

Development of Data Centers

Investment pitchbook

September 2025



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Executive Summary

Attractive Investment Destination

- **Pakistan** is emerging as a **regional powerhouse**, with a **reformed economy** (inflation stabilized at the lowest level in the past 50 years and GDP expected to cross USD 3.3T by 2050) and **vibrant talent** (7th largest global workforce, with 64% of the workforce under 30)
- Investors can count on **strong IT ecosystem and attractive incentives and government support**, including tax holidays and profit repatriation




Captive Demand

- As the country is undergoing a rapid digital transformation, authorities recognize the criticality of data security and are implementing **policies that mandate onshore data storage for banks and government institutions**
- Consequently, **demand for data center infrastructure for colocation services** (i.e., rental of rack space for servers owned by end customers) is expected to **quadruple to 63MW by 2030**, creating a **supply gap of 48MW** over the 15MW currently installed

Scalable Low-Complexity Operations

- Investors have the opportunity to **leverage captive demand from regulated customers** by **developing and operating a Tier III Data Center in Pakistan**
- A **medium-sized facility** with 1,000 racks with a **total capacity of 6MW** (i.e., c.a.12% of the supply gap) can be **set up in a special economic zone** for c.a. USD 60M and generate c.a. **USD 50M in run-rate revenues**
- Local banks can finance up to 70% of the project, resulting in c.a. **USD 18M in required equity investment and 32-34% IRR** over a 20-year operating horizon
- In addition, **local champions** such as PTCL (Etisalat subsidiary) have expressed **interest to partner with potential investors** through JVs or direct investment, with the possibility for further **scaling and service offer expansion** to cloud








Pakistan: Your IT Hub

Pakistan Value Proposition						
Reformed Economy 	USD 3.3Tn¹ Expected GDP in 2050 (from USD >410Bn ² today)	B- Improved Credit Rating ³ from CCC-	Top 10 In Business Entry Regulations ranking ⁵	Stabilized Inflation At lowest levels since 1968 ⁶	Stabilized Currency Achieved since 2023 in coordination with IMF	Special Technology Zones (STZs) Robust fiscal and trade incentive packages ⁷
Vibrant Demographics and Talent 	255 million Large and growing population ⁸	64% Population younger than 30 ⁸	7th largest Global workforce ⁹	2 million University students enrolled every year ¹⁰		
Emerging Digital Hub 	Pakistan Cloud First Policy¹¹ 146 agencies digitally transformed to date	>140 Mn Internet users	+14 place rise on UN e-government index	+20pp increase in broadband penetration between 2020-2024	22 data centers (15 MW Capacity) Currently operating in Pakistan	Added 26.5Tb of bandwidth By connecting to Africa-1 subsea cable in Karachi

1. Goldman Sachs; 2. National Accounts Committee; 3 Fitch Ratings; 4. Bloomberg, 84% in PKR; 5. World Bank's B-READY assessment; 6. US (St Louis) Federal Reserve Bank; 7. Pakistan Government; 8. United Nations, SIFC; 9. CIA World Factbook; 10. Higher Education Commission; 11. MoITT

Investors have an opportunity to develop and operate a Data Center in Pakistan

Opportunity overview and key highlights

Opportunity Description		Develop and operate a medium-sized facility with 1,000-Rack Tier III Data Center in Pakistan (with an estimated total capacity of 6 MW) ¹ focused on colocation services for local enterprise customers
High-Level Opportunity Facts		Value Proposition
A	Project Details	
	 Tier III Data Center	 1,000 Rack
		 6 MW capacity ¹
B	Supply-Demand Gap	
	Data center demand from regulated customers is expected to surpass 60 MW by 2030, while in-country supply is c.a. 15 MW	
C	Investment Model	
	Private sector investment with strong government support	
D	Return Profile ²	
	IRR: 32-34%	
	Run-Rate Revenues ³	
	USD 38-39Mn	
	Estimated Project Cost	
	USD 59-61Mn (USD 18-20Mn in equity)	
		 Strong Government Backing: Government mandates local cloud adoption for banks and public entities, while policy support and potential incentives enhance project viability and investor returns
		 Surging Digital Demand: Pakistan's rapid digital transformation is driving robust demand for data center infrastructure
		 Presence of Credible Prospective Partners: Local champions active in the data center and cloud services space interested to partner with international investors
		 Power & Land Advantage: 13 GW surplus power and abundant land availability ensure scalable deployment

