Powering India's **AI Ambition**

Building a scalable and sustainable compute infrastructure

SEPTEMBER 2026

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Foreword

Over three decades, India built one of the world's largest technology economies—by becoming a global hub for IT services, bringing more than a billion people online and building digital public infrastructure at population scale. Those waves were mutually reinforcing: talent enabled digitization; digitization created platforms, users and data; cloud allowed them to scale. India already generates nearly 20% of the world's data but hosts only ~3% of global data-center capacity. In some ways, the success of India's digital economy has run ahead of the infrastructure enabling it. AI will now turn compute from an enabler into critical infrastructure. As intelligence becomes embedded in applications, enterprises and public services, competitive advantage will require access to power, GPUs, and connectivity. India has a once-in-a-generation opportunity to shape these AI infrastructure foundations

India is beginning to close the gap at remarkable scale. As the report finds, India's first 1.5 GW took nearly 2 decades to build but with more than $100 billion of investments committed by hyperscalers, colos and domestic companies, data-center capacity in India is estimated to reach to 6–8 GW by 2030. But the bigger opportunity is not simply the gigawatts—it is also in the ecosystem India builds beyond the facility. Investment will create demand across electrical equipment, advanced cooling, construction, renewable power, storage and connectivity. The targeted build-out through 2030 could potentially generate $140–200 billion of economic output.

How India builds this capacity, and what it enables will matter just as much as how much it builds.

Today, only 30-35% of data-center build spending is captured by Indian suppliers - creating an opportunity to deepen domestic capabilities and retain more value. And with most of the projected 2030 capacity yet to begin construction, choices being made now on renewable power and storage, water-efficient cooling, land use, low-carbon construction, waste and pollution control - will shape the sector's footprint for decades. This will require time-bound sustainability targets, accountability, policy interventions and strong governance guiding progress.

Further, in-country infrastructure has value only when enterprises can use it with confidence at scale. As AI moves from experimentation to production, requirements across sectors will differ.

The report lays out 25 dimensions across 5 core needs that data center operators can use to decode enterprise infrastructure needs across sectors: control and choice; transparency and compliance; security and trust; performance and resilience; and commercially viable economics.

India's opportunity is, therefore, bigger than adding gigawatts. It is about what India builds around them, what enterprises build on them, and how much of the resulting value India captures. This is the largest technology investment supercycle ever recorded. India will host a large piece of it either way. What India ends up owning of it is still open - and is being decided in months, not decades.

Rajiv Gupta
Managing Director & Senior Partner, BCG

Sudhanshu Chawla
Managing Director & Partner, BCG
APAC Digital Infra Co-lead

Foreword

India has never been short of ambition. What defines this moment for us is the speed at which our ambition is turning into capability, and intent into action.

We have done this before. Aadhaar, UPI, e-Shram — a decade spent proving that public infrastructure could be digital, and that rails built for a billion people would hold. The question now is whether we can do the same for intelligence.

India generates close to 20% of the world's data and holds about 3% of the world's datacenter capacity. That gap is the opportunity, and it closes only through execution.

On August 6, 2026, Microsoft's India South Central datacenter region in Hyderabad went live with three availability zones — this is our fourth cloud region in the country and a big milestone in a longer commitment: $20.5 billion is being invested in India's cloud and AI future, strengthening the infrastructure foundation that will accelerate AI adoption across one of the world's most dynamic and innovative economies.

But AI readiness is not defined by compute alone. It is what happens when scale, skilling, sovereignty, security and sustainability arrive together. Capacity without skills is a stranded asset. Capacity without sovereignty and security is a capability that Indian institutions cannot responsibly use. We committed to equipping 20 million Indians with AI skills by 2030; 10+ million have already been trained so far.

And that's what this report confirms. We asked BCG to examine the ecosystem; what they find is infrastructure behaving less like a facility and more like a foundation. Every dollar spent in India building this capacity returning roughly 3.5x in economic output, and every dollar spent running it about 2.7x - travelling outward into power, construction, cooling, connectivity, and into careers that did not exist a decade ago. As most of India's capacity is still to be built, we have a rare chance to set the benchmark for how it is built, rather than inherit someone else's.

That is the work ahead, and it is bigger than infrastructure. It is every organization becoming a Frontier Firm or an AI-forward enterprise. Every developer and entrepreneur, across India, having the tools to build. More people and communities inside the opportunity rather than outside it.

India will help decide how AI scales for the world. We intend to build alongside it.

Puneet Chandok
President, Microsoft India & South Asia

Executive Summary (I/II)

AI is making compute the next strategic infrastructure

- **Global AI adoption is accelerating rapidly,** with >40% of large enterprises already scaling AI and ~45% expecting to increase AI spending; as adoption scales, **agentic AI could add 0.5–1.0 percentage points to IT spending as a share of global GDP**
- **Scaling AI adoption is driving the need for large-scale data-center infrastructure,** which in turn requires substantial expansion in **power availability and high-capacity connectivity**
- Global data-center capacity is expected to reach **~240 GW by 2030, growing at ~22% CAGR over 2025–31 with AI workloads accounting for ~50%** and requiring **~$3 Tn of investment**
- As AI scales, infrastructure availability will increasingly determine how quickly countries and enterprises can adopt AI, making **Data Centers a strategic asset**

India has structural advantages to emerge as a major compute hub

- India is emerging as one of the major Data Center hubs in the world. DC capacity is expected to grow at **~35% CAGR to reach 6-8 GW IT load by 2030, supported by $100B+ in committed investment**
- India's growing 1 billion+ internet users, large IT-services and GCC industry and long term presence of global hyperscalers provide a massive and sticky domestic demand base for AI compute
- India can build AI infrastructure at scale given **fastest time-to-power** globally, along with a huge **290GW installed renewable energy** base distributed across the country over a unified national grid and strong **domestic to international fiber connectivity**
- India's strategic position at the crossroads of East–West internet traffic—supported by **17 international subsea cables** providing direct connectivity to the Middle East, Southeast Asia, Europe and East Africa—combined with an increasingly **investor-friendly policy environment**, strengthens its attractiveness as a hub for hosting global workloads

In-country Data Centers can support regional socio-economic momentum

- **Data Center buildout could catalyze wider socio-economic flywheel beyond the facility to the** wider domestic ecosystem of construction, cooling, telecom, power and electrical industries
- Targeted 6–8 GW DC buildout by 2030 could generate **~$140–200B of economic output, i.e., ~3.5x of the capital investment flowing into India's domestic supply chain.** Further each GW of operational DC capacity could generate ~$2.2B in annual economic output
- India has **an opportunity to increase domestic value capture** by localizing equipment supply chain and building export grade manufacturing facilities for cooling, pre-fab and electrical equipment
- **2/3rd of DC operators worldwide report talent shortage,** India generates **1.5M engineers annually,** which can be skilled on **DC ecosystem roles** to serve global demand needs, widening job pool for Indian youth
- Data centers can also create a **hyper-local regional development effect,** particularly in newer hubs through penetration of reliable power, fiber and network infrastructure - catalyzing new IT/enterprise, residential and commercial development around them

Source: JLL Global Data Center Outlook 2026, Microsoft company news, MoSPI, Ministry of Electronics & IT, TRAI, BCG Data Center Model, BCG Analysis

Executive Summary (II/II)

India has the opportunity to build sustainable infrastructure capacity

- To realize and sustain socio-economic potential from data center, India can lay out a roadmap towards building responsible AI Infrastructure – **addressing concerns on power and water sourcing, land use, construction, waste management, pollution**
- A **strong governance framework** based on the core principles of measurability, accountability and disclosures is critical for ensuring implementation of sustainability norms in the country
- With most of the projected 2030 capacity yet to begin construction, India has **the opportunity and resources to demonstrate sustainability in action** and set a global benchmark

Trusted, flexible AI and digital infrastructure will drive enterprise adoption

- As AI scales from pilot to production, **enterprise compute requirements vary significantly by use case, workload type and data sensitivity.** While regulated and public-sector enterprises prioritize control, transparency and compliance, digital-natives place greater weight on performance and commercial value
- Data center operators can design their facilities and service offerings across **25 dimensions to address five critical needs of Indian enterprises:** control and choice across the data & AI stack; transparency and regulatory compliance; security and trust across data and systems; performance and resilience at production scale; and commercially viable economics.

India has strong AI momentum so far; the next wave is to scale AI and derive value

- **India is a rising AI contender,** supported by its growing AI ready workforce, digital public infrastructure, policy momentum and growing enterprise adoption
- Overall AI adoption stands at 17.6%, broadly in line with the 17.8% global average, while AI usage across **desk-based roles is significantly higher at 92% vs. 75% globally**
- India's next imperative is to move from AI pilots to large scale deployment, enabled by in-country infrastructure capable of supporting diverse workloads and industry needs—critical to **unlocking the ~$1Tn GDP opportunity from AI adoption by 2035** as projected by NITI Aayog.

Source: Microsoft AI Diffusion Report Q1 2026, NITI Aayog, Microsoft Company News, press search, Gujarat Govt. Report

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INDIA'S JOURNEY

From Technology Adopter to Technology Backbone

From IT Services to Digital to AI Leadership
The Evolution of India's Technology Stack

India's AI Advantage
Infrastructure to Power Global AI Growth


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India has Solid Foundations to Emerge as an AI Leader

Globally, technology has evolved from connectivity to cloud to AI

Over the last two decades, each major technology wave has built on the foundations created by the one before it. The 2000s were shaped by internet and mobile connectivity, which **brought users and businesses online at scale.** The 2010s saw the rise of cloud, SaaS and digital platforms, **allowing applications and data to scale rapidly** without being tied to enterprise-owned infrastructure.

The current wave is **increasingly AI-led, with** intelligence being embedded directly into applications, business processes and digital services. Further, advances in foundational models are changing how software is built and consumed.

This evolution has progressively deepened the technology stack that spans connectivity, compute hardware, data centers, cloud, data platforms, AI models and applications. As AI adoption scales, technology leadership will depend not only on strength at the application layer, but also on **having the underlying infrastructure required to support growing volumes of compute and data.**

India's evolution from digital foundations, journey towards AI leadership

India's technology stack has strengthened progressively over the last two decades, moving from **IT services leadership and connectivity-led digital access** toward a broader domestic digital ecosystem. The **recent transition is increasingly AI-led**, with each layer of the stack evolving to support higher levels of compute, intelligence and automation.

Tech-enabled services: India's IT-services leadership evolved into global GCC leadership. AI is now reshaping coding, testing and business processes, setting the stage for AI-led transformation through platforms and agents.

Applications and SaaS: Web applications evolved into a scaled SaaS ecosystem and, increasingly, AI-integrated copilots and automation. Applications are now moving toward agentic workflows.

Foundational AI models: India progressed from predictive AI to deep learning and is now developing its own AI models. The next frontier is multilingual, multimodal LLMs tailored to Indian needs.

Data platforms: Indian platforms have evolved into population-scale digital public infrastructure such as UPI and Aadhaar. Cross-sector DPI expansion is creating the foundation for AI-ready digital ecosystems.

Cloud services: Enterprise-owned infrastructure gave way to scaled public cloud adoption. Sovereign cloud, in-country compute, GPU-as-a-service and inference-as-a-service are now shaping the next phase.

Data centers: The market has shifted from captive enterprise facilities toward hyperscaler and colocation-led capacity. AI is accelerating GPU-centric, liquid-cooled build-outs, with India emerging as a front-runner to become a compute hub for the Global South.

Compute hardware: From dependence on imported PCs and telecom equipment, India has built significant electronics and mobile assembly capability. Semiconductor design and manufacturing are now emerging as the next strategic layer.

Connectivity: India drove a strong mobile internet adoption push with affordable 4G and fiber-led access, followed by rapid 5G rollout. The next phase is stronger fiber backbone and subsea connectivity to support global-scale digital traffic.

