

India's Data Centre Decade

Capital, Cloud & Capability

At Hyperscale: Q3FY26



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INDUSTRY INFLECTION POINT

India's data centre industry is shifting from rapid expansion to a more structured phase of hyperscale maturity, supported by strong capital visibility, AI-driven capacity densification and regulatory-led demand. The market is projected to grow from \$5.55 billion in 2025 to \$13.11 billion by 2034, representing total expansion of 136% and a sustained CAGR of 10.01% from 2026 to 2034.

Executive Summary



Cloud & AI-Led Infrastructure Intensification

Cloud and DevOps roles are projected to grow **+133%** (7,406 to 17,266), and Security and Compliance roles **+133%** (6,559 to 15,292) by 2029, reflecting automation-first, governance-heavy infrastructure scaling.

AI workloads are projected to account for **30%** of capacity by 2026, while hyperscalers contribute nearly **70%** of new builds, including gigawatt-scale AI campuses.



Metro-Centric Infrastructure & Tier-2 Decentralisation

India currently operates 276 facilities, with **~59%** concentrated across five hubs — **Mumbai (47), Chennai (34), Bengaluru (31), Hyderabad (29), Navi Mumbai (22)**. Tier-2 markets are projected to grow from **7%** share today to **35%** by 2030, offering **40–60%** CapEx cost advantages versus Tier-1 cities.



Digital Intensity as the Primary Demand Multiplier

India's infrastructure expansion is directly correlated with digital scale of **950+ million** internet users, **30+ GB** monthly data usage per capita, and **19.47 billion** monthly UPI transactions. The scale and frequency of digital payments, cloud-native enterprise migration, and AI compute adoption are structurally increasing backend requirements for low-latency, high-availability, and geo-redundant data centre capacity.



Top Application-Led Data Centre Concentration in 2025 Includes

- IT & Telecom: **48%**
- BFSI: **20%**
- Government: **10%**

BFSI + the government sector together account for **30% of total demand, driven by UPI** transaction volumes exceeding **19.47 billion monthly, digital banking, sovereign cloud initiatives, and data localisation mandates**.

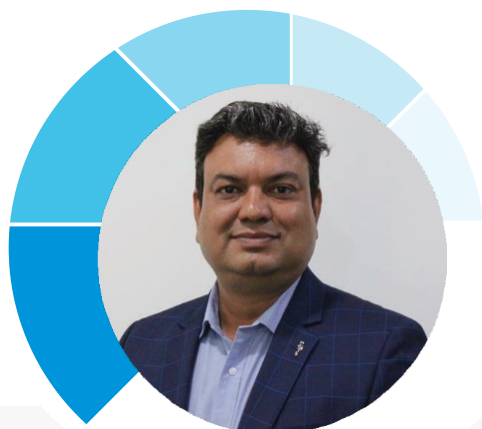


Workforce Supply Concentration and Structural Capability Gaps

India's data centre ecosystem employs **86,000 to 90,000 professionals** across **more than 50 providers**. Around **44% to 46%** of this talent is concentrated in IT Operations, creating a high level of operational dependency.

Cloud Operations and Systems/Compute together make up nearly one third of total supply. Security and Operations Management roles are also heavily metro-centred, with **>50%** based in major cities, indicating geographic clustering.

Significant capability gaps remain across key areas, especially in IT Operations, AI Operations and core facilities roles.



From the Leadership Desk

KAPIL JOSHI

CEO, QUESS IT STAFFING

- India's data centre sector is entering its most consequential growth cycle. The market is projected to expand from **\$5.55 billion in 2025 to \$13.11 billion by 2034, representing 136% total expansion at a sustained 10.01% CAGR.**
- Today, India's data centre and cloud infrastructure ecosystem supports approximately **86,000 to 90,000 professionals** across **50+ data centre providers**, working within core job families spanning Facilities Engineering, IT Operations, Network Engineering, Systems and Compute, Cloud Operations, Security Engineering and Operations Management.
- What is critical is not only the size of this workforce but also its composition. **Nearly 44% to 46% of total supply sits within IT Operations, forming the operational backbone of uptime and reliability. Cloud Operations and Systems and Compute together account for nearly one-third of the ecosystem, reflecting the transition towards software-defined and AI-optimised infrastructure.** Security Engineering and Operations Management, although smaller in percentage terms, are heavily concentrated in key metros, indicating structural geographic dependencies.
- The supply challenge becomes sharper when viewed against demand signals. IT Operations shows a shortage in critical clusters, **while AI Operations records a Supply Sufficiency Index of 47, with demand (30%) significantly outpacing supply (14%).** Facilities Engineering capabilities, particularly **cooling and electrical systems**, are projected to grow more than 100% through 2029, reinforcing that talent in power and thermal engineering will determine hyperscale readiness.
- As AI workloads are expected to account for **~30% of deployed capacity by the end of 2026**, India's ability to sustain momentum will depend on parallel scaling of specialised skills. Infrastructure can be financed. Land can be allocated. Power can be contracted. But advanced operations, automation, compliance and facilities expertise must be built deliberately.
- **With 918+ million internet users, 19.47 billion monthly UPI transactions, and regulated sectors contributing 30% of data centres**, India's digital intensity continues to drive backend infrastructure expansion. However, leadership must pivot from reactive hiring to long-term capability architecture. The next decade will not be defined solely by megawatts deployed. It will be defined by the depth, resilience and distribution of the talent that operates this infrastructure.