1. Data center capacities are commonly built in multiples of 6 MW, with a 6 MW configuration representing a typical medium-sized facility within the Pakistani market
2. In local currency; over 30 years of operations; 70% financing (detailed in Business Case section)
3. By year 5 of operations (inflation adjusted)

A. The Tier III certified data center will offer colocation (rack space rental) services to local customers, targeting government entities and banks as first priority clients

Project details



Offering

- Colocation: businesses rent space in a data center to host their servers and other computing hardware
- Data center provides physical space, power, cooling, and network connectivity
- No cloud or other software services provided in first phase



Technical Specifications

- Tier III certification (i.e., fault-tolerant, 99.982% uptime)
- 1,000 racks
- 6 MW capacity, with potential for subsequent expansion
- Liquid cooling to achieve more efficient heat removal
- Opportunity to diversify power generation sources



Targeted End-Users

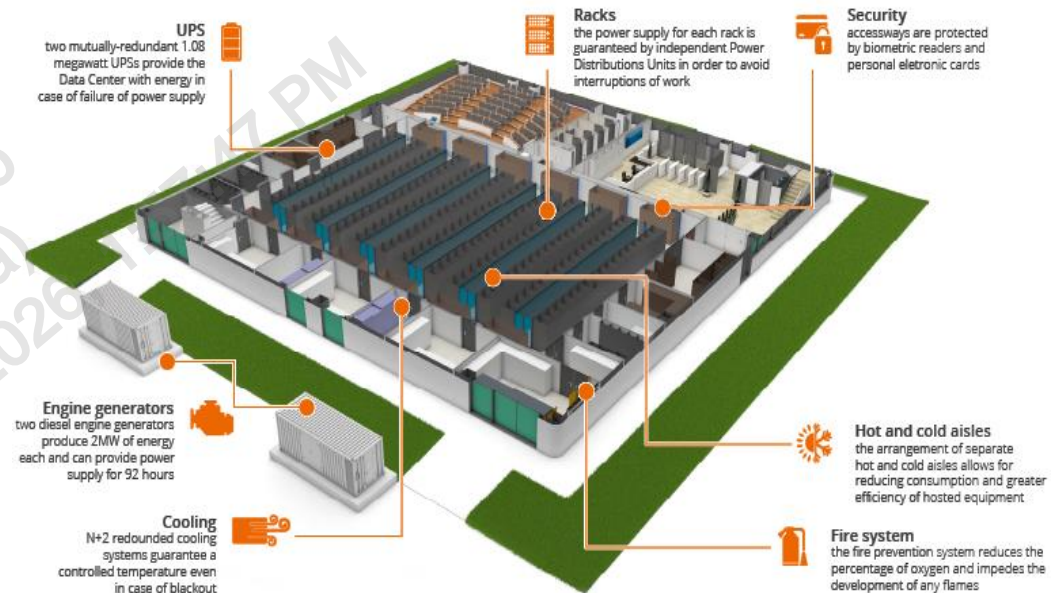
- Local regulated public and private entities:
 - *Government entities*, as per “Pakistan Cloud First Policy” mandating all government entities to store data in Pakistan
 - *Banking and Investment service providers*, as per the “Framework on Outsourcing to Cloud Service Providers” by the State Bank of Pakistan
- Telecom operators also considered high potential clients or partners, as they tend to build their own data centers as core part of operations