Source: Microsoft AI Diffusion Report Q1 2026, JLL Global Data Center Outlook 2026, Gartner, IDC, Microsoft company news, Ministry of Electronics & IT, BCG Data Center Model, PIB, Google company news

India's Journey from IT Services to Digital to AI Leadership

India has progressively strengthened its digital stack over the last decade, with the next wave being AI-led

	Digital foundations 2000s	Scaling the digital stack 2010s	AI Integration 2020s	AI Leadership 2030s and beyond
TECH-ENABLED SERVICES	**World's IT services hub,** ~15% of global market share	**GCC capital of the world** Digitization of IT services	**AI reshapes service** development, testing & BPO	**AI-led transformations** AI platforms and agents
APP/ SAAS	**Software moves to web** enterprise apps	**Apps go mobile** SaaS scales (250+ companies[1])	**AI-integration in apps** copilots, automation	**Apps go agentic,** AI executed workflows
FOUNDATIONAL AI MODELS	**Predictive AI emerges** risk, recommendations & forecasts	**Deep-learning scales** AI goes visual and speech	**Sovereign LLMs emerge** (India AI Mission)	**Scale sovereign AI** multilingual, multi-modal LLMs
DATA PLATFORM	**Enterprise systems digitize** (CRM, ERP)	**Internet Platforms Emerge** Ecommerce/fintech/Marketplaces	**DPI reach population scale** UPI>240B Txns, Aadhaar>1.40B IDs	**AI-ready digital ecosystems** Open protocols + AI led Txns
CLOUD SERVICES (IaaS)	**Data on-premise** Enterprise owned	**Public cloud services scale** Hyperscaler cloud	**Sovereign Cloud shapes** data/model residency	**AI-evolves cloud model** GPU-aaS, Inference-as-a-service
DATA CENTERS	**Captive server halls** 85%+ large enterprise owned	**Hyperscalers setup Infra** Cloud migration	**AI Infrastructure accelerates** GW campuses, GPU-centric	**India as compute hub** for the global south
COMPUTE HARDWARE	**India imports hardware** PC, telecom equipment	**Local electronics assembly** mobile and localized assembly	**Semiconductor takes shape** Design and manufacturing	**India AI Compute** C-DAC, ISM, Server assembly
CONNECTIVITY	**Mobile internet takes off** 3G arrives, PC-> Mobile	**Affordable 4G & fiber** democratizes Internet usage	**5G reaches national scale** 99%+ districts coverage	**Global connectivity deepens** Edge to subsea connectivity

Nascent adoption, largely imported | Scaled adoption, emerging local capability | Strong domestic ecosystem | Globally competitive and leadership

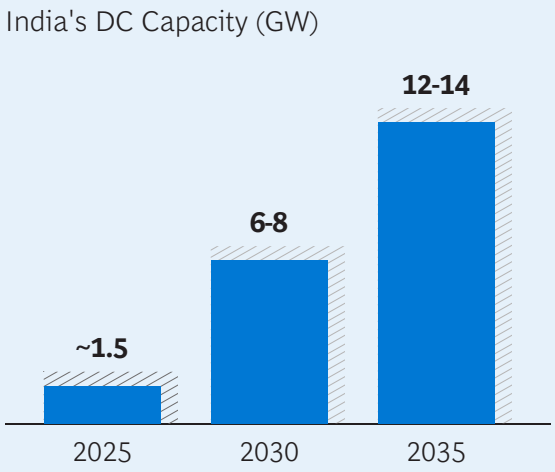
1. Firms with $10m+ ARR

Source: Gartner, IDC, BCG DC Demand Supply Model, PIB; NASSCOM, IBM, Economic Times, JM Financial IndiaAI, Business Standard, CIOL, DGCI&S, CMR, BCG Analysis

Building the Backbone of India's AI Future

As domestic cloud and AI demand scales, India will need to build secure, trusted in-country infrastructure capable of hosting its growing data and compute workloads

India's Data Center capacity is expected to grow 8x by 2035



$100B+ committed investments across Hyperscalers, Colos and Indian conglomerates

India's physical infrastructure and large domestic demand are supporting large-scale data center buildouts

Massive near-term demand: 1 billion+ internet users generating ~20% of the world's data, making India among the largest data-generating markets globally. Rising 5G penetration is extending AI into gaming, media and financial services, while data-residency requirements keep a substantial share of this workload onshore — creating a domestic demand base that is both large and sticky.

Strategic geopolitical position: India sits at the crossing point of East–West internet traffic, served by 17 international subsea cables that provide direct reach to the Middle East, Southeast Asia, Europe and East Africa. Coupled with a stable geopolitical environment, India is expected to emerge as a regional hub—serving traffic and workloads well beyond domestic demand.

Faster, greener power availability: A unified national grid and more than 5 lakh circuit kilometers of extra-high-voltage transmission give operators faster access to scalable power. Installed renewable capacity stands at 290+ GW against a 2030 target of 500 GW, drawn from a diversified mix of solar, wind and hydro, allowing operators to secure lower-carbon supply as capacity expands.

Investor-focused policy framework: Infrastructure status gives data center projects access to long-tenor debt, and the sector permits 100% foreign direct investment. Tax holidays extend to 2047, while state-level incentives cover land, capital expenditure, power and State Goods and Services Tax, in several cases linked to sustainability commitments. Dedicated AI parks provide further site-level support and optimize for local disruption.

Deep execution ecosystem: India has more than 5.8 million technology professionals, and about 1.5 million engineering graduates annually – creating a wider pool for Data Center talent. Two decades of infrastructure delivery have produced a mature domestic contractor base — engineering, procurement and construction, mechanical, electrical and plumbing, and general contracting — that operators can draw on for construction and fit-out.

Source: Press releases, CEA, TRAI, Microsoft, Ministry of Finance, Income Tax India, MEITY, BCG DC Supply Demand Model, EY, PIB, Maharashtra Govt., Invest India, NASSCOM, BCG Analysis

India's Demand and Connectivity Edge

India's strategic connected location combined with large domestic demand is supporting large scale data-center build-outs for AI workloads

Growing enterprise adoption of digital & cloud is translating to large & sticky domestic demand for data centers

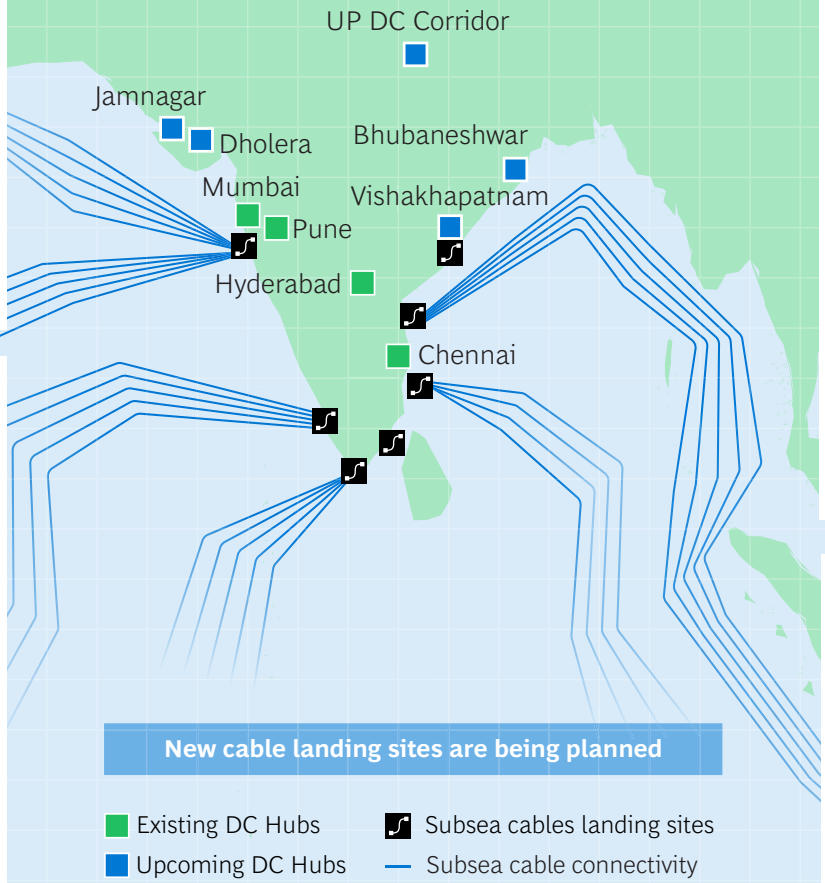
Indian enterprises are moving from experimentation to scaled deployment: 40% report significant or full AI usage, while 94% expect AI spending to increase over the next year. Public-cloud spending is forecast to reach US$17.5Bn in 2026, growing 28%, with IaaS growing 40%. As enterprise workloads become more data- and compute-intensive, demand for secure, scalable and low-latency domestic datacenter capacity can continue to rise.

Massive digital-user base is already outpacing the domestic infrastructure available to support it.

1 billion+ internet subscribers, generates nearly 20% of the world's data, but host only ~3% of global datacenter capacity.

This imbalance indicates that infrastructure supply has not kept pace with consumption, creating substantial headroom as digital services, cloud adoption and AI workloads continue to expand

India benefits from the existing long-term presence of hyperscalers. For example, Microsoft now operates AI and digital infrastructure across 4 cloud regions in India and 2 datacenter regions in partnership with Jio.



Subsea connectivity paired with a dense domestic backbone extends low-latency connectivity from international gateways to users nationwide

Subsea cable connectivity links India to major international markets such as Middle East, Southeast Asia and Africa allowing India to serve global demands. According to TRAI, India has 17 international subsea cables across 14 landing stations across 5 cities – Mumbai, Chennai, Cochin, Tuticorin, Trivandrum.

In addition to these a number of new cable landing stations are planned to come live such as Vishakhapatnam, Jamnagar, Bhubaneshwar, Kolkata, etc. which will open new hubs in India for building globally connected AI Infrastructure.

A strong domestic optical fiber backbone of more than 4.2 million route kilometers carries that connectivity inland to enterprises and users across the country. The combination supports latency-sensitive AI workloads, particularly inference and real-time serving, rather than confining low-latency delivery to coastal landing points.

Source: PIB, IRENA, TRAI, CEA, Gartner, Deloitte, NASSCOM, Ministry of Power, Google Cloud, Press search, Invest UP, JLL, Microsoft, Gujarat govt., Company sites, BCG Analysis

India's Power Advantage Fueling Buildouts at Scale

India has one of the fastest times-to-power with high renewable generation potential to absorb incremental Data Center energy demand

India's scale in renewables combined with unified national grid, makes power available where demand emerges

India's power generation is expected to be 2–3% above projected requirements by 2030, providing sufficient capacity to keep pace with rising demand, as the world's third-largest installed renewable base expands from ~290 GW today to 500 GW. Planned addition of 900–1,000 TWh of generation and ~INR 9 lakh crore of grid investment will further strengthen supply, with the national grid enabling power to move from power generation centers to data-center hubs across the country

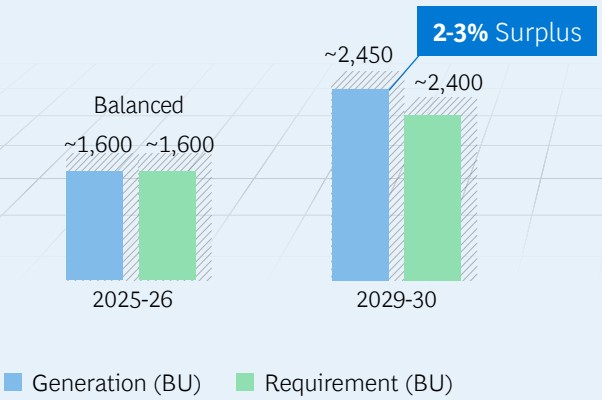
India's power infrastructure can absorb rapid data-center growth

Data centers account for ~1% of India's electricity demand today and are expected to drive up to 10–15% of incremental demand through 2030, versus 40–45% in the US. Further, a synchronized national grid limits concentrated generation pressure in any one region and allows data-center growth alongside commercial, residential and industrial power demand

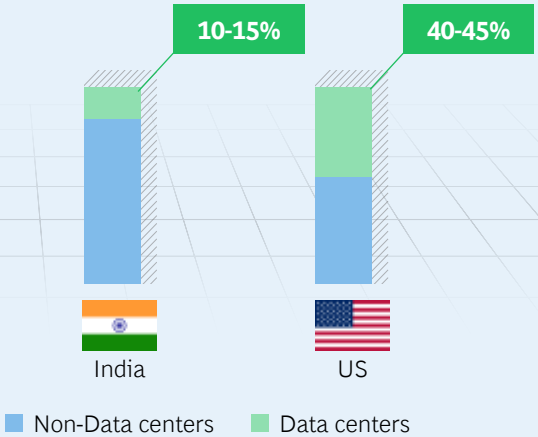
India's energy-sector maturity enables one of the fastest times-to-power globally, alongside a strong cost advantage

New data-center sites can secure power in ~1–2 years, while connection timelines are materially longer in mature markets, reaching ~10 years in the Netherlands, ~5 years in the UK and ~4 years in the US. India also offers one of the world's lowest power tariffs, strengthening its attractiveness for new data-center capacity.