India Data Centre Market Size & Forecast Overview

Strategic Dimension

2025–2034 Metrics

Key Data Points

Key Insights

Market Expansion & Capital Depth



2.3X market growth

\$5.55B → \$13.11B (136% growth); **~\$90B** announced; **~\$70B** under execution; 276 → 450+ facilities

Capital deployment is phased and execution-backed, indicating durable absorption rather than a speculative oversupply

Cloud & AI-Led Intensification Demand



Automation-driven scaling

In next 5 years, Cloud & DevOps increases **+133%** (7,406 → 17,266); Security & Compliance **+133%** (6,559 → 15,292); AI workloads **~30%** capacity by 2026

Expansion is software-defined, AI-density driven, and automation-centric — not hardware-led alone

Data centre by Application



Regulated + cloud dominance

IT & Telecom **48%**; BFSI **20%**; Government **10%**; BFSI + Govt = **30%**; 19.47B monthly UPI transactions

Regulated workloads and digital payments now anchor nearly one-third of national data centre applications

Infrastructure Geography Shift



Metro concentration + tier-2 decentralisation

276 operational facilities; **~59%** in five hubs (Mumbai 47, Chennai 34, Bengaluru 31, Hyderabad 29, Navi Mumbai 22); Tier-2 share **7%** → **35%** by 2030; **40–60%** CapEx advantage

Growth will shift toward distributed capacity models while metros remain core interconnect anchors

Structural Constraints: Energy & Talent



Power & workforce bottlenecks

Energy = **30–50%** OpEx; IT Ops **73%** shortage (SSI 46); AI Ops SSI 47 (**30%** demand vs **14%** supply); Cooling +101%; Electrical **+102%**

Hyperscale growth is capital-secured but execution-limited by skilled labour and energy economics

This growth will be underpinned by

Cloud-native enterprise adoption

AI compute densification

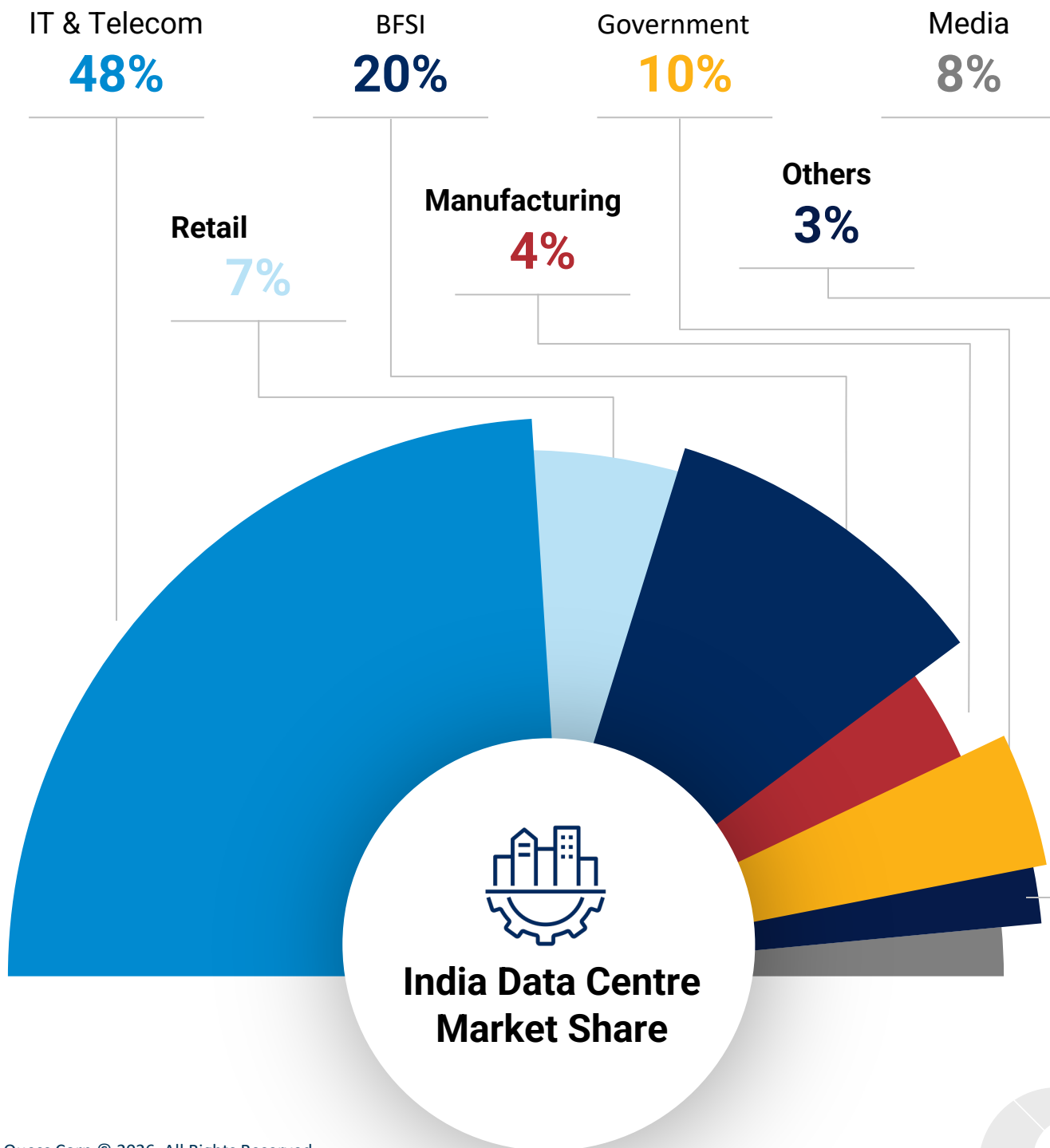
BFSI digital transaction scaling

Government digital infrastructure initiatives

Long-term tax incentives till 2047

India Data Centre Market Share by Application (2025)

Based on the 2025 application distribution



What Is Propelling the Expansion of Data Centres in India?