Location

- Key city with strong fiber connection, power stability (i.e., Islamabad, Karachi, Lahore as top choices)
- Targeted special economic or technology zones, where power supply is guaranteed by the government

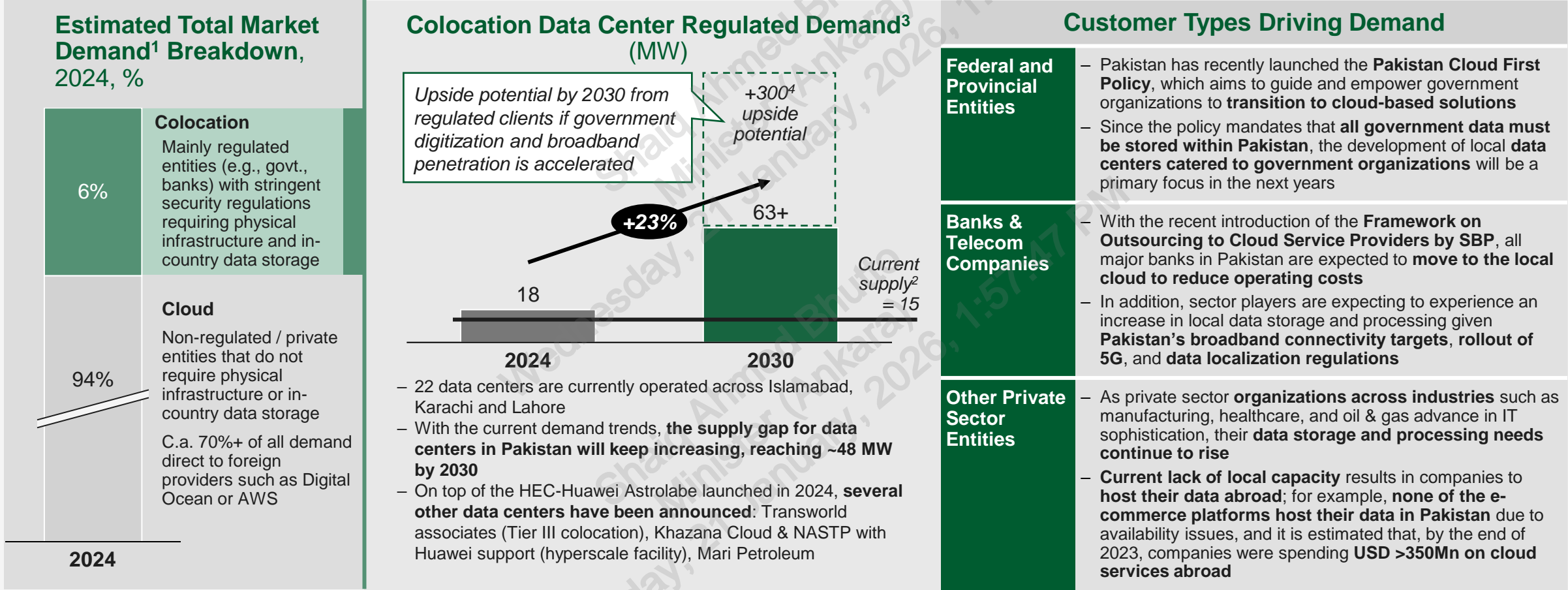
Data Center Schematic Overview



B. The opportunity aims to leverage the growing demand and undersupply DCs in Pakistan

Data center demand tailwinds

■ Demand captured by current opportunity



C. Investors will be supported by public and private parties in a robust IT ecosystem



Ministry of Information Technology and Telecommunication (MoITT)

- Responsible for policy planning and implementation oversight of Pakistan's ICT sector
- Mandate spans digital infrastructure, software and hardware industry development, broadband expansion, digital governance and cyber regulation



Special Investment Facilitation Council (SIFC)