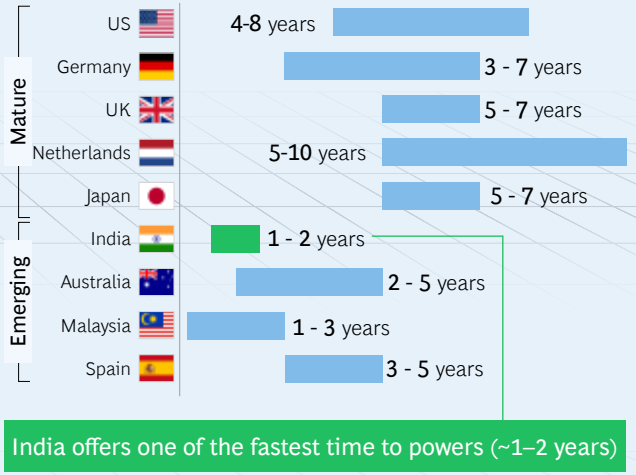
India's Power generation vs requirement (Bn Units)



% of incremental power demand by type of use (2025-2030)



Time to power across key DC markets in the world (in years)



Source: PIB, Ministry of Power, Berkeley Lab report, NITI Aayog, EIA, CEA, TERI, JLL DC Market Outlook, BCG Analysis

India is Actively Developing a Policy Ecosystem

Policy support can strengthen India's data-center ecosystem across investment, demand, approvals and sustainability

India's DC ambition supported by 5 key dimensions of policy support

01 Demand Orchestration

Data residency & cloud procurement policies can create domestic demand

RBI, IRDAI mandate local residency of critical data

Government cloud procurement prefers MeitY-empaneled providers hosting data in India

02 Investment Attraction

Long-term fiscal policies de-risk large capital investments

A tax holiday has been announced until 2047 for foreign cloud providers setting up Indian DCs, anchoring multi-decade investor commitments

Capital, land, power & interest subsidies and SGST reimbursement improve project IRR, creating attractive investment opportunity

03 Ease of doing business

Infrastructure status for DC improves access to capital, utilities and approvals

100% FDI without prior approval and infrastructure status for long-tenor debt widen the capital pool funding domestic DC capacity

Single-window clearance implementation could further improve delivery timelines

04 Sustainability

Green power access supports sustainable, large-scale AI capacity

Gujarat and Maharashtra mandate up to 51% green power for DC, tied to incentive eligibility. Open access PPAs, RECs and green tariff routes with surcharge waivers[1] give operators multiple low-cost green power pathways

Measurement, transparency & accountability could further strengthen governance towards sustainability

05 Framework and Clarity

Clear, neutral policy frameworks enable transparent governance

10+ large states have notified DC policies offering transparency, policy neutrality and clarity on investment and incentive periods

MeitY National DC Policy currently under draft can provide a consistent rulebook across states, addressing key standards across Data Centers in India

Rating Scale

- Comprehensive — Notified and operational at scale
- Notified — Coverage and outcomes yet to be tested
- Emerging — Not yet operational at scale

Policy support accelerates DC investments globally

Australia directs government compute demand to certified providers

Argentina's "Super RIGI" cuts income tax to 15% with zero import/export duties from day one

Malaysia cuts time to grid from 36–48 to 12 months via TNB's Green Lane Pathway, with MIDA as single approval authority

Germany sets sustainability standards for DCs, requiring new facilities from Jul-26 to achieve PUE ≤1.2

Netherlands' National Spatial Strategy Framework is a coordinated, centrally-issued framework that sets out where hyperscale data centers can be established

1. Under Green Energy open access rule

Source: MeitY, PIB, Invest UP, NEGD, Invest Telangana, RBI, IRDAI, DPIIT, NSWS, BIS, Australian Govt., TNB, German govt., Dutch govt.

02

THE INDIA OPPORTUNITY

Unlocking Value Through In-Country Data Centers

The Economic Opportunity
Data Centers as an Ecosystem Multiplier, Unlocking Economic Output Potential

The Social Dividend
Driving demand for AI & Digital-ready Talent

The Strategic Dividend
Strengthening India's Long-term Digital Value

The Sustainability Pathway
Scaling AI and Digital Infrastructure Responsibly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Large Scale Data Centers Buildout could Potentially Catalyze a Wider Economic Flywheel Beyond the Facility Footprint Itself

India is witnessing once in a generation buildout of large –scale data-center capacity, which has generated significant demand across construction, power, cooling, connectivity and IT hardware. At the same time, greater availability of domestic capacity has enabled enterprises, startups and public institutions to build and scale more digital and AI workloads locally. The impact therefore runs in both directions: data centers stimulate a broad supplier ecosystem while also enabling the foundation for further growth in India's digital economy.

Upstream, the first impact is on the industries that build and run these facilities

Some of this demand is visible immediately during construction while some develops more gradually as the market scales.

Electrical and cooling systems: AI workloads are far more power intensive than traditional workloads. That creates a strong demand for transformers, switchgear, UPS systems, chillers and increasingly, advanced cooling solutions.

Construction and engineering: Construction work across land development, civil construction, fit-outs and MEP execution is a critical phase for data center build-outs, generating opportunities in the near term and strengthening India's EPC ecosystem.

Network connectivity: Dense fiber and subsea connectivity are essential to move large volumes of data quickly and reliably. Investments made for data centers can strengthen the wider connectivity backbone for the country and enable deeper AI diffusion.

Power infrastructure and operations: Large facilities need dependable power around the clock, supporting investment in substations, transmission networks, grid upgrades and renewable generation. Once facilities go live, they also create recurring demand for maintenance, monitoring, security and other specialized services.

IT hardware and integration: More capacity means higher demand for servers, GPUs, storage, and networking equipment. Over time, this can support a larger domestic base for service integrators, electronics and semiconductor.

The downstream impact comes from what the new capacity makes possible

Local compute gives enterprises and AI companies more options to host applications, train models and run inference workloads without relying as heavily on overseas infrastructure.

That matters across several parts of the economy. Government can leverage in-country capacity for digital public infrastructure and AI-enabled citizen services. Enterprises in sectors such as BFSI, healthcare, e-commerce, energy and media can scale digital use cases efficiently. AI and SaaS companies gain access to the compute they need for training and deployment of local LLMs and AI solutions, while system integrators and managed-service providers benefit from the additional demand around implementation and support.

Over time, this can create an **economic flywheel.** In-country data-center investment expands domestic compute capacity; that capacity allows enterprises and government to scale more digital and AI workloads; creating wider economic opportunities in the AI industry.

Data centers can also create a hyper-local regional development effect

The penetration of reliable power, fiber and network infrastructure around large facilities can over time make them more attractive for new IT and enterprise hubs, residential and commercial development around them. Skilling & job opportunities for the local youth. E.g., Microsoft's Comprehensive Community Development Program is empowering four villages near Hyderabad to lead their own change. Targeted interventions in education, health, livelihoods and sustainability have been made through the work of inclusive Village Development Committees, which improved the lives of 22,000+ people.

Source: Microsoft

Beyond the Facility: Data Centers Catalyze Wider Domestic Ecosystem

Investment in data-center build and operations creates demand across hardware, power, cooling, connectivity and construction, while enabling cloud, AI and digital services across enterprises and government, expanding domestic value capture, jobs with new skill demand across the wider economy

Not Exhaustive

Upstream Industries

Core Systems in the Fence

Facility Management
Fire safety, security, BMS

Cooling equipment Manufacturing
Chiller, HVAC, Liquid Cooling System

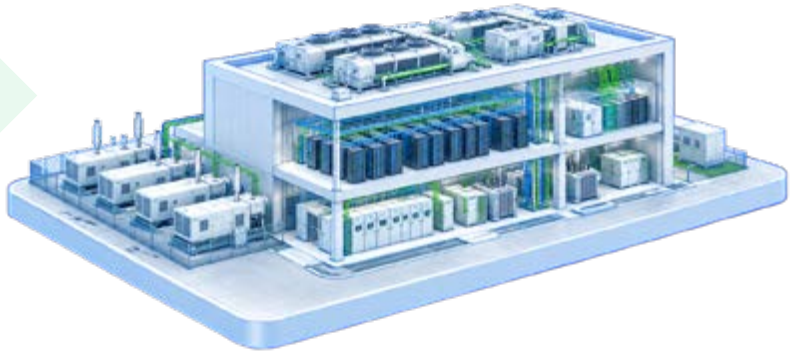
IT Hardware
Racks, Servers, GPUs, storage, memory

Electrical equipment Manufacturing
UPS, transformers, switchgear, DG sets

Structure/Pre-fab
Shell Structure Pre-fabricated steel, pre-assembled units

Network & Cabling
Cables, Routers, switches & transreceivers

Data Center



Upstream Industries

Enabling System Outside the Fence

Design & Construction
EPC machinery, civil design, buildings fitouts

Internet Connectivity
Cable Landing station, Fiber backhaul, dark fiber, optical networks

Power Transmission
Towers, substations

Renewable Generation & Manufacturing
Wind, solar, BESS, Hydro

Downstream Industries

Enabling India's Digital and AI Future

Government and PSUs

Institutions, Enterprises and Startups

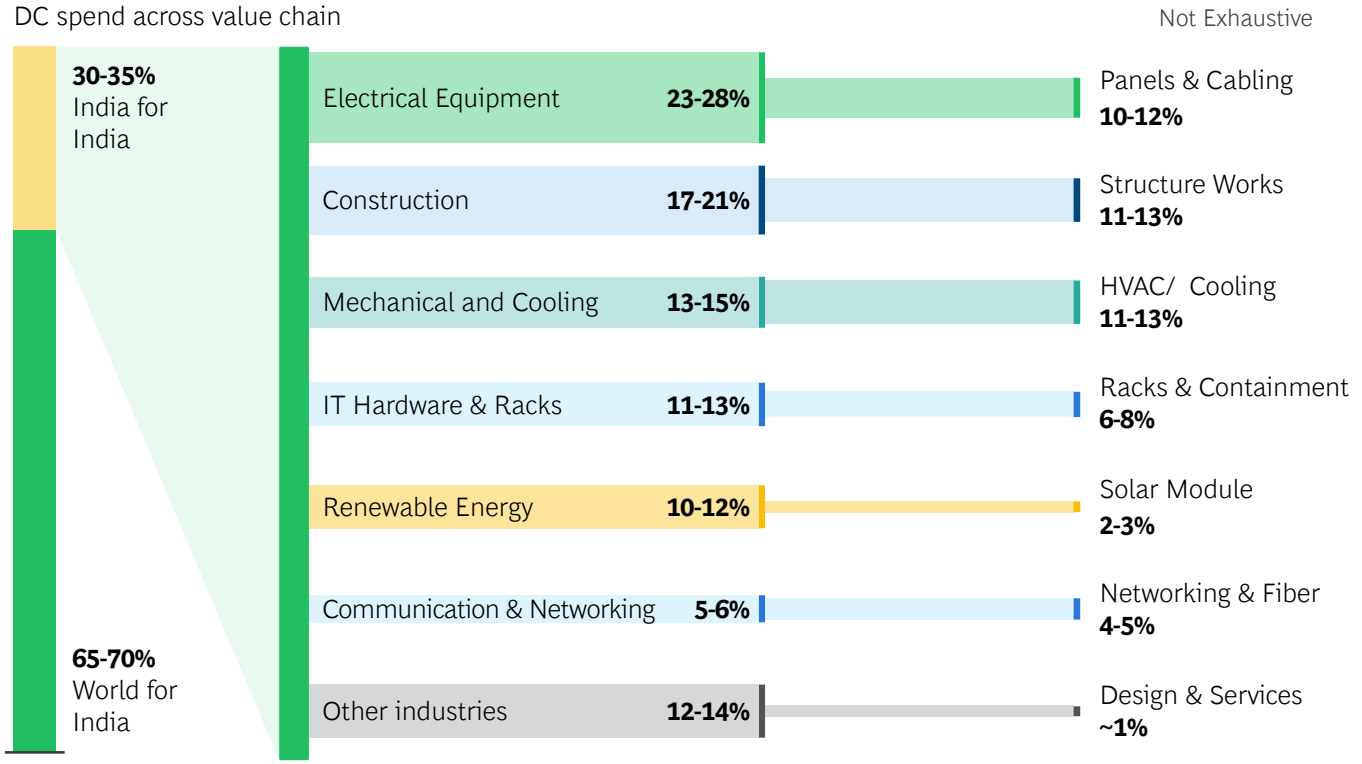
Channel Partners
MSPs, SIs, VARs

The Economic Opportunity: Data-Center Investment Flow across the Entire Infrastructure & Equipment Supply Chain

Data centers generate economic value in two phases: the **build phase**, when capital is deployed to construct the facility, and the **operations phase**, when the site runs and incurs recurring opex. In both, the impact reaches beyond the operator, as much of the spending flows through suppliers, workers and channel partners.