India's data centre expansion is being driven by a powerful combination of digital adoption and AI acceleration. With internet penetration nearing 96 crore connections nationally, hyperscale and enterprise cloud demand is rising in parallel, reflected in increasing Cloud and DevOps skill requirements.



Internet Scale & Data Intensity

- India has **980+ million** internet subscribers. Average monthly data consumption remains among the highest globally at **30+ GB** per user per month
- High subscriber base + high per-capita data use directly translates into sustained demand for storage, compute and content delivery infrastructure



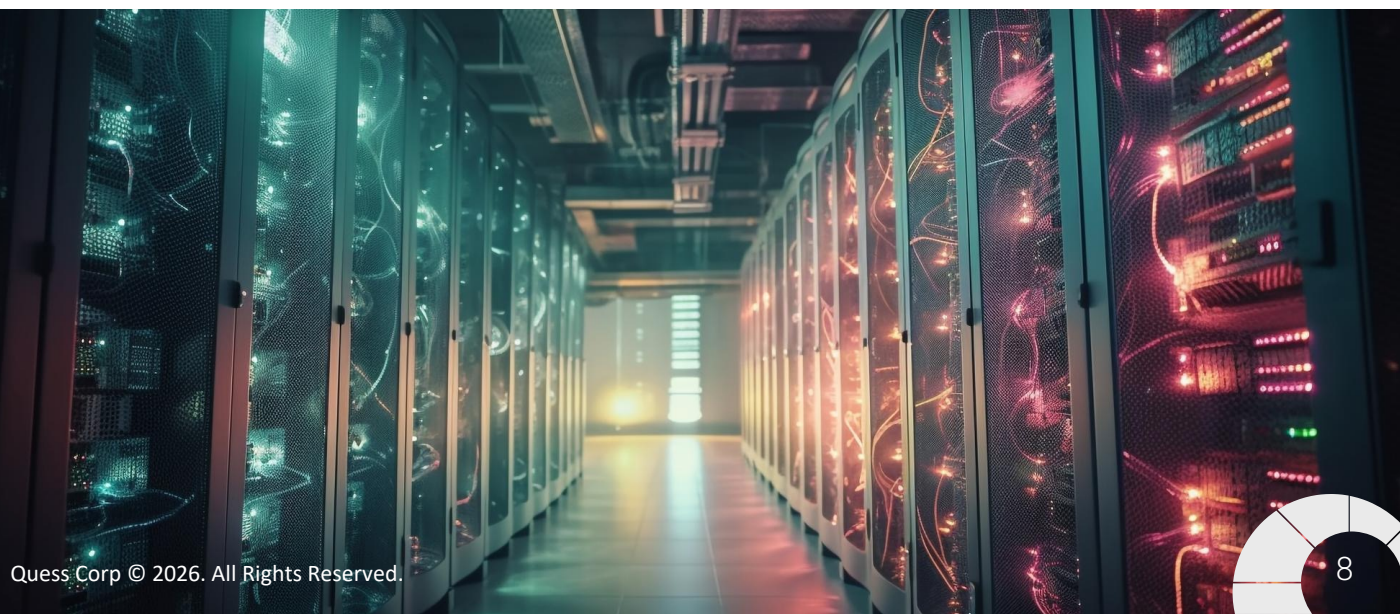
Digital Payments & BFSI Workload Scale

- UPI continues to process **12+ billion** transactions per month in 2025
- Monthly transaction values exceed **₹18 trillion** levels ¹
- BFSI represents ~**20%** of total data centre demand ²
- Real-time payments infrastructure requires ultra-low latency, high-availability, and geo-redundant data centres



Capital Deployment & AI Campus Announcements

- Data centres are expected to attract **₹1.6 trillion** in investment over the next five years, driven by AI, cloud and digital transformation initiatives that are set to nearly double India's data centre capacity
- Announced AI campuses include gigawatt-scale developments ³



Demand Trends by Application – India Data Centre Market (2025)

Cloud & Telecom-Led Expansion (48%)

With IT & Telecom contributing 48%, demand is being driven by hyperscale cloud deployments, SaaS growth, 5G infrastructure rollout, and AI workload integration.

Capacity densification, multi-region cloud architectures, software-defined networking, and large-scale compute clusters will continue to dominate infrastructure expansion.



Regulated & Financial Workload Acceleration (30%)

BFSI (20%) and Government (10%) together account for 30% of total demand, reflecting strong growth in real-time payments, digital banking, sovereign cloud, and regulatory-driven data localisation.

This is supported by increased investment in tier-3 and tier-4 facilities, disaster recovery sites, cybersecurity architecture and compliance-ready infrastructure.



Consumer & Digital Economy Growth (19%)

Media (8%), Retail (7%) and Manufacturing (4%) collectively contribute 19%, signalling rising OTT traffic, e-commerce expansion and early-stage Industry 4.0 adoption.