- Facilitates and fast-tracks foreign and domestic investments
- Provides a streamlined, one-window operation for investor support and coordination across government entities

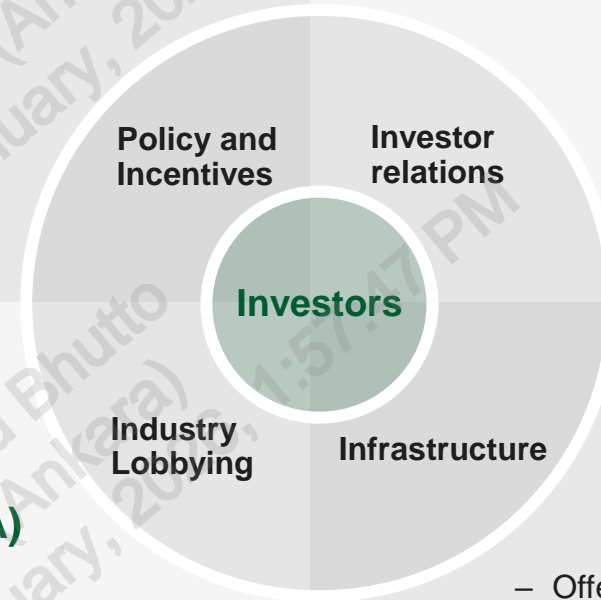


Pakistan Telecommunication Access Providers Association (PTAPA)

- Represents ICT sector interests
- Focuses on working with the government to develop favorable policies and initiatives to attract ICT companies to Pakistan

Special Economic Zones

- Offer fiscal and trade benefits
- Ensure robust infrastructure (e.g., electricity stability)



C. Investors will benefit from the Government support to create an attractive business and regulatory environment

Key opportunity enablers and incentives

Ease of Doing Business

- Ongoing review and simplification / deregulation across sectors
- One-stop licensing and digital registration
- Government intermediation with public entities



Demand Attractiveness

- Work with government to be included in preferred vendor list for government entities (when enforcing the 'Pakistan Cloud First Policy')



Tax & Fiscal Incentives

- Income tax exemptions for 10 years
- Reduced corporate taxes
- Potential customs duty reductions on data server equipment, if classified as capital goods



Land Incentives

- Industrial plots offered at below-market prices



For residents of Special Technology and Economic Zones (STZs, SEZs)

Government in process of establishing technology parks and clusters across major cities, with state-of-the-art infrastructure and incentives for tech companies and investors

Source: SIFC, P3A, other Pakistan Government entities

D. Consequently, investors can expect c.a. 32-34% IRR over the coming 20 years, with USD 58-61Mn in estimated CAPEX and 70% financing

Estimated project financials and investment case

(Figures provided are estimations based on available information)

Business Case			
Return profile	Expected IRR	32-34% ¹	<ul style="list-style-type: none"> – Computed based on 20-year operations (until asset assumed depreciated); assumes contracts indexed to USD – Reflects current market structure in Pakistan, where end customers are transferred the cost of electricity, thus boosting investment returns – 2-year development period
	Payback Period	c.a. 5 years ²	
Operations	Revenues ³	USD 43-44Mn (PKR 12.0-12.5Bn)	<ul style="list-style-type: none"> – 1,000 racks – Initial utilization 65% ramping up to 95% run-rate (by year 3 of operations)
	EBITDA Margin ³	53%	<p><i>NOTE: Power costs associated directly with server usage are transferred to end customers, therefore artificially increasing EBITDA margins</i></p> <ul style="list-style-type: none"> – Costs assumed: house load, server maintenance and operations, water cooling, land lease based on expert input
	NOPAT ^{3,4}	USD 14.5-15Mn (PKR 4.0-4.1Bn)	
Development	Construction Cost ⁵	USD 59-61Mn (PKR 16.5-17.5Bn)	<ul style="list-style-type: none"> – USD 10Mn per MW constructed (50% equipment; 35% construction and civil works, 15% distribution pathways) – 70% financing of construction – 12-year loan duration, 13.5% interest (based on offered local bank financing terms)
	Equity Input	USD 18-20Mn (PKR 5-5.5Bn)	<ul style="list-style-type: none"> – 30% equity required for development