Investments during the build phase create economic activity across the domestic supply chain, 30-35% of build-phase spend flows to Indian suppliers (India for India), going into civil works, mechanical and cooling, electrical, communication and networking equipment and other services. Those suppliers in turn buy raw materials, transport, fuel and professional services, repeating the cycle across vendors and creating a long chain of economic activity. Household spending by employees adds further to the impact.

Strengthening "India for India" capabilities can increase domestic value capture across the data-center supply chain. Over time, capabilities built to serve India's growing market may also scale to address global demand, creating an "India for the world" opportunity across select equipment and services segments.



India has an opportunity to increase domestic value capture by building local manufacturing capabilities across select high-growth data-center equipment segments. Early investments are emerging across advanced cooling, electrical equipment and other critical infrastructure, strengthening domestic supply and creating a foundation for export-ready capabilities over time

Note: Economic output includes direct (activity generated by data center expenditure), indirect (activity generated through intermediary and supplier expenditure), and induced (activity supported by employee wages) impacts arising from data center capex and opex; Two scenarios are considered: Base and Aggressive with 6-8 GW of built during 2026–30; renewable-energy power capex is also considered, Please refer to the methodology section for the detailed approach, key assumptions and model limitations;
Source: MoSPI Supply Use Table 2023–24; JLL India Data Center Report 2026; expert discussions and BCG analysis

Targeted Data Center Buildout by 2030 Could Generate ~$140–200B of Economic Output

Every $1 of capital investment flowing in India's domestic value chain could generate around 3.5x economic output during the build phase. Further each GW of operational DC capacity could generate ~$2.2B in annual economic output

Data centers can create an economic multiplier, first through domestic investment during construction, and subsequently through recurring operational spend over the asset's life.

Build phase | Every **$1 of DC capex captured by India's domestic value chain can generate ~$3.5 of total economic output,** including the original dollar, as investment flows through construction, equipment, power infrastructure and their upstream supply chains within the country. With an estimated **6–8 GW of capacity buildout through 2030, this could translate into ~$140–200B of economic output** for India.

Operation phase | Once operational, data centers pay recurring expenses towards **electricity, connectivity, maintenance, facility management, security, technical services and employee wages** throughout the lifecycle. Every **$1 of this domestic operating spend can generate ~$2.7 of total economic output,** including the original dollar, as expenditure flows through wider economy as maintenance contractors buy parts and services, power suppliers support their own vendor networks, and employees spend their wages locally. **Each 1 GW of operational DC capacity could potentially generate ~$2.2B of economic output annually**—creating a recurring economic contribution that compounds over the life of the infrastructure.

Data Centers could create an initial economic stimulus during construction followed by a recurring stream of domestic economic activity enabled.

~3.5X
Economic output multiplier[1] in build phase

~2.7X
Economic output multiplier[1] in operate phase

$140-200Bn
Economic Output across build phase (2025-2030)

~$2.2Bn/GW
Economic Output annualized across operate phase

1. Blended Type II output multiplier is derived from the MoSPI Supply Use Table using standard Input–Output (I-O) analysis
Note: Economic output includes direct (activity generated by data center expenditure), indirect (activity generated through intermediary and supplier expenditure), and induced (activity supported by employee wages) impacts arising from data center capex and opex; Two scenarios are considered: Base and Aggressive with 6-8 GW of built during 2026–30; renewable-energy power capex is also considered, Please refer to the methodology section for the detailed approach, key assumptions and model limitations;
Source: MoSPI Supply Use Table 2023–24; JLL India Data Center Report 2026; expert discussions and BCG analysis

Social Dividend: Driving Demand for AI & Digital-ready Talent

Talent can be a key differentiator for India in the global data center race. Nearly two-thirds of operators worldwide report difficulty hiring and retaining qualified staff, as technology advances faster than training: AI is redefining how data centers are designed, built, run and utilized, deepening demand for specialist roles while creating new skill requirements. India's large engineering talent base provides a structural advantage to address this gap, with existing skilling programs offering a strong foundation to develop the specialized capabilities the industry increasingly demands

Not exhaustive

01 Key Job Families in Demand

Data Center Supply Ecosystem

Power & electrical
- ▲ HV/GIS, substation & transmission specialists
- ▲ LV/MV electrical specialists
- ▲ Power system integration engineers

Cooling & thermal
- ▲ HVAC/cooling engineers
- ★ Fluid dynamic and material science engineers

Network & connectivity
- ▲ Core network engineers
- ▲ Network architects
- ▲ Fiber optic technician

Systems integration & Software
- ▲ BMS/EPMS/SCADA design engineers
- ▲ Automation and control engineers

Design, Build & Procurement

CSA & MEP design
- ★ CSA/MEP architects
- ▲ Electrical engineers
- ▲ Civil/structural engineers

Development & utility interface
- ▲ Power & utilities interconnection specialists
- ▲ Site selection/planning/ development managers

Procurement & supply chain
- ▲ CSA/MEP procurement managers
- ▲ LLE supply chain managers

Construction/EPC delivery
- ▲ Large capex project managers

QA/QC & commissioning
- ★ DC QA/QC – testing & commissioning managers

Data Center Operations

Facility management
- ▲ Critical-facility engineers
- ▲ Shift managers - Operations
- ★ Retrofit/Design Engineers

Energy and Water
- ▲ Power procurement specialists
- ▲ Water resources managers
- ★ Sustainability/Design efficiency engineers

Network operations
- ▲ NOC/network specialists

Hardware, security & compliance
- ▲ Compute Hardware engineers
- ▲ Advanced Security specialists
- ▲ Regulatory/ESG compliance specialists
- ▲ Cyber security specialist

Commercial Sales
- ▲ B2B enterprise sales

Digital & AI Adoption

Software & AI engineering
- ▲ Software developers
- ★ AI/ML/GenAI engineers
- ★ AI solution architects

Data & analytics
- ▲ Data platform/pipeline engineers
- ▲ Cloud/DevOps engineers

AI products & applications
- ▲ Product managers
- ★ Conversational AI designers

Responsible AI & governance
- ★ Responsible/ethical AI specialists
- ★ AI/Data governance specialists

Frontier AI & research
- ★ AI research scientists
- ★ Foundation-model/advanced AI engineers

02 Skilling Opportunities

Schneider Electric Academies
(220k trained in DC-relevant skills)

L&T Construction Skills Training Institutes
(300k+ workers trained)

Cisco Networking Academy
(3M+ trained in AI/ML, networking, cybersecurity)

Microsoft Elevate India
10M+ Trained with target of 20M+ by 2030

★ Emerging roles ▲ Demand rising for established roles

Source: L&T, Cisco, Microsoft, Schneider Electric, Expert Interviews, Uptime Institute Global Data Center Survey 2025, BCG Analysis

Building India's Long-Term Strategic Digital Value

Beyond economic and social impact, in-country data-center capacity can create long-term strategic value for India by strengthening critical infrastructure, increasing domestic digital value capture, and positioning the country as a trusted AI hub for the Global South.

Deepen and strengthen India's critical infrastructure

Large-scale, continuous data center investment can catalyze expansion and strengthening of critical infrastructure such as transmission, substations, renewable generation and connectivity to new hubs. It also builds sovereign compute capacity for defense, government, regulated and other critical sectors to host workloads in-country, strengthening the resilience and continuity of essential services.

Hosting more data and workloads in-country can retain a greater share of digital expenditure domestically

Shifting workloads from overseas capacity to domestic compute reduces reliance on foreign infrastructure and directs more spending to Indian industries serving data centers, supporting GDP, jobs, tax revenues and stronger domestic value creation.

Advance India's digital leadership and strengthen its global influence

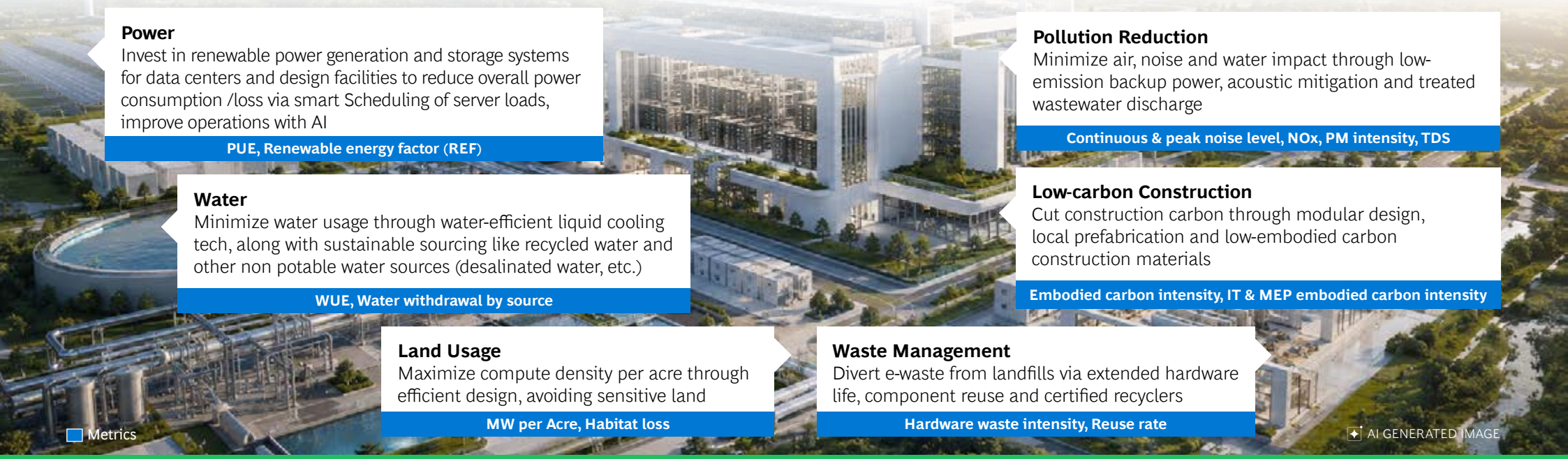
As India scales compute alongside reliable power and connectivity, it can emerge as a trusted computing and AI hub for the Global South, attracting foreign workloads and investment, expanding digital-service exports economy and capturing greater value from global demand.

