UAE COLD STORAGE & TEMPERATURE-CONTROLLED LOGISTICS REAL ESTATE

Dubai and Abu Dhabi, United Arab Emirates

Research references 2025–2026 with forecast horizon to 2031; consolidated 24 August 2026

Consolidated from completed Deep Research

Internal investment review

DATA-INTEGRITY NOTE

This document uses only the completed research output recovered from the user's File Library. No new market research was conducted for this consolidation. Where the recovered report did not preserve the original external URL, the Source Register states "Original citation unavailable in the chat output." Internal arithmetic inconsistencies are preserved and flagged rather than silently corrected.

Contents

1. Executive Summary

Opportunity: develop, acquire or finance temperature-controlled logistics real estate serving food imports, FMCG, grocery/e-commerce, hospitality, food processing and pharmaceuticals. The recovered research favours flexible multi-temperature, 3PL-ready facilities in the 50,000–100,000 sqft range, ideally under long lease or JV with an experienced operator rather than fully speculative landlord-only development.

INDUSTRY ESTIMATE — The recovered research sizes the UAE cold-chain market at approximately US$1.83 billion in 2026 with a 5.8% CAGR to 2031 [1]. Dubai is stated to represent ~32.6% of the market in 2025 [1].

MODELLED ASSUMPTION — The research recommends at least a 6–8% stabilised yield on cost, modular multi-temperature design, 20%+ contingency and a long-lease/JV structure with an operator.

- Preferred location logic: port/airport-connected hubs including JAFZA/Jebel Ali, KEZAD/Abu Dhabi Food Hub and selected Dubai food/logistics nodes.
- Preferred size: 50,000–100,000 sqft.
- Preferred tenant segment: 3PL, food/FMCG, e-grocery and regulated pharma where compliance capability supports it.
- Main advantage: long tenant commitment and rental premium over dry warehouses.
- Main weakness: specialised CAPEX, continuous refrigeration load, technical/operator dependency and thin asset liquidity.

Critical integrity warning: the recovered report contains material internal contradictions in energy cost and 50,000 sqft development-yield calculations. Those are preserved and isolated in Section 18; they must not be used as underwriting inputs without re-verification.

2. Research Scope

Item	Finding from completed research
Models covered	Buy existing; develop new; build-to-suit; operate cold storage/3PL; landlord leases facility to operator.
Demand segments	Food imports, FMCG, restaurants/hotels, pharmaceuticals, grocery, e-commerce grocery and food processing.
Locations mentioned	Jebel Ali/JAFZA; Dubai Industrial City; Dubai South; Dubai Food Park/Food District concept; National Industries Park; KEZAD; Abu Dhabi Food Hub; Khorfakkan/Kalba; other inland food-security nodes.
Facility sizes requested	25,000; 50,000; 100,000; 250,000 sqft.
Facility sizes actually modelled	Only an illustrative 50,000 sqft new cold warehouse is numerically modelled in the recovered report.
Research limitation	No UAE rent comp table, land-price table, full four-size development model or recoverable source URLs were preserved in the completed report.

3. Market and Demand

Metric	Value or range	Currency / unit	Geography	Year / date	Evidence classification	Source	Notes / limitations
UAE cold-chain market size	~US$1.83B	USD	UAE	2026	INDUSTRY ESTIMATE	[1]	Recovered report cites industry report; exact title/URL unavailable.

Metric	Value or range	Currency / unit	Geography	Year / date	Evidence classification	Source	Notes / limitations
Forecast growth	5.8% CAGR	%	UAE	2026–2031	INDUSTRY ESTIMATE	[1]	Forecast horizon from completed research.
Meat/poultry share	~24% of volume	%	UAE	2025	INDUSTRY ESTIMATE	[1]	Segment share.
Chilled-goods share	~40% of volume	%	UAE	2025	INDUSTRY ESTIMATE	[1]	Chilled identified as largest temperature class in research.
Dubai market share	~32.6%	%	UAE cold-chain	2025	INDUSTRY ESTIMATE	[1]	Regional share stated in completed research.
Strategic reserve driver	90-day strategic reserves referenced	days	UAE	2025–2026 research	INDUSTRY ESTIMATE	[1], [2]	Policy driver described in completed research; original primary source not recoverable.