Electricity cost efficiency











1. Computed on 20 year operating period; assumes 13x revenue multiple terminal value; 2. Payback period excludes 2 years of development lead time

3. Run-rate figures after demand stabilization (year 5 of operations / year 7 of contract); 4. NOPAT computed as EBIT * (1-Tax); Islamabad corporate tax rate of 29% applied

5. Estimated construction cost based on expert input and industry benchmarks

D. Support mechanisms are in place to support the mitigation of potential risks impacting the investment case

Key investment risks and mitigation measures

Risk type 	Description 	Degree of Risk 	Investor Mitigation Actions 	Public Sector Support 
Demand/revenue 	Risk of not achieving projected revenues or sales targets due to lower demand or competitive pressure	Low – Supply imbalance cemented by rapid pace of Pakistan's digitization and regulatory mandate on banks to keep data inside Pakistan	Focus go-to-market on pre-leasing and anchor tenants (i.e., securing 30-40% of capacity pre-launch)	Support demand through strong enforcement of regulatory requirements (i.e., requirement of local
Macroeconomic conditions 	Risk of inflation or currency depreciation affecting profitability	Medium – Recent track record of currency and inflation and currency (at lowest levels since 1968 ¹) pointing to stabilization	Arrange local currency financing for the project and enforce USD-indexed pricing for major long-term colocation clients	Facilitate access to local currency loans
Infrastructure 	Unreliable power supply and low fiber optic adoption affecting timely operations (incl. single point of failure of internet in Karachi)	Medium – The government is engaged in several infrastructure projects aimed at power supply stabilization and fiber optic roll-outs, especially in SEZs (special economic zones)	Locate in SEZ (special economic zone) where uninterrupted power supply is guaranteed by govt.; sign SLAs with internet providers to ensure uninterrupted internet	Ensure current infrastructure initiatives (i.e., stabilizing power supply, fiber optic roll-out) are on track
Electricity Costs 	Elevated electricity tariffs affecting investment profitability	Medium – Electricity prices in Pakistan are above regional ones; however, data center providers are passing the cost to customers in the current market structure (expected to remain the same on the short term)	Explore renewable energy integration to offset grid consumption on the long term; Continue transferring electricity cost to end-user on the short term	Considerations to sell surplus capacity at marginal cost by the Government
Regulatory / Legal 	Risk of sudden policy changes impacting contract or taxes	Low – Recent reforms and deregulation trend suggesting commitment to private sector partnerships	Include independent jurisdiction (e.g., UK) in contract; include robust stabilization and early termination clauses in concession contract	Offer legal protections and enable international arbitration where applicable

1. St. Louis Federal Reserve Bank

Connect with SIFC
to learn more



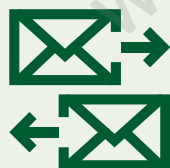
Website

<https://sifc.gov.pk/>



SIFC E-Service Gate

<https://ticketinghub.sifc.gov.pk/>



Email

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Stay connected



APPENDIX

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A. Pakistan has reemerged as an investment destination thanks to macroeconomic stability

Pakistan's Economic Turnaround in the News

**Pakistan Isn't That Risky Anymore.
Its Economy Is a Mini-Miracle.**

BARRON'S

**Pakistan Economy Grows Faster Than
Expected on IMF Aid Boost**

Bloomberg

**Fitch Upgrades Pakistan to 'B-';
Outlook Stable**

Fitch Ratings

**Azerbaijan to invest \$2 billion in
economic sector of Pakistan**

ARAB NEWS

A. Pakistan has a track record of successful Foreign Direct Investments across sectors

Examples of Foreign Direct Investment (FDI) projects in Pakistan

FDI projects (non-exhaustive)