India is expected to be a top 5 player globally by DC capacity, and is well positioned to capture AI services needs across APAC

Source: BCG Data Center Model, BCG Analysis

Roadmap Towards Building Responsible AI and Digital Infrastructure

With most of the projected 2030 capacity yet to begin construction, India can aim toward sustainable AI infrastructure through defined pathway across six levers spanning energy, water, land use, low-carbon construction, waste and pollution, with time-bound targets and strong governance guiding progress



Power
Invest in renewable power generation and storage systems for data centers and design facilities to reduce overall power consumption /loss via smart Scheduling of server loads, improve operations with AI

PUE, Renewable energy factor (REF)

Water
Minimize water usage through water-efficient liquid cooling tech, along with sustainable sourcing like recycled water and other non potable water sources (desalinated water, etc.)

WUE, Water withdrawal by source

Land Usage
Maximize compute density per acre through efficient design, avoiding sensitive land

MW per Acre, Habitat loss

Pollution Reduction
Minimize air, noise and water impact through low-emission backup power, acoustic mitigation and treated wastewater discharge

Continuous & peak noise level, NOx, PM intensity, TDS

Low-carbon Construction
Cut construction carbon through modular design, local prefabrication and low-embodied carbon construction materials

Embodied carbon intensity, IT & MEP embodied carbon intensity

Waste Management
Divert e-waste from landfills via extended hardware life, component reuse and certified recyclers

Hardware waste intensity, Reuse rate

Metrics

AI GENERATED IMAGE

Good governance framework is critical for the effective implementation of sustainable initiatives

1. Measurement

Standard measurement metrics and methodology for PUE, WUE, renewable share and carbon footprint

Australia's NABERS rates data centers on a 1-to-6-star scale based on PUE using facility's actual operating data and not design, enabling consistent benchmarking of energy performance

2. Accountability

Clear ownership and accountability for implementation of ESG initiatives

Microsoft publishes performance on key metrics in their Environment & Sustainability Report, has committed to becoming carbon negative, water positive and zero waste by 2030. 40 GW renewable energy supply contracted globally with total contracted clean energy capacity in India stands at ~1 GW as of Dec 31, 2025, supporting its journey towards becoming carbon negative by 2030

3. Disclosures

Facility/country level annual reporting of key resource and environmental metrics to regulators or relevant authorities (with appropriate confidentiality safeguards)

EU has mandatory disclosure requirements for 500 kW+ DCs with member states responsible for enforcement; US Green building Council LEED Certification

Source: Policy documents – US, Australia, EU; State and company websites, Expert discussions, BCG Analysis

India can Act Across Five Pillars to Realize, Sustain and Further Fuel Growth from AI and Digital Infrastructure

India has an opportunity to shape most of its future Data Centers before it is built. With a large share of capacity still in the pipeline, sustainable growth can be designed in from the outset, through where facilities are located, how they source power and water, the technologies they deploy and the capabilities built around them

New capacity should secure sustainable power and water at the point of design

Captive and contracted renewable generation, supported by battery storage, can enable reliable round-the-clock supply. Treated or recycled water, desalination, rainwater harvesting and on-site reuse can reduce freshwater dependence and relieve pressure on local communities.

Growth should extend beyond the established data center hubs

Developing dedicated data-center parks and new corridors in locations with scalable power, reliable water, suitable land and connectivity can ease pressure on existing metro grids, water systems and land markets while broadening the geographical distribution of investment and infrastructure-led development.

Facilities should be designed for next generation of AI workloads

Modular, high-density designs, liquid or direct-to-chip cooling, efficient power-delivery architecture and intelligent controls can accommodate rising rack densities while reducing lifetime PUE and WUE. Cooling decisions are particularly critical, as the water intensity of a facility is largely determined at the design stage.

Physical capacity should be matched by a deeper talent pool

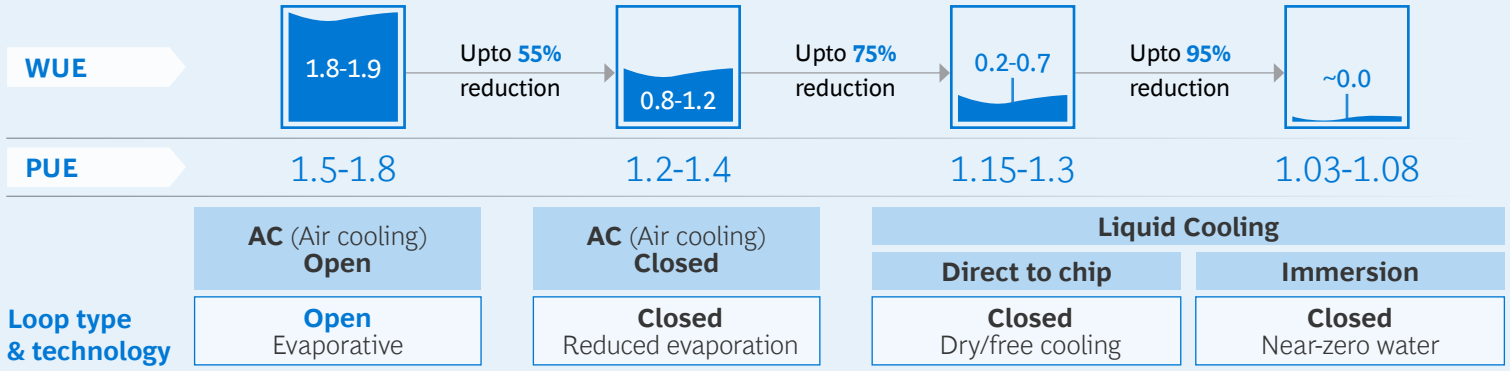
Industry-led training and stronger academia partnerships can develop specialists across CSA and MEP design, high-density cooling, power systems, commissioning, critical-facility operations and sustainability. It can help India meet domestic demand while emerging as a global source of AI-infrastructure talent.

A stronger domestic supply chain can accelerate growth and improve resilience

Building local capacity across electrical systems, cooling equipment, battery storage, prefabricated modules and IT hardware, supported by pipeline-level procurement and long-term OEM partnerships, can reduce import dependency and exposure to long-lead equipment while retaining a greater share of value within India.

Cooling technology is a critical design-stage lever for reducing water & power consumption

Illustrative Water Consumption Ranges (liters per kWh) and Power consumption ranges[1]



1. Illustrative WUE, PUE ranges, dependent on climate, utilisation, design and measurement boundaries
Source: Environmental and Energy Study Institute 2025, EPRI water usage in data centers 2025, WUE Green Grid, Uptime Institute Global Data Center Survey 2025, BCG DC Supply Demand Model, CEEW, NREL, expert interviews, BCG analysis

Liquid-cooling architectures can materially reduce water & power usage

03

INFRASTRUCTURE TO SCALE ENTERPRISES CLOUD & AI ADOPTION

The Starting Point
Where Indian Enterprises Stand in AI Adoption Today

Need for in-country AI and Digital Infrastructure
What Can Enable India's AI Potential

From Infrastructure to Adoption
25 Dimensions for In-country Data Center


AI GENERATED IMAGE

Keynote

Every technology wave of the last two decades has asked India a question, and each time we have answered with scale. Connectivity brought a billion people online; the cloud let our enterprises build without owning the building. The AI wave differs in one respect: infrastructure readiness now sets the pace of adoption. Compute is strategic infrastructure.

I see that shift less in numbers than in rooms. Most of my weeks are spent between two: in one, our AI innovators are building; in the other, a customer is describing a problem no roadmap anticipated: a bank that wants its own model, a manufacturer protecting two decades of process IP, a public platform that must work for a billion people on a bad network day. Almost everything interesting happens where those two rooms meet.

I read this study less as a market report than as a build specification. Capacity is the visible half: India moving from ~1.5 GW today toward 12–14 GW by 2035, with more than $100 billion+ committed. The harder half is what runs on that capacity, and on whose terms.

Because "AI requirements" is never one requirement. The report captures that: five enterprise needs resolving into 25 criteria, weighted differently by sector.

A bank's definition of control is: residency, single-tenant configurations, auditability under RBI and DPDP; this is not a manufacturer's, whose PLM workloads turn on design-IP protection and latency to the plant. A digital native starts from peak-scale economics; an IT services firm inherits its client's jurisdiction. Any provider that treats these as one requirement will meet none of them.

Return is the second thing to look for, and it rarely comes from the headline use case. It shows up in work done at scale: a claim settled in a day not a week, a defect caught before it leaves the factory. Small gains, repeated millions of times, are what a business actually sees and what makes them repeatable is infrastructure that works every time, close to the work.

Infrastructure like this is judged over decades, not quarters; what gets built now sets the ceiling on what Indian enterprises can attempt for years. Reason enough to build it well, and to build it here. That is exactly what Microsoft is doing.

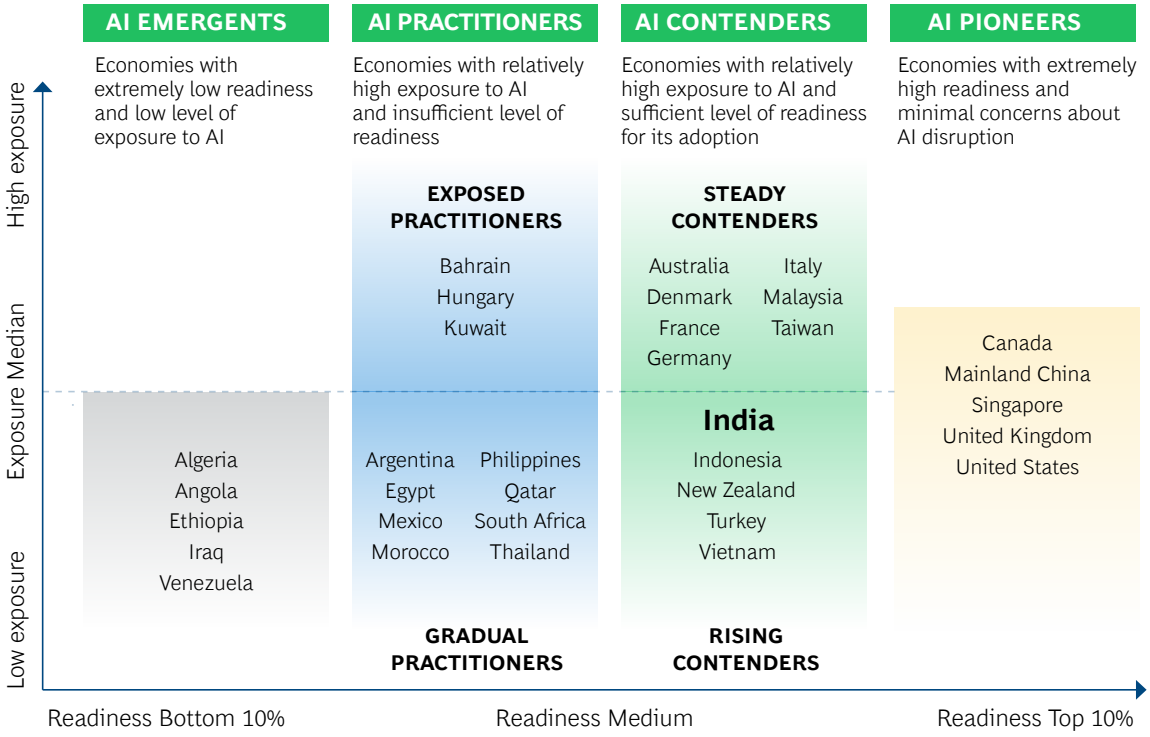
Ambition is settled. The momentum is real. Execution is the story.

Rajiv Kumar
Managing Director & President,
Microsoft India Development Center

India is a Rising AI Contender

India stands alongside several developed economies, rapidly emerging as a strong AI contender, supported by its rapidly advancing tech infra and AI ready workforce; as per NITI Aayog, AI could unlock ~$1Tn of economic value for India by 2035

AI Pioneers are combining industry leading innovation with efforts to broaden adoption, developing leading models, expanding access to AI compute and strengthening talent and enterprise ecosystems. The US and China lead frontier-model development; Singapore is actively scaling enterprise AI adoption; while the UK and Canada are widening access to national AI compute for researchers and businesses.



