ENTRY POINT 2 — INFRASTRUCTURE

# Micro / Edge Data Centre Operator

Owning a modular, Tier II-ready colocation facility (500–2,000 sq ft) in a Tier 2 Indian city — business case, financial structure, and go-to-market strategy.

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## 01 Executive Summary

India's data centre industry is expanding at scale — but the next leg of growth is geographic. Hyperscalers are locked into Mumbai, Chennai, Hyderabad, and Pune. Meanwhile, enterprises in cities like Indore, Coimbatore, Vadodara, Lucknow, and Jaipur are running on substandard BSNL rack space or paying premium freight to co-locate in metros. This gap is the opportunity.

A micro/edge data centre — 500 to 2,000 sq ft, Tier II-ready, locally owned and operated — can capture latency-sensitive and compliance-sensitive demand in underserved markets. The model is capital-intensive at entry but generates highly recurring, sticky revenue once leased up.

| CAPEX RANGE | YIELD ON COST | PAYBACK PERIOD | REVENUE MODEL |
|---|---|---|---|
| **₹3–8Cr** | **18–28%** | **4–6 yrs** | **Rack + kW** |
| 500–2,000 sq ft buildout | Stabilised EBITDA / Capex | At 70%+ utilisation | Monthly MRC contracts |

## 02 Market Context

India's installed data centre capacity is projected to reach 3,000+ MW by 2027, up from under 900 MW in 2022. But nearly 85% of this capacity sits in six Tier 1 metros. Tier 2 and Tier 3 cities — home to 60%+ of India's GDP growth — remain dramatically underserved.

DEMAND DRIVERS IN TIER 2 CITIES

### 🏦 BFSI & Fintech

RBI's data localisation mandate forces NBFCs, insurance companies, and payments players to keep customer data onshore — preferably in-region. Compliance is non-negotiable.

### 📱 Edge AI & IoT

Latency requirements for real-time applications — smart traffic, industrial automation, retail analytics — demand compute within 30–50ms of the end user or device.

### 🏛️ Government & EdTech

Digital India, PM e-Vidya, and state government cloud mandates generate consistent workloads that need reliable regional hosting — not cloud-only architectures.

### 🚚 Logistics & Manufacturing

ERP, WMS, and supply-chain SaaS adopted by SMEs in industrial corridors — Surat, Ludhiana, Coimbatore — require reliable local compute with guaranteed uptime windows.

**TARGET CITIES (ILLUSTRATIVE)**

| | | | | |
|---|---|---|---|---|
| Indore | Jaipur | Coimbatore | Vadodara | Lucknow |
| Bhubaneswar | Nagpur | Kochi | Chandigarh | Visakhapatnam |

City selection criteria: existing IT/ITES ecosystem, state government digital initiatives, power infrastructure quality, absence of organised colocation supply, and access to OFC backbone routes.

## 03 Facility Specification

A micro DC in this category does not compete with hyperscale. It competes with chaos — unreliable shared hosting, distant metro colo, and enterprise server rooms with no uptime guarantees. The Tier II standard (99.741% uptime, N+1 redundancy) is the minimum viable threshold for BFSI and government customers.

| PHYSICAL SPECS | |
|---|---|
| Floor area | **500–2,000 sq ft** |
| Rack count | **20–100 racks** |
| IT load capacity | **100–500 kW** |
| Target PUE | **1.5–1.7** |
| Tier classification | **Tier II (99.741%)** |
| Rack density | **3–8 kW/rack** |

| INFRASTRUCTURE STACK | |
|---|---|
| Power | **N+1 UPS + DG backup** |
| Cooling | **Precision AC / CRAC** |
| Connectivity | **Dual ISP + dark fibre** |
| Security | **Biometric + CCTV + 24x7** |
| Fire suppression | **Clean agent / FM200** |
| Monitoring | **BMS + remote NOC** |

## 04 Financial Model

Illustrative model for a 50-rack, 200 kW IT load facility in a Tier 2 city. Revenue assumes a blended mix of colocation, power billing, and managed services. All figures in Indian Rupees.

**CAPEX BREAKDOWN — 50-RACK FACILITY (INR CRORE)**

| COMPONENT | LOW | MID | HIGH |
|---|---|---|---|
| Civil & fit-out (leased premises) | 0.60 | 0.90 | 1.40 |
| Power infrastructure (UPS, DG, panels) | 1.00 | 1.40 | 2.00 |
| Cooling systems (CRAC, ducting, chillers) | 0.60 | 0.90 | 1.30 |
| Racks, structured cabling, PDUs | 0.40 | 0.55 | 0.80 |
| Security, fire suppression, BMS | 0.30 | 0.45 | 0.70 |
| Connectivity (fibre, routers, setup) | 0.20 | 0.30 | 0.50 |
| Contingency + pre-operational costs | 0.20 | 0.30 | 0.50 |
| **Total Capex (INR Cr)** | **3.30** | **4.80** | **7.20** |

**STEADY-STATE P&L — 70% UTILISATION (INR LAKH / YEAR)**

| LINE ITEM | AMOUNT | NOTES |
|---|---|---|
| Colocation revenue (rack rental) | 84 | 35 racks x INR 20,000 MRC |
| Power revenue (kW billing) | 60 | 140 kW x INR 3.5/unit passthrough |
| Managed services & add-ons | 36 | Remote hands, monitoring, backup |
| Gross Revenue | 180 | |
| Power (direct cost) | (48) | ~INR 7/unit avg. at 70% load |
| Opex (staff, premises, ISP, maintenance) | (54) | 3–4 FTEs + premises + ISP |
| EBITDA | 78 | 43% margin |
| Depreciation & amortisation | (24) | 5-yr straight line on capex |
| **EBIT** | **54** | |

| EBITDA MARGIN | PAYBACK (MID) | REVENUE / RACK | CASH BREAK-EVEN |
|---|---|---|---|
| **43%** | **~6.2 yrs** | **INR 4.3L** | **~40%** |
| At 70% utilisation | INR 4.8Cr / INR 78L EBITDA | Annual at 70% fill | Fill rate for +ve EBITDA |

Revenue sensitivity: every 10% improvement in utilisation adds ~INR 18L to EBITDA. Every INR 1/unit reduction in net power cost adds ~INR 17L. Managed services mix is the highest-margin lever — target 20%+ of gross revenue at steady state.