AD Ports (UAE)
USD 220Mn



- 50 year concession agreement to manage, operate and develop the Karachi Gateway Terminal
- USD 200Mn investment in infrastructure development by AD Ports in first 10 years

Al Mirqab Capital (Qatar)
Power Construction Corp. (China) USD 2.09Bn



- Construction of coal-powered power plant in Port Qasim, under build-own-operate (BOO) model
- USD 2.09Bn investment, of which c.a. USD 500Mn in equity

DP World (UAE) and National Logistics Corp. (Pakistan) JV investment not public



- Joint venture (DP World: 60%) focused on road freight logistics approved
- Follows MoU by DP World for the development of 50km freight corridor from Karachi Port to Pripri

Air Arabia (UAE) and Lakson Group (Pakistan)
JV investment not public











- Air Arabia enters joint venture with Pakistan's Lakson Group to launch low-cost airline Fly Jinnah in 2022
- Operator certificate and license acquired

Other Announcements and MoUs (non-exhaustive)

- Reportage Properties (UAE): JV with Empire Holding Pakistan for USD 300Mn real estate development in Islamabad and Lahore
- Emaar Group (UAE): JV with Giga Group Pakistan for USD 2.4Bn Crescent Bay real estate
- Saudi Development Fund (KSA): Potential investment in mining infrastructure (USD 100Mn)
- Manara Minerals (KSA): Exploring stake in Reko Diq copper and gold mine (USD 7Bn)
- China-Pakistan Economic Corridor (China): Umbrella FDI initiative covering roads, railways, ports, energy, among others (USD 65Bn)




A. Multiple countries are heavily investing in data centers infrastructure to lay out the foundation for their digital connectivity

Examples of Data Center Infrastructure Investments in the Region

Data Center Partners	Partnership Type	Details
 	JV between local and international companies	<ul style="list-style-type: none"> – Digital Realty to design, deploy and bring in tenants for the DCs – Brookfield provides access to real-estate, funding and construction expertise – Jio provides equity investment and fiber connectivity and cloud applications
 	JV between local and international companies	<ul style="list-style-type: none"> – Omantel provides connectivity, sub-sea cable systems and landing stations – Equinix designs, builds and operates the Data centers
 	Anchor client (Alibaba) & DC infra. (STC)	<ul style="list-style-type: none"> – STC designs, builds and operates the Data centers – Alibaba is the anchor client, provides cloud solutions and transfers knowledge and cloud capabilities
 	JV between local and international companies	<ul style="list-style-type: none"> – CyrusOne to design, develop, commercialize and operate DCs – KEPCO to provide power, digital infrastructure and construction expertise

Developing new data centers in new markets involves leveraging deals with **local partners for real estate, power, and connectivity**, as well as creating **partnerships with anchor clients to steady demand**

A. Select governments are rolling out “Digital Embassy” opportunities, whereby local infrastructure is provided under foreign country jurisdiction in a cost-efficient way