The matrix assesses economies across two dimensions: AI exposure: The potential for AI to impact an economy based on its sector mix. **AI readiness**: the ability to effectively implement and integrate AI. Together, these dimensions place economies across four broad maturity groups further differentiated based on their exposure-readiness profile.

India's emergence as an AI contender builds on decades of technology foundations which are translating into a rapidly growing AI-ready workforce

92% of India's desk-based workers use AI, compared with 75% globally — signaling rapid mainstream adoption

32% of India's workforce are "Frontier Professionals" redesigning work around AI agents — the highest share across the ten markets studied and 2x the global average of 16%

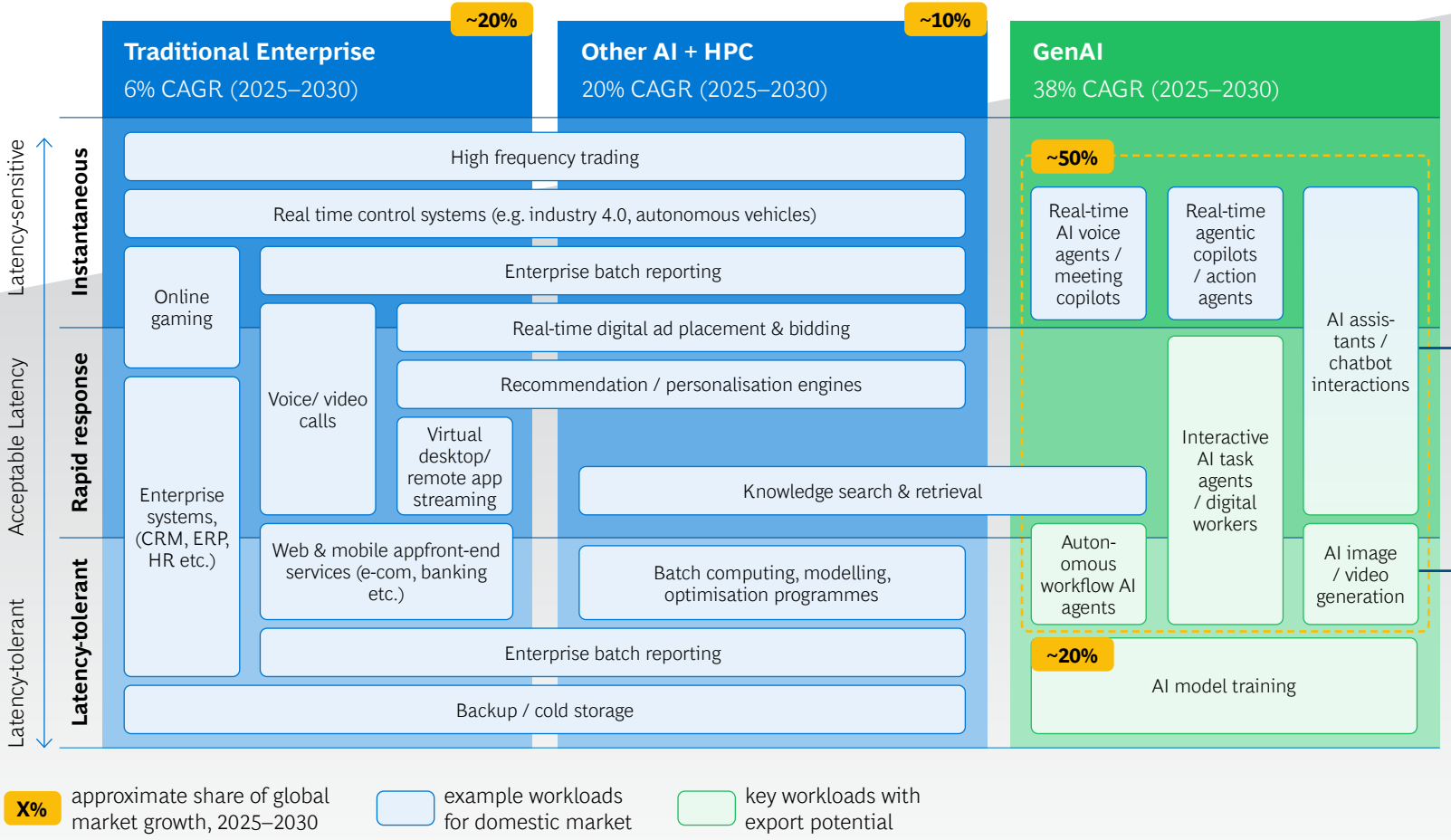
India recorded the world's second-fastest growth in AI talent between 2019 and 2025, strengthening the depth of its AI capabilities

India is now reinforcing these advantages through targeted public investment and policy, including the IndiaAI Mission and India Semiconductor Mission, aimed at expanding domestic compute infrastructure, AI models and semiconductor capabilities.

Source: AI economic-value estimates – NITI Aayog, Microsoft AI diffusion, Stanford AI Index report 2026, Microsoft Work Trend Index 2026, AI Economic Maturity Matrix Analysis - BCG and Center for Public Economics, BCG analysis

Pilot to Production: India's Large & Growing Demand for Digital & AI Workloads are Shaping Infrastructure Requirements

As enterprises scale AI into production, differentiated workload type & compute intensity, demand profile and latency sensitivity shape the capacity, architecture and proximity of digital and AI infrastructure required



Enterprise AI infrastructure requirements vary across three key workload dimensions as AI scales to production

As AI adoption expands from isolated pilots to production workflows, infrastructure requirements are increasingly shaped by workload type and compute intensity, demand profile, and latency sensitivity

Workload type and compute intensity determine the architecture and capacity required, ranging from enterprise applications and analytics to inference, model training and HPC

Demand profiles, whether steady-state, cyclical or event-driven determine the balance between reserved and on-demand capacity, as well as associated performance and commercial requirements

Latency sensitivity determines how close compute needs to be to users and workloads, with real-time and interactive applications requiring more proximate infrastructure, while batch processing and model training can tolerate greater distance

Note: Mapped workloads are illustrative & non-exhaustive, acceptable latencies are indicative ranges; CAGR = compound annual growth rate; HPC = high-performance computing; growth rates exclude China
Source: Desktop research; expert interviews; BCG Global Data Center model, November 2025 update; BCG analysis

In-country Data Centers: Critical Enabler for Scaling India's Huge AI Potential into Production

As AI scales into production, differentiated compute requirements and the sensitivity and ownership of enterprise data will increasingly shape needs across control and residency, economics, latency and resilience—reinforcing the role of in-country infrastructure as a critical enabler of production-scale AI

As enterprises move AI workloads into production, in-country infrastructure can address several of the barriers that emerge at scale, spanning control, economics, performance & ecosystem development; helps translate differentiated compute requirements into production-scale deployment

Trusted in-country deployment enables enterprises to retain greater control over sensitive data, models and workloads, and jurisdictional requirements

Production-scale compute at viable economics provides enterprises with affordable access to AI-grade capacity that can expand with demand

Low-latency and resilient infrastructure supports reliable performance for inference and other business-critical AI workloads, particularly as AI becomes more deeply embedded into enterprise operations

Access to in country AI compute catalyze domestic innovation including local models, data services and applications suited to the Indian context

Five Core Needs Shaping In-Country Data Center Adoption

Enterprises across sectors will need to scale AI across business operations, in-country infrastructure is required to deliver on those needs

Illustrative market offerings across the five enterprise needs

1

CONTROL WITH OPTIONS

Enterprises increasingly seek greater control over how their Data and AI stack is configured and operated - from ownership, access and use of data to where data and IP are stored, processed and backed up. This also extends to the choice of dedicated versus shared infrastructure, control across the AI lifecycle from build to train to deploy, and flexibility to choose between AI models

- MICROSOFT SOVEREIGN CLOUD
- IBM SOVEREIGN CORE

2

TRANSPARENCY & COMPLIANCE

Enterprises require clear visibility into the regulatory and compliance implications, particularly as Indian requirements continue to evolve. This includes adherence to applicable regulations, demonstrable assurance, contractual protection against continuity risks and sufficient flexibility to meet differing compliance requirements across geographies.

- GOOGLE CLOUD ASSURED WORKLOADS
- MICROSOFT PURVIEW COMPLIANCE MANAGER

3

SECURITY & TRUST

AI broadens the security challenge from protecting data and systems to protecting models. Enterprises now need to safeguard full stack, spanning access and encryption, continuous threat detection and incident response, isolation of AI models and data to prevent unauthorized cross-model or tenant access, and multi-layered physical security

- MICROSOFT DEFENDER FOR CLOUD

4

PERFORMANCE & RESILIENCE

Production-scale AI requires infrastructure that can consistently deliver compute performance while remaining resilient as demand and workload criticality increase. Enterprises therefore look for access to high-performance GPU capacity, geo-redundant architectures, predictable latency, certified uptime and seamless integration with its existing infrastructure

- AMAZON BEDROCK
- MICROSOFT FOUNDRY

5

COMMERCIALS

At scale, infrastructure choices must deliver viable and predictable economics alongside confidence in the provider's long-term ability to support the enterprise. This includes attractive TCO, flexible consumption and billing models, continued innovation in compute and storage to improve TCO, contractual protection against unexpected cost increases or efficiency deterioration

- SAVINGS PLAN FOR COMPUTE
- PAY-AS-YOU-GO / ELASTIC CONSUMPTION CONSTRUCTS

Source: Company websites, Industry Tech Leader discussions, BCG Analysis

25 Dimensions for In-country Data Centers

The five core enterprise needs translate into 25 specific requirements spanning across 5 enterprise needs. These criteria vary in relative importance to buyers, with AI adoption introducing additional infrastructure requirements beyond those already established for cloud adoption

High

Order of Importance for Buyer criteria

Low

1 Control with Options

- **1.1 Control over Data** Ownership → Access → Usage → Migration of data
- **1.2 Control over residency** Data/IP storage | Processing | Backups (DC/DR) | Local logs custody
- **1.3 Control in infrastructure deployment** Dedicated vs Shared infrastructure - Racks | Servers | Services | Network | Connectivity provider
- **1.4 Control over AI solution** Build → train → deploy → associated IP
- **1.5 Control over choice of AI model** Proprietary / open-source / in-country

2 Transparency and Compliance

- **2.1 Compliance with evolving Indian regulations** RBI | DPDP | MeitY (mandatory for government cloud procurement)
- **2.2 Demonstrable regulatory & ESG assurance with** Audit rights | Retained records | ESG/carbon footprint reporting
- **2.3 Legal continuity protection from future risks** (geopolitical, provider exits)
- **2.4 Visibility on all local/ foreign laws** Governing Data | Model and IT infra by using cloud infrastructure
- **2.5 Geo-specific compliance flexibility** for MNCs serving client's compliance needs across geographies

3 Security and Trust

- **3.1 Identification and access security management** including least-privilege access and E2E action logging
- **3.2 Customer control over encryption** keys with E2E encryption of data At-rest → in-transit
- **3.3 Threat detection & incident response** including global threat intel, 24x7 monitoring and local response
- **3.4 AI isolation & protection (sandbox)**
  - Prevent any cross-model /tenant access
  - Restrict AI access to unapproved data
- **3.5 Multi-layered Physical security** Level 1 to 7 layer security (Perimeter | Facility access Cage/rack level security | Surveillance)

4 Performance and Resilience

- **4.1 High-performing GPUs availability** enabling AI-heavy workloads, cater to peak AI loads
- **4.2 Geo redundancy** with high availability architecture across multiple regions
- **4.3 Guaranteed latency** across Indian → Global operations
- **4.4 Certified Uptime reliability with infrastructure resilience in the region** Perimeter | Power | Connectivity
- **4.5 Seamless integration through Robust APIs with** On prem infrastructure , other cloud providers and legacy technology

5 Commercials

- **5.1 Total cost economics that favor renting** (cloud deployments vs owning on-prem deployment)
- **5.2 Agile billing models** including pay as you go, bulk/batch token, committed token/ throughputs
- **5.3 Innovation in Compute and storage for optimal TCO** Edge processing | Compression technology
- **5.4 Favorable contractual terms offering cost protection against** Price acceleration | PUE degradation
- **5.5 Established presence, long term commitment in India** not affected by geo-political risk

