transformations across our global footprint, which spans three continents.

[IRONMOUNTAIN.COM/DATA-CENTERS](https://www.ironmountain.com/data-centers)

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