Saudi Arabia Overview	Select Additional Benchmarks	Pros & Cons of Digital Embassies
<ul style="list-style-type: none">– Under the draft Global AI Hub Law, Saudi Arabia aims to establish “digital embassies”, allowing governments to establish sovereign data centers on Saudi soil under the foreign nation’s own jurisdiction– Under the law, KSA is considering to establish three models:<ul style="list-style-type: none">– Private hubs: A fully sovereign data center controlled 100% by a foreign government; only the guest country’s laws apply inside– Extended hubs: A third-party (e.g., private operator) runs the data center in Saudi, but hosts data for a foreign government under that government’s laws; KSA and the foreign country both supervise the operator– Virtual hubs: A Saudi-based cloud provider creates a secure cloud region governed by a foreign country’s laws; KSA licenses the provider but agrees to enforce foreign legal control over the data, unless it threatens national security	<div><p>Luxembourg has established itself as a “digital embassy” hub, and has established bilateral treaties to host data of Monaco and Estonia</p></div> <div><p>India currently hosts a “digital embassy” for the UAE, and is looking to create strategic zones to establish additional ones</p></div> <div><p>Australia is currently considering establishing “digital embassies” for neighboring Pacific island nations</p></div>	<p>Pros</p> <ul style="list-style-type: none">✓ Allows countries to store data abroad while maintaining full legal control under their own laws✓ Enables governments to leverage advanced infrastructure, including low-cost renewable energy and hyperscale data centers✓ Enhances national resilience by providing a secure backup in a politically stable environment✓ Strengthens diplomatic and economic ties between host and guest nations <p>Cons</p> <ul style="list-style-type: none">✗ Involves legally complex bilateral agreements✗ Depends heavily on trust that the host country will honor sovereignty commitments during political or diplomatic tensions✗ Introduces new security risks, including potential espionage and physical infrastructure threats

D. Opportunity P&L

Extract from pre-feasibility financial model

Preliminary numbers being validated; figures provided are estimations based on available information

Numbers in PKR

	Year 1 ¹	Year 5 ¹	Year 10 ¹
<i>Numbers in PKR</i>			
Capacity Utilization	60%	90%	90%
Total Revenue	6,215,629,561	12,221,133,642	17,140,772,140
Colocation Services	3,816,556,207	7,504,089,973	10,524,874,378
Power Pass-Through	2,399,073,353	4,717,043,669	6,615,897,762
<u>Cost of Operations</u>			
House load	59,976,834	117,926,092	165,397,444
FM, Maintenance, and Operations	481,888,410	631,657,405	885,932,187
Water	38,587	75,870	106,412
Power (100% pass-through to customers)	2,399,073,353	4,717,043,669	6,615,897,762
Land lease rate	166,926,420	218,806,485	306,887,415
Total OPEX	3,107,903,605	5,685,509,521	7,974,221,219
EBITDA	3,107,725,956	6,535,624,120	9,166,550,921
EBITDA Margin	50%	53%	53%
NOPAT	1,596,853,869	4,059,455,910	5,958,807,535
		14,498,056.82	
Financing			
Interest	7,049,568,531	1,519,016,247	339,464,492
Debt Outstanding	14,377,541,539	9,916,972,164	- 0.00

- *

 - Revenue per rack based on industry expert input and market reports²
 - * Conservative run-rate utilization (below global market; e.g., US colocation utilization >97% in 2024)
- **

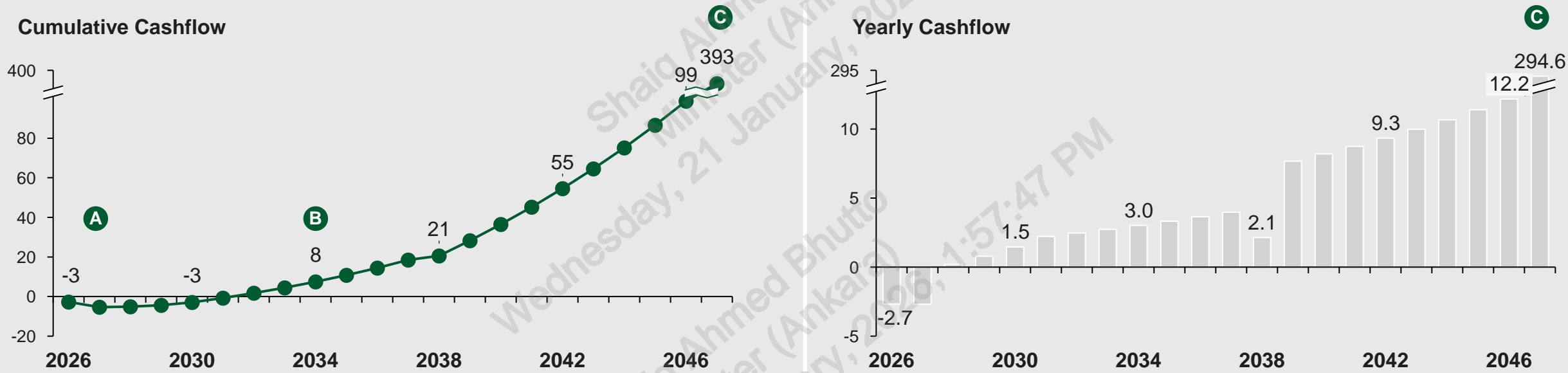
 - Expert input (local and regional players)
 - industry reports
 - Public comparables (e.g.,: EQIX, DLR, IRM, NXT.AX, AMT)
 - Other desktop research and benchmarking