Growth in edge data centres, content delivery networks, analytics platforms and distributed compute environments is supporting high-bandwidth and data-intensive workloads.



Data Centre Footprint

India's data centre landscape is entering a new phase of geographic definition. As digital demand accelerates across cloud, AI and real-time financial systems, the country's infrastructure footprint shows a clear metro-led concentration, supported by emerging tier-2 expansion corridors.

The distribution of operational facilities and cloud provider presence highlights where hyperscale capital, regulated workloads and compute density are currently anchored. It also signals where the next wave of power infrastructure, land aggregation and skilled talent must be deployed strategically to sustain national-scale growth.



Cloud Infrastructure Footprint

XX Providers



Provider Concentration Indicates Interconnect Dominance (Top 4 Markets ~55–60% Share)

Mumbai (12), Bengaluru (7), Hyderabad (6), and Chennai (5) together account for roughly **30** out of **49** listed provider presences (~**61%**), indicating strong interconnect and hyperscale clustering. This level of concentration reflects network-density advantages and a mature enterprise-grade ecosystem across India's core cloud corridors.



Cloud Demand Anchored by IT & Telecom (48% Application Share)

With **48%** of total data centre demand driven by IT and Telecom, cloud infrastructure expansion is structurally tied to SaaS adoption, 5G backhaul scaling and hyperscale compute deployments. This reinforces that cloud capacity is being shaped primarily by platform-driven workloads rather than traditional enterprise hosting

Five Cities Powers India's Digital Backbone

Core Concentration Across Five Hubs

(Mumbai (47), Chennai (34), Bengaluru (31), Hyderabad (29) and Navi Mumbai (22) – together account for **163** out of **276** facilities. This represents **~59%** of total national data centre infrastructure concentrated in just five hubs. This concentration is not incidental. It aligns directly with:

- Financial services density (Mumbai and Navi Mumbai)
- IT and cloud talent ecosystems (Bengaluru)
- Power and coastal cooling advantages (Chennai)
- Hyperscale and AI cluster investments (Hyderabad)

Mumbai–Navi Mumbai: National Digital Core

Combined, Mumbai and Navi Mumbai host **69** facilities, forming the largest digital infrastructure cluster in the country.

- SDN demand is heavily concentrated in Mumbai
- FSI-driven network and firewall clusters peak here
- Disaster recovery roles commonly reference Navi Mumbai

Bengaluru & Hyderabad: Compute and Cloud Spine

- Bengaluru: **31** data centres
- Hyderabad: **29** data centres

These two cities represent India's primary cloud-native and AI compute growth engines, consistent with:

- HCI demand concentration in Bengaluru
- AIOps and MLOps clustering across Bengaluru and Hyderabad

Emerging Tier-2 Spread

Cities with 1–3 facilities (Indore, Coimbatore, Raipur, Bhopal, Guntur, etc.) indicate early-stage edge expansion. However, these nodes remain peripheral compared to metro hyperscale clusters.

Facility concentration is strongest in Mumbai, Chennai, Bengaluru, Hyderabad and Navi Mumbai, reflecting where the highest-demand clusters are anchored, including power and cooling, SDN and security, and AIOps and operations.

Core Job Families Involved in Data Centre and Cloud Infrastructure

Job Family	Estimated Headcount (Range)	Percentage (%)	Key Skill Clusters	Primary Talent Hubs	Top 3 Concentration (%)
Facilities Engineering 	11,000 – 13,000	 14–16%	Power systems engineering, cooling & HVAC, electrical distribution, BMS/SCADA, renewable integration	Chennai Mumbai Pune	 41–45%
IT Operations 	30,000 – 41,000	 44–46%	Data centre operations, NOC management, DCIM tools, capacity planning, incident response	Bengaluru Mumbai Pune	 34–38%
Network Engineering 	11,500 – 13,000	 13–15%	SDN architecture, BGP routing, load balancing, fibre infrastructure, QoS optimisation	Mumbai Bengaluru Hyderabad	 42–46%
Systems/ Compute 	10,000 – 12,000	 12–14%	Server & storage management, virtualisation, HCI platforms, HPC/GPU systems, container orchestration	Bengaluru Hyderabad Chennai	 39–43%
Cloud Operations 	19,000 – 22,000	 22–24%	Cloud architecture, DevOps automation, AIOps, MLOps, multi-cloud management	Bengaluru Hyderabad Chennai	 36–40%
Security Engineering 	4,200 – 4,800	 5–6%	Zero trust, IAM, SIEM/SOAR, firewall management, cloud security posture	Bengaluru Mumbai NCR	 52–55%
Operations Management 	3,800 – 4,500	 4–5%	Program management, SLA governance, vendor management, sustainability operations, compliance oversight	Bengaluru Mumbai Pune	 50–53%

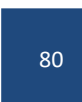
Facilities Engineering Supply Demand Matrix