Source: Expert interviews, Industry tech leader discussions, BCG analysis

Infrastructure requirements for Cloud adoption Incremental infrastructure requirements for AI adoption

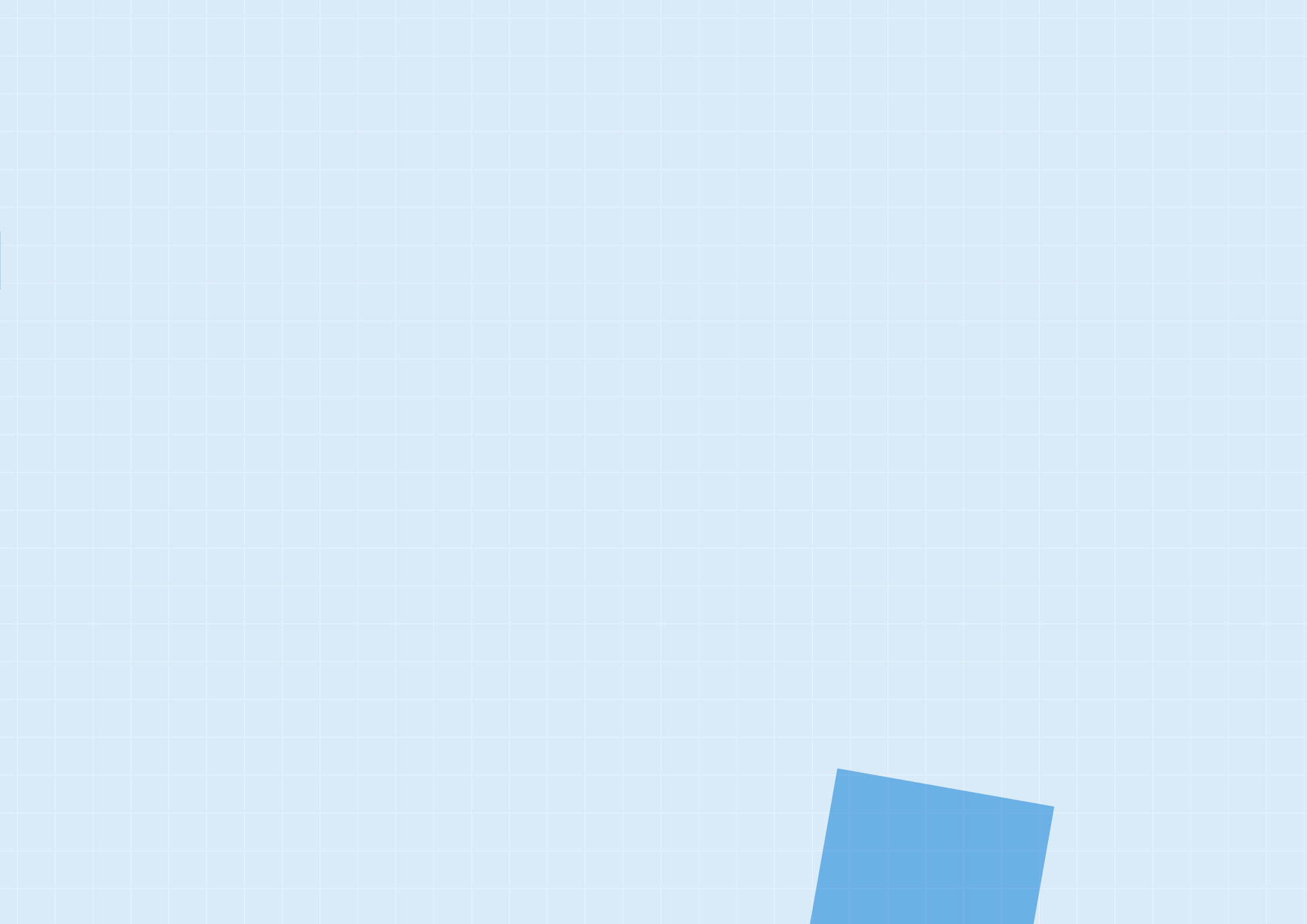
Infrastructure Readiness Checklist: Relative Importance of the 25 Infrastructure Criteria Varies by Industry Archetype

Critical use cases vary across industry archetypes, shaping distinct infrastructure requirements and, consequently, the buying criteria enterprises prioritize when evaluating deployment options

Industry Archetype	Dimensions	Banking	Public Sector	Manufacturing	Digital Companies	IT/ITeS
1 **Control with Options**	Control over data Control over residency Control over infra deployment Control over AI solution Control over choice of model	In-country residency; maximum bank control over full data (transaction & PII), AI stack and infrastructure	In-country residency; maximum Govt. control over full population scale data stack and infrastructure	Tight Control over proprietary (design, process) PII data & AI models	Control over customer / seller data, proprietary commerce IP and AI workflows	Client-defined control over data, code, models & IP; strict multi-client segregation and residency flexibility
2 **Transparency & Compliance**	Compliance with Indian laws Demonstrable ESG assurance Legal continuity Visibility on governing laws Geo-specific compliance	Demonstrable compliance with Indian-law (RBI, DPDP, etc) with continuity protection	Demonstrable compliance with India-law with continuity protection	Compliance with India-law with exports requirement of geo-specific compliance flexibility	Compliance with India-law with configurable retention / retrieval for regulated records	Indian law and each client's jurisdiction compliance
3 **Security & Trust**	Access management E2E encryption Threat detection & response AI protection & isolation Physical security	Highest security including 7 layer physical security, bank-controlled encryption keys & continuous threat monitoring	Highest security including 7 layer physical security, bank-controlled encryption keys & continuous threat monitoring	Protect product / process IP and plant-connected environments across cloud and enterprise systems	High AI adoption raises protection needs across PII, transaction data, models including AI-native threats	Tightly governed identity, client-data isolation; protect code / AI assets from leakage and cross-client reuse
4 **Performance & Resilience**	AI-grade compute & storage Geo-redundancy Guaranteed latency Uptime reliability Seamless integration	Certified Uptime reliability, stable latency and seamless integration with core on-prem systems	Certified Uptime reliability, capacity headroom and integration across DPI platforms	Low-latency continuity for plant workloads; high availability, seamless integration with legacy infra for ERP / CRM	Certified Uptime reliability, scalable AI compute with latest AI services with real time sync across multiple data sources (inventory, orders)	Certified Uptime reliability, scalable AI compute with latest AI services, low-latency client access
5 **Commercials**	TCO economics Agile billing models Cost optimization Contractual protections Established presence	TCO and trusted-provider strength decide once core eligibility thresholds are met	TCO and trusted-provider strength decide once core eligibility thresholds are met	Workload level TCO and migration economics shape final choice under sustained industry cost pressure	Elastic pay-per-use economics and capacity optimization	Client-approved provider set, Elastic pay-per-use economics and capacity optimization

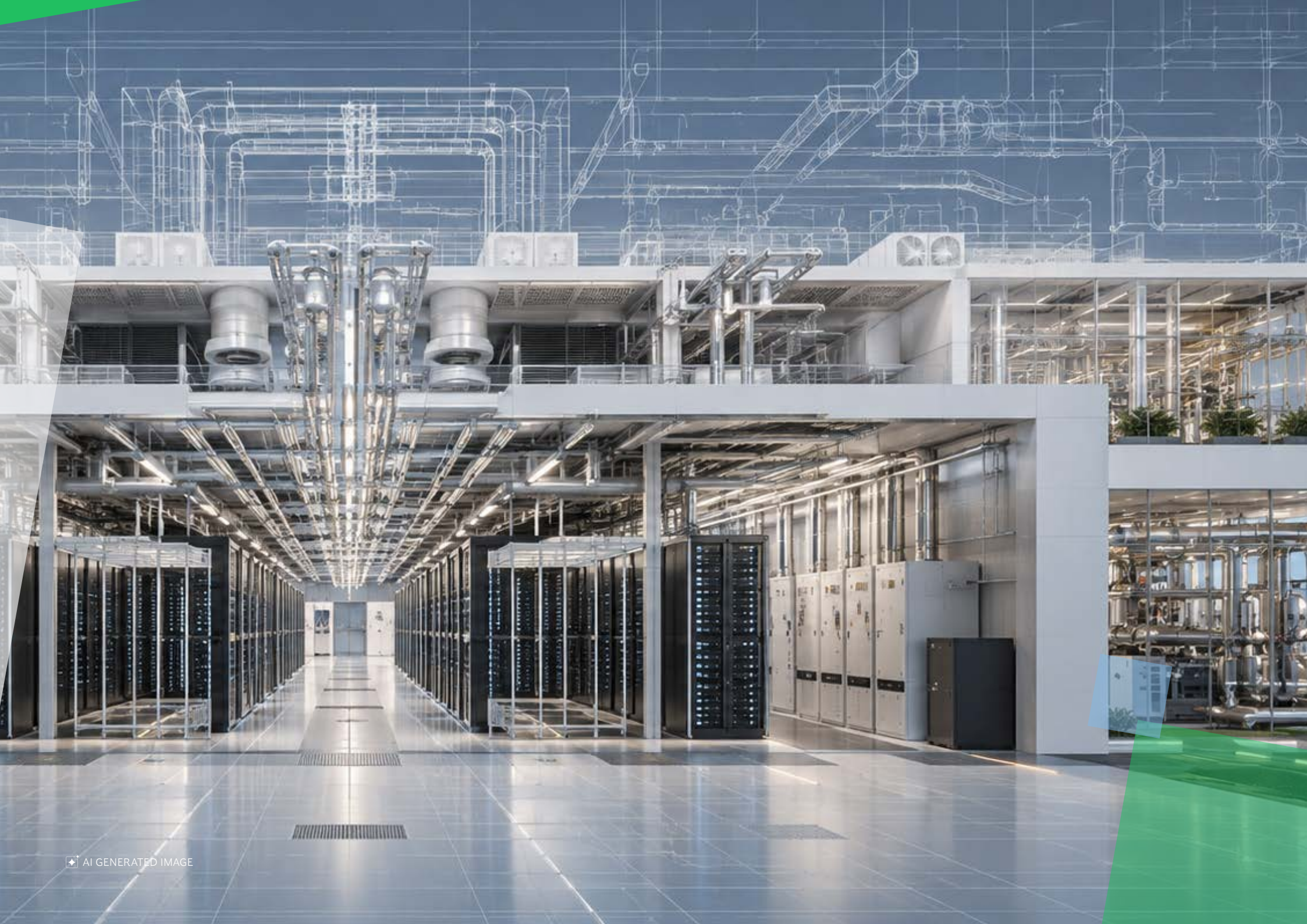
Notes: Assessment reflects broad cloud and AI workload requirements across each industry archetype
Source: Expert interviews, Industry tech leader discussions, BCG analysis

Broad relevance Selective relevance



04

CONCLUSION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The Road Ahead

India has spent the last two decades building strength across the digital stack, with leadership in IT services, applications, SaaS and digital public infrastructure, creating a large domestic digital market. **The next frontier is to build the physical compute infrastructure required to support this digital economy at scale, and that build-out is now underway across India.**

India has key structural advantages that can support sustained, long-term data-center growth:

- Large renewable-energy base and unified grid supporting **access to green power and enabling faster time-to-power**
- Strategic location and political stability, **supporting India's role in serving regional workloads**
- Extensive subsea and domestic connectivity, **linking India to major global markets with deep domestic digital infrastructure**
- Policy support for gigawatt-scale campuses across multiple states, **creating a stronger enabling environment for continued capacity expansion**

Investors have recognized these advantages and committed more than $100 billion to India's data-center ecosystem. India's data-center capacity is expected to grow from ~1.5 GW today to 12–14 GW by 2035, representing a significant expansion of the country's physical digital infrastructure. This capacity expansion is likely to drive economic growth, community impact and strategic value for India.