** EBITDA margin in line with industry comparables and local expert input
- Project coverage, loan duration and interest rate provided by local bank
 - Debt in Year 1 includes additional interest accrued by not paid during development

1. Operating costs after 2-year development period for contract years 3-7 (12)
2. Brightlid, Market and Markets

D. Investor Cash Flows

Investor cash flows, PKR Bn



Investor cash flows:

- Upfront equity investment: PKR 5 Bn
- Cumulative cash flows over the duration of the investment: PKR 393Bn (including terminal value)

Additional information:

- A** Development period: 2 years
- B** Payback period: year 7 of operations
- C** Terminal value: PKR 294Bn; computed as 13.6x Revenue multiple

D. P&L Assumptions



Extract from pre-feasibility financial model

Preliminary numbers being validated; figures provided are estimations based on available information

Revenue Assumptions				OPEX Assumptions				
Assumption		Unit	Value	Assumption		Unit	Value	
Colocation services	Number of racks	#	1,000	House load power cost		% of power recouping costs	2.5%	
	Load per rack	kW	6	FM, maintenance, and operations cost		% of CAPEX	2.5%	
	Leasing price	PKR/ Rack/ Month	126,270 (c.a. USD 450)	Water	Employee Usage	Number of employees	#	55
	Admin fee	PKR/ kW / Month	56,120 (c.a. USD 200)			Water usage per employee	L/ employee/ day	50
						DC Humidification and Make-up Water	Water requirements	L/ kW/ year
Power cost pass-through	Total electricity requirements	MW	9.6	Land Lease	Water cost		PKR/ m³	14.03
	Electricity cost	PKR/ kWh	41.53		Land size requirements		m² / kW	2
					Additional requirements for outdoor		Additional percentage from indoor area	50%
					Land sale price		PKR/ m²	173
				Land lease rate		% of land value	15%	

NOTE: Assumptions based on international data center business model. Local business models can differ from international models (i.e., local players charging a margin on electricity instead of Admin fee); models converging to international standards.

1. Leasing price and electricity costs were obtained in USD and were converted to PKR at PKRUSD 280.6 conversion rate (as of April 9, 2025)
Source: Expert input

D. CAPEX assumptions

Extract from pre-feasibility financial model

Preliminary numbers being validated; figures provided are estimations based on available information

The total estimated cost of the project is PKR 16,000-17,000 Mn, and it was estimated based on the total IT load and average CAPEX per MW

Total Project Cost			
Assumption		Unit	Value
Total IT Load		MW	6
CAPEX requirements per MW ¹		PKR Mn/ MW	2,800 – 2,900
CAPEX Breakdown	Construction and civil works	%	35%
	Distribution pathways	%	15%
	Equipment and capacity components	%	50%
Total CAPEX		PKR Mn	16,000 – 17,000

1. CAPEX costs were obtained in USD and were converted to PKR at PKRUSD 280.6 conversion rate (as of April 9, 2025)
Source: Expert input

Thank You

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