Key Role Clusters	Demand Locations (% Share)	Key Job Roles Involved	Demand %	Supply %	SSI Index	Top Skills Shortage
Power Systems 	Chennai (40%), Navi Mumbai (25%), Bengaluru (20%)	Data Centre Electrical Engineer, Critical Power Engineer, UPS Service Engineer, Electrical Infrastructure Engineer, Power Systems Engineer	 35%	 15%	 43	UPS sizing, PDU redundancy, Microgrids
Cooling Systems 	Chennai (50%), Mumbai (20%), Hyderabad (15%)	Data Centre HVAC Engineer, Chiller Plant Technician, CRAH/CRAC Engineer, Thermal Systems Engineer, Cooling Infrastructure Specialist	 30%	 12%	 40	Liquid cooling, PUE <1.4 optimisation, CRAC/chiller systems
Safety Systems 	Navi Mumbai (35%), Noida (25%), Pune (20%)	Fire & Life Safety Engineer, Fire Suppression System Engineer, VESDA Specialist, Fire Protection Engineer, Data Centre Safety Officer	 15%	 14%	 93	FM200 systems, VESDA detection, Fire suppression integration
Electrical Distribution 	Pune (30%), Hyderabad (25%), Chennai (20%)	Switchgear Engineer, Transformer Maintenance Engineer, Electrical Distribution Engineer, HT/LT Panel Engineer, Substation Engineer	 10%	 8%	 80	Dual-grid switching, Arc flash compliance, Load balancing
Building Management 	Bengaluru (35%), Noida (25%), Mumbai (20%)	BMS Engineer, SCADA Engineer, Building Automation Engineer, Data Centre Controls Engineer, Facilities Monitoring Specialist	 5%	 6%	 120	BMS integration, SCADA alarming, Automation control systems
Renewable Integration 	Gujarat (40%), Rajasthan (25%), Telangana (20%)	Renewable Energy Engineer, Solar Integration Engineer, Hybrid Power Systems Engineer, Energy Storage Engineer, Sustainability Engineer – Data Centre	 5%	 3%	 60	Solar inverters, Battery storage systems, Hybrid energy integration

Critical infrastructure risk is concentrated in power (SSI 43) and cooling (SSI 40), where combined demand accounts for 65% of Facilities Engineering roles, but supply remains below 15%. This indicates that hyperscale expansion is being constrained more by thermal and electrical talent than by capital or land availability.

$$\text{SSI} = (\text{Supply \%} \div \text{Demand \%}) \times 100$$

IT Operations Supply Demand Matrix

Key Role Clusters	Demand Locations (% Share)	Key Job Roles Involved	Demand %	Supply %	SSI Index	Top Skills Shortage
Core Operations 	Bengaluru (45%), Noida (20%), Chennai (15%)	Data Centre Technician, Data Center Operations Engineer, Data Center Engineer, Site Operations Engineer	 35%	 16%	 46	DCIM tools, rack & stack installation, hot-swaps, incident response, power & cooling coordination
Capacity Planning 	Noida (30%), Bengaluru (25%), Hyderabad (20%)	Data Centre Capacity Planner, Capacity Planning Engineer, Infrastructure Capacity Analyst	 20%	 14%	 70	Rack density forecasting (>25kW), Power utilisation modelling, Space optimisation, Load balancing, Capacity reporting dashboards
System Monitoring 	Chennai (30%), Pune (25%), Mumbai (20%)	NOC Engineer, Network Operations Center Engineer, Monitoring Engineer	 20%	 12%	 60	SolarWinds monitoring, SLA tracking (99.999%), Incident ticketing (ServiceNow), Infrastructure alerting, Root cause analysis
Shift Management 	Bengaluru (35%), Navi Mumbai (25%), Noida (20%)	Data Centre Operations Manager, Shift Lead – Data Center Operations, Site Operations Manager	 10%	 8%	 80	Incident command, Escalation management, Change management, Operational SOP governance, Business continuity coordination
Tool Administration 	Hyderabad (30%), Bengaluru (25%), Chennai (20%)	DCIM Administrator, Configuration Management Analyst, IT Asset Management Analyst	 10%	 7%	 70	iTRACS, CMDB synchronization, Asset lifecycle management, Configuration auditing, Infrastructure automation tools
Customer Operations 	Mumbai (35%), Pune (25%), Noida (20%)	Service Delivery Manager – Data Centre, Technical Account Manager, Data Center Customer Support Engineer	 5%	 34%	 80	SLA reporting, Client incident coordination, Service review governance, Performance reporting, Customer escalation handling

Shortages persist in core operations (SSI 46), where hands-on execution skills such as DCIM management, rack operations and incident handling are critical to uptime reliability. This confirms that operational depth, rather than strategic oversight, remains the primary workforce constraint.

Network Engineering Supply Demand Matrix

Key Role Clusters	Demand Locations (% Share)	Key Job Roles Involved	Demand %	Supply %	SSI Index	Top Skills Shortage
SDN Architecture 	Mumbai (40%), Bengaluru (30%), Chennai (15%)	SDN Engineer, Network Architect – Data Centre, Data Centre Network Engineer, Fabric Engineer	 30%	 18%	 60	EVPN-VXLAN configuration, 400G switching, Spine-leaf architecture, Cisco ACI, Arista EOS
Core L3 Networking 	Navi Mumbai (35%), Hyderabad (25%), Pune (20%)	Network Engineer, Senior Network Engineer, Data Centre Network Engineer, BGP Engineer	 25%	 17%	 68	BGP tuning, OSPF routing, ToR redundancy, MPLS configuration, Route reflectors
Performance / QoS 	Noida (30%), Bengaluru (25%), Mumbai (20%)	Network Performance Engineer, QoS Engineer, Network Optimisation Engineer	 15%	 12%	 80	QoS policy marking, Latency optimisation (<1ms paths), Traffic shaping, Packet analysis, Network performance monitoring
Wireless Infrastructure 	Gurugram (40%), Bengaluru (25%), Noida (20%)	Wireless Network Engineer, Private 5G Engineer, DAS Engineer	 10%	 6%	 60	DAS deployment, CBRS configuration, Private 5G setup, RF optimisation, Wireless site surveys
Load Balancing 	Mumbai (35%), Hyderabad (25%), Bengaluru (20%)	F5 Engineer, Network Security Engineer – Load Balancing, Application Delivery Controller (ADC) Engineer	 10%	 7%	 70	F5 LTM configuration, SSL offloading, GSLB setup, Traffic management policies, ADC troubleshooting

SDN architecture (SSI 60) and wireless infrastructure (SSI 60) represent two of the most structurally constrained domains, particularly as hyperscale environments shift toward spine-leaf fabrics, 400G interconnects and private 5G-ready architectures. This indicates that next-generation network design, rather than legacy routing, is becoming the emerging bottleneck.