Realizing this opportunity now depends on execution across three groups:

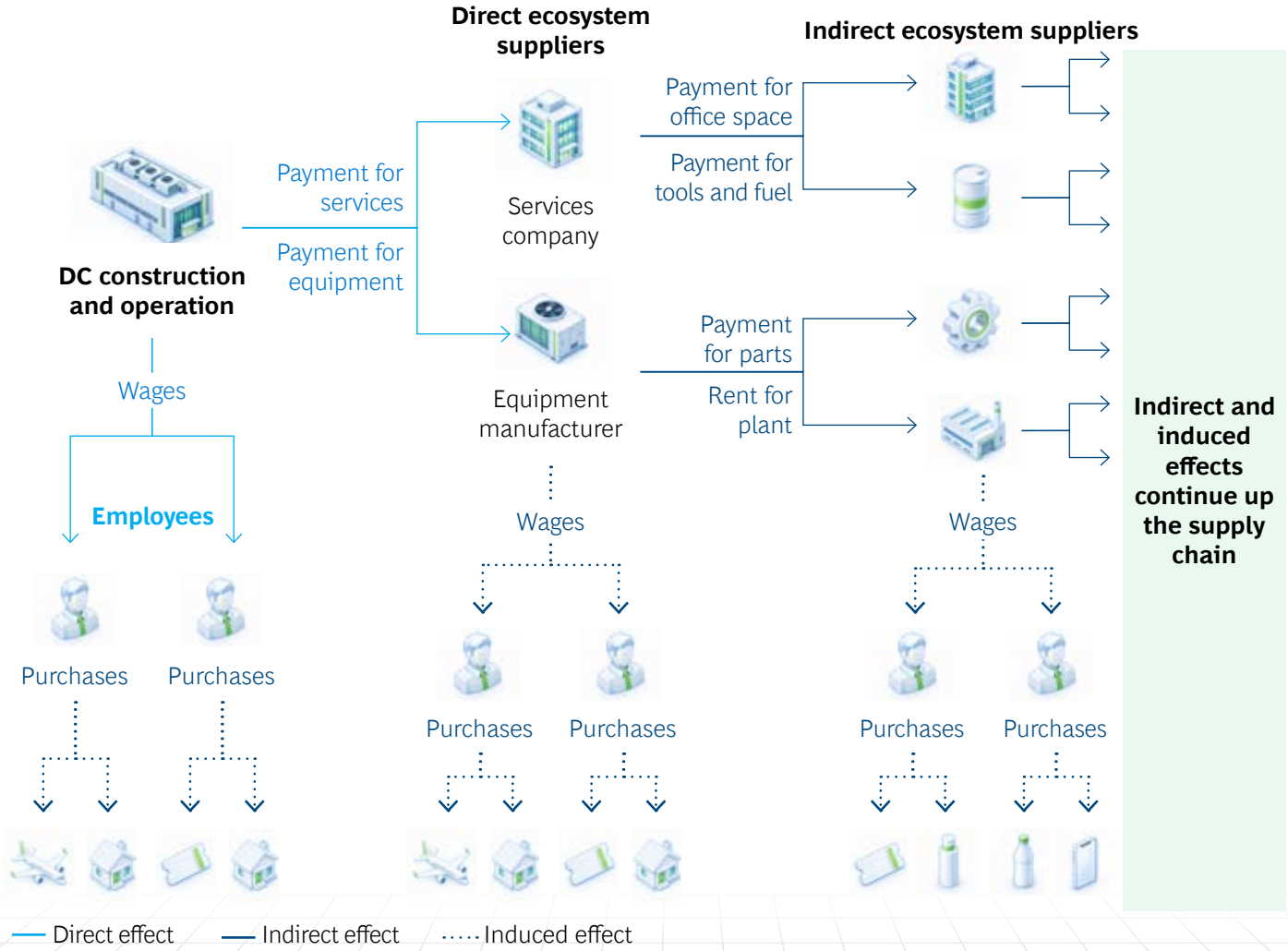
- **Data-center operators** can convert committed investment into operational capacity, with a continued focus on timely execution and delivery, while ensuring that infrastructure is developed in line with sustainability goals
- **Policymakers** can provide a clear national framework alongside supportive state policies that make long-term investments viable, enable single-window approvals within committed timelines, and help drive regional growth in a planned and sustainable manner
- **Enterprises and public institutions** can leverage the latest infrastructure offerings to scale advanced digital and AI solutions that improve services and raise national productivity

India's ambition to build in-country infrastructure can therefore become an important foundation for the next stage of its digital and AI economy, translating the country's digital strengths and committed investments into capacity, adoption and long-term economic value.

Methodology | Economic Impact of Data Centers Goes Far Beyond Direct Spending

How data center spend translates into wider economic activity

Illustrative



Key modelling assumptions and scenarios

DC CAPEX & OPEX

Data center capex and opex are estimated based on expert discussions and benchmarked cost assumptions across DC archetypes. Capex associated with renewable power infrastructure, based on a blended solar and wind mix, is also included in the total CAPEX estimate

Multiplier methodology

Economic output multipliers are derived from the MoSPI Supply Use Table 2023–24 using standard Input–Output (I-O) analysis capturing:

- Direct Impact (activity generated by data center expenditure)
- Indirect impact (activity generated through intermediary and supplier expenditure)
- Induced Impact (activity supported by employee wages) impacts

Source Materials (I/III)

AI Adoption and India's Digital Stack

Published research, official statistics and market sources underpinning Section 1

AI adoption and enterprise demand

Global AI Diffusion in Q1 2026 – AI Economy Institute
Microsoft, 2026

Work Trend Index 2026 - India findings
Microsoft, 2026

Work Trend Index 2024
Microsoft, 2024

Build for the Future study 2025
BCG, 2025

AI Index Report 2026
Stanford HAI, 2026

AI for Viksit Bharat
NITI Aayog, 2025

National Strategy for Artificial Intelligence
NITI Aayog

The $200 Billion Agentic AI Opportunity for Tech Service Providers
BCG, 2026

Which Economies Are Ready for AI?
BCG, 2024

AI and IT spending forecasts

Worldwide IT Spending Forecast, 2026
Gartner, 2026

Worldwide AI Spending Forecast, 2026
Gartner, 2026

Worldwide AI and Generative AI Spending Guide
IDC, 2025

India public cloud services forecast
IDC, 2025

End-User Public Cloud Spending in India
Gartner, 2026

Data center market sizing

2026 Global Data Center Outlook
JLL, 2026

India data centers market insights
JLL India, 2026

Global Data Center Survey 2025
Uptime Inst., 2025

India investments and datacenter announcements
Google

India's digital stack

Technology Sector in India: Strategic Review
NASSCOM, 2026

India SaaS sector reports
NASSCOM; JM Fin.

Global FinTech Adoption Index
EY, via PIB

India Data Center Services Market Review
CMR

Deloitte's State of AI in the enterprise report
Deloitte, 2026

UPI factsheet and payments statistics
PIB; NPCI, 2026

Aadhaar generation and authentication
UIDAI; PIB

India IT industry coverage
CIOL

India AI mission material
IndiaAI, MeitY

IBM Sovereign Core
IBM

Connectivity and telecom infrastructure

Highlights of Telecom Subscription Data
TRAI, 2026

The Indian Telecom Services Performance Indicator Report
TRAI

Year End Review 2025 - DoT
PIB; DoT, 2025

Subsea cable and landing-station data
TRAI; MoC

Power System and India's Policy Environment

Regulatory instruments, official statistics and energy-sector analysis underpinning Section 1

Power system and generation adequacy

Long-Term National Resource Adequacy Plan
CEA, 2026

Optimal Generation Capacity Mix for 2029–30
CEA, 2023

National Electricity Plan (Generation; Transmission)
CEA

Transmission length and network statistics
CEA; Grid-India

Electricity Tariff & Duty, Average Rates
CEA

Renewable capacity and non-fossil targets
PIB; MNRE, 2026

Renewable Capacity Statistics
IRENA, 2026

Source Materials (II/III)

Data center energy demand

Energy and AI
IEA, 2025

US Data Center Energy Usage Report
Berkeley Lab

Short-Term Energy Outlook; Today in Energy
US EIA, 2026

DC infrastructure, power and water use
CEEW

Sustainable data centers partnership
TERI; NSEFI

Powering Intelligence: Analyzing Artificial Intelligence and Data Center Energy Consumption, US Data energy
EPRI, 2026

Data residency and financial-sector regulation

Storage of Payment System Data circular
RBI, 2018

Maintenance of Insurance Records Regs
IRDAI

DPDP Act 2023 and DPDP Rules 2025
MeitY, 2023; 2025

AMBUD cloud empanelment platform
MeitY

Govt. cloud, e-governance material
NEGD, PIB

Investment, tax and infrastructure status

Harmonized Master List of Infrastructure
DEA, 2022

Consolidated FDI Policy Circular
DPIIT

Income-tax Act 2025, Schedule IV (Sl. No. 13C)
Income Tax, 2026

Green Energy Open Access Rules and amendments
Ministry of Power

Investment promotion
Invest India

State and national data center policy

Viksit Gujarat Data Center Policy 2026–29
Gujarat Govt., 2026

Uttar Pradesh Data Center Policy
Invest UP, 2026

IT/ITeS Policy; Green Integrated DC Parks
Maharashtra Govt.

State green-power requirements coverage
Economic Times

Feedback on National Data Center Policy
NASSCOM; MeitY

Standards for measurement & governance
BIS

National Single Window System
NSWS

International Benchmarks and Sustainability

Overseas statutes, rating schemes and sustainability sources underpinning Sections 1 and 2

International policy benchmarks

Energy Efficiency Act (EnEfG), Section 11
Germany, 2023

Hosting Certification Framework
Australian Govt.

NABERS for Data Centers
NABERS, Australia

RIGI large-investment incentive regime
Govt. of Argentina

Green Lane Pathway for grid connection
TNB, Malaysia

National Spatial Strategy (NOVI) and AMvB
Netherlands, 2023

EU & US instruments

Energy Efficiency Directive (EU) 2023/1791
EU, 2023

Delegated Regulation 2024/1364 — DC reporting
EU, 2024

Ecodesign requirements for servers
EU

F-gas Regulation (EU) 2024/573
EU, 2024

LEED certification framework
USGBC

Source Materials (III/III)

Water, cooling and low-carbon design

Environmental Sustainability Report
Microsoft

Low-to-zero-water cooling designs
Microsoft, 2026

India South Central (Hyderabad) region launch
Microsoft, 2026

Carbon-negative milestone; renewables
Microsoft, 2026

Low-carbon and mass-timber construction
Microsoft

Data centers and water consumption
EESI, 2025

Water use and efficiency research
EPRI; Green Grid

High-Performance Computing Data Center Power Usage Effectiveness
NREL

A Decade of Greener Computing Blooms Inside NREL's Data Center
NREL

Data Center Water-Savings Win Wins
NREL

Economic Impact and Enterprise Adoption

Methodology inputs, company disclosures and regulatory sources underpinning Sections 2 and 3

Economic impact and multiplier methodology

Supply and Use Tables 2022–23 and 2023–24
MoSPI / NSO, 2026

Note on Supply & Use Table (2022–23 base)
MoSPI, 2026

India data center market report 2026
JLL India, 2026

Data-center economic development critique
ORVI, 2026

Supply chain and skilling

Construction Skills Training Institutes
L&T Sustainability

Schneider Electric Academies
Schneider Electric

Networking Academy impact reporting
Cisco

ADVANTA(I)GE India skilling programme
Microsoft, 2026

Comprehensive Community Development Program, Hyderabad
Microsoft

In-country and sovereign cloud offerings

Microsoft Sovereign Cloud
Microsoft

Purview Compliance Manager
Microsoft

Defender for Cloud
Microsoft

Azure AI Foundry
Microsoft

Azure Savings Plan for Compute
Microsoft

Assured Workloads
Google Cloud

Amazon Bedrock
AWS

Public sector and regulated industries

MeitY compliance and empanelment materials
Microsoft; AWS

Government cloud and MeghRaj material
PIB; MeitY

Payment-data and card-tokenisation notices
RBI

IT (Intermediary Guidelines) Rules, 2021
MeitY, 2021

Expert interviews; industry discussions
BCG, 2026

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