## 05 Go-to-Market Strategy

Micro DC operators succeed through hyperlocal relationships, not brand. The sales motion is fundamentally enterprise direct — identifying the 8–12 anchor tenants needed for viability, then building from there. Marketing spend before facility commissioning is largely wasted.

**1**

### Pre-launch — Months 1–6

Identify 2–3 anchor tenants before breaking ground. NBFCs, regional banks, and state government IT departments are ideal — they sign 36-month MRCs and provide capital visibility. Secure a Letter of Intent before committing capex. No LOI = no build.

**2**

### Build & Certify — Months 4–10

Commission facility with Tier II design compliance. Pursue ISO 27001 and SOC 2 Type I to satisfy BFSI customers. Tie up dark fibre or OFC with BSNL, Tata Tele, or Railtel depending on city. Document SLAs and disaster recovery runbooks before Day 1.

**3**

### Ramp — Months 10–24

Fill remaining capacity via channel — IT integrators, NASSCOM regional clusters, Microsoft / AWS partner networks. Offer managed services overlay (NOC, patching, remote hands) to increase revenue per rack and reduce churn. Target 70% fill by month 24.

**4**

### Expand or Exit — Year 3+

At stabilised utilisation, either add a Phase 2 module, replicate to a second city, or position the asset for acquisition by a regional DC roll-up (Yotta, NTT, Sterlite). Standardised build specs and consistent SLA delivery drive multiple expansion.

## 06 Competitive Positioning

The micro DC is not trying to win on scale. It wins on proximity, relationships, and the regulatory tailwinds that make local hosting a compliance necessity rather than a preference. The target customer is not choosing between you and AWS — they are choosing between you and chaos.

### 🏆 Defensible moats

First-mover advantage in city. Regulatory compliance friction for tenants to switch. Long-term MRCs (36 months standard). High switching cost once network and power are integrated into tenant architecture. Local government relationships that remote operators cannot replicate.

### ⚠️ Competitive threats

Large operators (Nxt Gen, Yotta, STT) expanding Tier 2 footprint. Hyperscaler edge zones reducing latency needs. Telecom operators (Jio, Airtel) with existing real estate and power advantages. PE-backed DC roll-ups with access to cheaper capital.

**KEY DIFFERENTIATORS TO LEAD WITH IN SALES**

| | | | | |
|---|---|---|---|---|
| Sub-10ms local latency | Data residency compliance | 24x7 on-site staff | Custom SLA structuring | Flexible term lengths |

## 07 Risk Register

### Demand concentration risk — HIGH

If 1–2 anchor tenants represent 60%+ of revenue, any non-renewal is existential. Mitigate by diversifying across 8+ tenants from different verticals by stabilisation. Avoid single-tenant lock-in even if it seems easier at launch.

### Power infrastructure risk — HIGH

Grid unreliability in Tier 2 cities can spike DG costs and compress margins. PUE blowout under summer peak load is a documented failure mode in non-metro facilities. Conduct a power quality audit before site selection. Budget for 12+ hrs/day DG runtime in some cities.

### Slow fill rate — MEDIUM

Market education takes time. If ramp to 70% takes 36+ months instead of 18–24, payback extends to 7–9 years. Anchor tenant LOIs before capex are non-negotiable. Stress-test: what happens if no new tenant signs in months 12–18?

### Regulatory / compliance overhang — MEDIUM

DPDP Act implementation timelines, evolving RBI IT framework, and potential changes to data localisation norms could alter demand structure. Monitor MeitY and RBI circulars quarterly.

### Technology obsolescence — LOW (structural)

Power density requirements are rising as GPU workloads proliferate. A facility designed for 3–5 kW/rack may struggle with AI-adjacent workloads at 10–15 kW/rack. Design with liquid cooling readiness as a hedge even if not deployed at launch.

## 08 Strategic Verdict

This is a real business with real moats — but it is not a quick-capital play. The winning formula requires city selection discipline, anchor tenant validation before capex, and a managed services overlay to protect margins against power cost volatility. Operators who treat this as a “build it and they will come” real estate play will fail. Operators who lead with customer relationships and use the facility as infrastructure will build durable, acquirable assets.

The acquisition opportunity is real. Indian DC roll-ups are actively seeking stabilised micro-DC assets in Tier 2 cities. A well-run 50-rack facility at 75%+ utilisation can command 8–12x EBITDA in an M&A context — implying significant equity creation relative to the INR 5Cr capex entry point.

> **ASSESSMENT**
>
> Attractive for a promoter with existing enterprise relationships in a target city, access to INR 4–6 Cr of patient capital, and operational tolerance for an 18–24 month ramp. The edge in this business is local — not financial engineering. Unsuitable as a purely passive investment. Best held with a 5–7 year horizon: operate, stabilise, and sell into a roll-up or build a multi-city platform.