Systems/Compute Supply Demand Matrix

Key Role Clusters	Demand Locations (% Share)	Key Job Roles Involved	Demand %	Supply %	SSI Index	Top Skills Shortage
Hyperconverged Infrastructure (HCI) 	Bengaluru (50%), Hyderabad (20%), Noida (15%)	HCI Engineer, Nutanix Administrator, Infrastructure Engineer – HCI, Systems Engineer – Hyperconverged	 30%	 20%	67	Nutanix AHV management, VMware vSAN architecture, HCI cluster scaling, Software defined storage policies, HCI lifecycle automation
Compute Systems 	Chennai (30%), Pune (25%), Mumbai (20%)	Systems Engineer, Server Administrator, Data Centre Systems Engineer, Infrastructure Engineer	 25%	 18%	72	Linux server performance tuning, Hardware resource optimisation, Bare metal provisioning automation, Firmware lifecycle management
Storage Management 	Navi Mumbai (30%), Hyderabad (25%), Bengaluru (20%)	SAN Administrator, Storage Engineer, Data Centre Storage Engineer, NVMe Specialist	 20%	 15%	75	NVMe over Fabric configuration, SAN fabric zoning, Storage replication strategies, Snapshot management, Storage performance tuning
High Performance Compute (HPC) 	Bengaluru (45%), Pune (25%), Noida (15%)	HPC Engineer, GPU Infrastructure Engineer, Data Centre Compute Engineer	 10%	 7%	70	GPU infrastructure configuration, CUDA optimisation, HPC workload schedulers (SLURM), Parallel computing frameworks, AI training infrastructure tuning
Virtualisation 	Hyderabad (35%), Chennai (25%), Mumbai (20%)	VMware Administrator, Virtualisation Engineer, Infrastructure Engineer – Virtualization	 10%	 8%	80	VMware ESXi optimisation, Hypervisor capacity tuning, VM lifecycle automation, Infrastructure as Code for virtual environments, Disaster recovery orchestration
Container Operations 	Bengaluru (50%), Noida (25%), Pune (15%)	Kubernetes Administrator, Container Platform Engineer, DevOps Engineer – Containers	 5%	 4%	80	Kubernetes cluster orchestration, Container networking (CNI), Service mesh configuration, Container security policies, Platform engineering for container environments

Hyperconverged Infrastructure (SSI 67) and High Performance Compute (SSI 70) represent strategic pressure points as AI-driven workloads increase rack density and distributed compute complexity. **While overall Systems/Compute shows relatively balanced SSI levels (≥ 67), GPU, NVMe, and container-native environments indicate a clear transition from traditional server administration to AI-optimized, software-defined compute architectures.**

Cloud Operations Supply Demand Matrix

Key Role Clusters	Demand Locations (% Share)	Key Job Roles Involved	Demand %	Supply %	SSI Index	Top Skills Shortage
AI Operations (AIOps) 	Bengaluru (55%), Hyderabad (20%), Pune (15%)	AIOps Engineer, MLOps Engineer, Site Reliability Engineer (SRE), Machine Learning Operations Engineer	 30%	 14%	 47	Dynatrace automation, Predictive analytics, Observability platforms, Incident automation, ML model monitoring
Cloud Architecture 	Noida (30%), Bengaluru (30%), Chennai (20%)	Cloud Architect, Solutions Architect – Cloud, AWS Solutions Architect, Azure Cloud Architect	 25%	 17%	 68	Multi-cloud disaster recovery, Service mesh (Istio), Infrastructure as Code (Terraform), Kubernetes (EKS/AKS), Cloud migration strategy
Machine Learning Operations (MLOps) 	Hyderabad (35%), Bengaluru (30%), Pune (20%)	MLOps Engineer, Machine Learning Engineer, Kubeflow Engineer, AI Platform Engineer	 20%	 11%	 55	Kubeflow pipelines, Seldon deployment, Model lifecycle management, CI/CD for ML, Containerised ML workloads
Cloud Economics (FinOps) 	Mumbai (35%), Noida (25%), Bengaluru (20%)	FinOps Analyst, Cloud Cost Analyst, Cloud Financial Operations Manager	 10%	 8%	 80	Spot instance optimisation, Cost allocation tagging, Cloud billing analytics, Reserved instance planning, FinOps governance
Cloud Security 	Gurugram (40%), Noida (25%), Mumbai (20%)	Cloud Security Engineer, CSPM Engineer, Cloud Security Architect	 10%	 6%	 60	Prisma Cloud, Aqua Security, CNAPP implementation, IAM governance, Cloud workload protection
Platform Engineering 	Bengaluru (45%), Hyderabad (25%), Pune (20%)	Platform Engineer, DevOps Engineer, Site Reliability Engineer, GitOps Engineer	 5%	 4%	 80	GitOps workflows, ArgoCD deployment, Backstage platform integration, CI/CD automation, Kubernetes platform management

Security Engineering – Final Supply Demand Matrix

Key Role Clusters	Demand Locations (% Share)	Key Job Roles Involved	Demand %	Supply %	SSI Index	Top Skills Shortage
Zero Trust 	Noida (40%), Mumbai (25%), Bengaluru (20%)	Zero Trust Architect, ZTNA Engineer, Cybersecurity Architect, Network Security Engineer	 30%	 19%	63	Zscaler implementation, Continuous verification models, Zero Trust architecture design, Identity-aware access controls, Micro-segmentation
Next-Gen Firewall (NGFW) 	Mumbai (35%), Chennai (25%), Hyderabad (20%)	Network Security Engineer, Firewall Engineer, Palo Alto Engineer, Security Operations Engineer	 20%	 4%	70	Palo Alto Panorama, Threat hunting, Firewall policy management, SSL inspection, Intrusion prevention systems (IPS)
Identity & Access Management (IAM) 	Gurugram (35%), Noida (30%), Pune (20%)	IAM Engineer, Identity Management Engineer, Okta Administrator, Access Governance Specialist	 20%	 13%	65	SailPoint implementation, Privileged Access Management (PAM), Okta configuration, SSO integration, Role-based access control (RBAC)
Disaster Recovery & Business Continuity 	Navi Mumbai (30%), Bengaluru (25%), Chennai (20%)	Disaster Recovery Architect, Business Continuity Manager, DR Engineer, Resilience Engineer	 15%	 9%	60	RPO/RTO <4 hours design, DR replication strategies, Backup orchestration, Failover automation, Geo-redundant architecture
SIEM / SOAR 	Noida (35%), Hyderabad (25%), Mumbai (20%)	SIEM Engineer, Security Analyst, Splunk Engineer, SOC Analyst	 10%	 7%	70	Splunk SPL queries, QRadar configuration, Phantom playbooks, Log correlation, Incident response automation
Cloud Security 	Bengaluru (40%), Gurugram (25%), Noida (20%)	Cloud Security Architect, Cloud Security Engineer, CSPM Engineer	 5%	 4%	80	Prisma Cloud deployment, Wiz platform configuration, CNAPP implementation, Cloud workload protection (CWPP), IAM hardening

Zero Trust (SSI 63) and Disaster Recovery (SSI 60) highlight moderate but strategically critical supply gaps, particularly as 30% of demand originates from regulated BFSI and Government workloads. While Cloud Security shows relative balance (SSI 80), the acceleration of compliance mandates and AI-driven infrastructure will increasingly elevate Zero Trust, IAM, and DR capabilities as national resilience priorities.

Operations Management – Supply Demand Matrix

Key Role Clusters	Demand Locations (% Share)	Key Job Roles Involved	Demand %	Supply %	SSI Index	Top Skills Shortage
Facility Leadership 	Noida (40%), Mumbai (25%), Bengaluru (20%)	Data Center Facility Manager, Site Director – Data Centre, Critical Facilities Manager, Data Center Operations Manager	 35%	 23%	 66	P&L management, Capacity utilisation planning (99% uptime), Critical environment governance, Vendor coordination, Uptime Institute standards
Sustainability Operations 	Mumbai (35%), Chennai (25%), Hyderabad (20%)	Sustainability Manager – Data Centre, ESG Manager, Energy & Sustainability Lead, RE100 Program Manager	 20%	 14%	 70	Scope 3 reporting, Renewable PPAs, Carbon accounting, Energy efficiency optimisation, Sustainability compliance frameworks
Vendor Ecosystem Management 	Gurugram (35%), Noida (30%), Pune (20%)	Vendor Manager, Data Centre Procurement Manager, SLA Manager, Supplier Relationship Manager	 15%	 11%	 73	Contract negotiation, Vendor scorecards, SLA governance, Procurement optimisation, Multi-vendor coordination
Regulatory Compliance 	Navi Mumbai (30%), Bengaluru (25%), Chennai (20%)	Compliance Manager, Data Protection Officer, Risk & Compliance Manager, Information Security Compliance Manager	 10%	 8%	 80	Tier certifications (III/IV), SOC 2 audits, ISO 27001 compliance, DPDP adherence, Regulatory risk assessment
Program Management 	Noida (35%), Hyderabad (25%), Mumbai (20%)	Program Manager – Data Centre, Infrastructure Program Manager, DCIM Program Manager, Data Centre Migration Manager	 10%	 7%	 70	PMP methodology, Large-scale migrations, Cross-functional coordination, CapEx planning, Project governance frameworks

In Demand Skill Clusters of Data Centre and Forecasting

Key Role Clusters	2023	2024	2025	2026	2027	2028	2029
Customer, Service Delivery & Vendor Mgmt (ITIL, SLA, Change Management, Vendor Management, Stakeholder Management, Incident Management)	7,754	8,219	9,041	9,764	11,989	14,722	18,077
Cloud & DevOps (AWS, Azure, GCP, Kubernetes, Docker, Terraform, CI CD, Ansible)	7,406	7,850	8,635	9,326	11,451	14,061	17,266
Security & Compliance (ISO 27001, SOC 2, PCI DSS, SIEM, Access Control, Audit, Risk Assessment)	6,559	6,953	7,648	8,260	10,142	12,454	15,292
Automation & Monitoring (SCADA, DCIM, Prometheus, Grafana, Splunk, Python, PowerShell, Monitoring Tools)	5,112	5,419	5,961	6,438	7,905	9,707	11,919
Network & Connectivity (Routing, Switching, BGP, OSPF, Fibre Optics, LAN, WAN, ISP Connectivity)	4,731	5,015	5,517	5,958	7,316	8,983	11,030
Data Centre Operations & Facilities (NOC Operations, CMMS, SOP Management, Preventive Maintenance, Shift Operations, Incident Response)	4,185	3,767	4,219	4,556	5,594	6,869	8,435
Servers, Storage & Virtualisation (Linux, Windows Server, VMware, Hyper V, SAN, NAS, KVM, Storage Systems)	3,546	3,759	4,135	4,466	5,484	6,734	8,268
Project & Build (MEP, Commissioning, Construction Management, BOQ, Tendering, Capex Planning, Civil Engineering)	1,802	1,622	1,817	1,962	2,409	2,958	3,632
Cooling & HVAC (Chiller Systems, CRAC Units, CRAH Units, AHU, Liquid Cooling, Thermal Management, CFD Analysis)	665	599	670	724	889	1,092	1,340
Electrical & Power Systems (UPS, Diesel Generator, LT Panels, HT Panels, Switchgear, Transformer, PDU, Earthing Systems)	457	412	461	498	611	751	922



Why Cloud & DevOps (+133%) and Security & Compliance (+133%) Signal an Automation-Led Expansion

- Built using Infrastructure as Code (IaC)
- Managed through Kubernetes and container platforms
- Automated via CI/CD pipelines
- Orchestrated across hybrid and multi-cloud environments



Simultaneously, Security & Compliance growing +133% reflects:

- Data localisation enforcement
- BFSI and regulated industry migration
- DPDP-style regulatory compliance
- SOC2 / ISO 27001 mandates for global cloud exports

Facilities engineering demand is also accelerating

Cooling and HVAC roles will grow from 665 to 1,340 (+101%), and Electrical and Power Systems roles from 457 to 922 (+102%). This reinforces that facilities engineering capability must scale in parallel with hyperscale and AI capacity growth to avoid becoming a national bottleneck.

Market Restraints

What Challenges Is the India Data Centre Market Facing?

India's data center sector is expanding rapidly, supported by ~\$90 billion in total announced investments and ~\$70 billion under execution, alongside gigawatt-scale AI campus commitments. However, structural constraints in energy economics, workforce sufficiency, and infrastructure readiness pose measurable risks to sustainable hyperscale growth.

1 High Power Costs and Energy Infrastructure Limitations

- Energy accounts for 30-50% of total data centre operating expenditure, making electricity tariff competitiveness a primary determinant of facility economics ⁴

2 Skilled Workforce Availability and Training Requirements

- IT Operations reflects a 73% shortage, with core operations showing 35% demand versus 16% supply (SSI 46), creating a 19-point operational staffing gap (Job Family SSI data)
- AI Operations records an SSI of 47, with 30% demand versus 14% supply, highlighting capability constraints in automation as AI expansion accelerates

3 Land Acquisition and Infrastructure Development Challenges

- Megawatt-scale projects such as Airtel Nxtra's target of ~400MW by 2027 highlight rising hyperscale land requirements
- Major hubs including Mumbai, Delhi-NCR, Hyderabad, and Chennai account for a dominant share of deployments, increasing land aggregation complexity
- Hyperscale campuses require tens of contiguous acres near substations and fibre corridors, making fragmented zoning policies a structural constraint on expansion

4 Explosive Cloud & Digital Transaction Growth

- India recorded **918 million** internet subscribers with **65.9%** penetration, driving rapid cloud-native adoption.
- UPI processes 628 million daily transactions and recorded 19.47 billion transactions in July 2025, increasing backend cloud processing demand
- The scale of digital payments and enterprise workloads requires hyperscale-ready infrastructure to support high-frequency transaction environments

Conclusion

India's data center sector is entering a structurally durable expansion cycle driven by capital visibility, cloud acceleration, AI compute densification, and regulated sector digitisation. The projected growth from \$5.55 Bn in 2025 to \$13.11 Bn by 2034 reflects sustained infrastructure demand rather than cyclical momentum. Capital commitments, hyperscale campus announcements, and application concentration in IT Telecom and BFSI validate long term absorption capacity.

The demand side is clear. Nearly 48% of workloads originate from IT and Telecom, while BFSI and Government together contribute 30%, anchored by high frequency digital payments, sovereign cloud mandates, and compliance requirements. Digital intensity metrics including 950+ Mn internet users and 19.47 Bn monthly UPI transactions structurally reinforce backend compute, storage, and low latency architecture expansion.

The defining constraint is not capital. It is capability. Core IT Operations, AI Operations, Power Systems, and Cooling functions show measurable supply demand gaps. Cloud and Security skill clusters are projected to expand at +133% through 2029, while Cooling and Electrical roles are set to more than double.

India's next decade of data center expansion will not be defined solely by megawatts deployed. It will be determined by how effectively the ecosystem transitions from capacity expansion to capability depth — aligning capital, energy, geography, and specialised workforce architecture to sustain hyperscale resilience.

Sources

1. NPCI data trends
2. Application share data, 2025
3. AdaniConneX–Google; Reliance–Nvidia, 2025
4. industry Opex benchmarks

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