Demand drivers identified in the completed research: heavy food-import dependence, grocery/e-commerce growth, restaurant/hospitality demand, food-security policy, food processing, pharmaceutical exports and biologics/vaccine handling. Pharmaceuticals are described as the fastest-growing segment, but no standalone UAE pharma-cold-chain market value was preserved.

4. Service Segments

Item	Finding from completed research
Chilled	Largest stated share (~40% of 2025 volume). Typical food/FMCG applications; research does not provide UAE rental split by temperature class.
Frozen	Critical for meat/poultry and imported food. Preferred design recommendation includes freezer zones at at least -20°C.
Ambient	Used within multi-temperature “one-stop” logistics hubs; serves dry goods alongside chilled/frozen.
Pharmaceutical 2–8°C	Higher compliance requirement (GDP/GxP); research says specialised regulated lines can command higher margins, but no verified rent/margin premium is quantified.
Multi-temperature	Preferred configuration for e-grocery/FMCG and recommended for new investment because it diversifies tenant/product mix.

5. Location Analysis

Metric	Value or range	Currency / unit	Geography	Year / date	Evidence classification	Source	Notes / limitations
Jebel Ali / JAFZA	Port-led, re-export-oriented; RSA new 40k-pallet bonded hub cited	capacity / qualitative	Dubai	Sep 2025 project	COMPANY-REPORTED DATA	[7]	Preferred by research for export/re-export and 3PL.
Dubai Industrial City	Industrial/ logistics node; cold-chain presence mentioned	qualitative	Dubai	2025–2026	INDUSTRY ESTIMATE	[7]	No rent/land data preserved.
Dubai South	Air-cargo access; Kuehne+Nagel regulated cold rooms cited	qualitative	Dubai	Aug 2025 project	COMPANY-REPORTED DATA	[7]	Attractive for pharma / airfreight.
Dubai Food Park / Food District	Proposed / planned food-logistics node	qualitative	Dubai	2025–2026 research	NOT PUBLICLY VERIFIED	[1], [6]	Project naming/status should be re-confirmed before investment.
National Industries Park	Mentioned as logistics/industrial alternative	qualitative	Dubai	2025–2026	NOT PUBLICLY VERIFIED	Recovered research	No quantitative economics preserved.
KEZAD	~250,000 sqm cold space; AED 621M investment by 2025 cited	sqm / AED	Abu Dhabi	by 2025	INDUSTRY ESTIMATE	[1]	Important pipeline figure; primary source not recoverable.
Abu Dhabi Food Hub	Agri-logistics / food hub location	qualitative	Abu Dhabi	2025–2026 research	INDUSTRY ESTIMATE	[1]	Recommended as port-access alternative.
Khorfakkan / Kalba	Gulftainer K-Flow 50-hectare facility with integrated cold storage	hectares	Sharjah	Sep 2025	COMPANY-REPORTED DATA	[7]	Demonstrates Northern Emirates capacity pipeline.

6. Competition and Supply Pipeline

Item	Finding from completed research
Global / scaled operators	DHL; Agility; Kuehne+Nagel; Aramex/ADQ.
Regional / specialist operators	GAC; Mohebi; RSA / Americold JV.
RSA Cold Chain	40k-pallet bonded hub at JAFZA, cited as Sep 2025; ISO22000/HACCP and solar mentioned in research.
Gulftainer K-Flow	50-hectare Sharjah facility with integrated cold storage, cited as Sep 2025.
Kuehne+Nagel	GDP / EDE-certified Dubai South facility cited as Aug 2025.
KEZAD pipeline	Research states ~250,000 sqm new cold space with AED 621M investment by 2025.

Item	Finding from completed research
Oversupply conclusion	Pipeline raises risk in niche ultra-cold/specialised segments, but completed research expects food/e-grocery demand to absorb most new capacity. This is an industry estimate, not a quantified vacancy forecast.

7. Business and Investment Models

Item	Finding from completed research
Buy existing	Immediate capacity and existing contracts possible; supply is described as limited and often off-market.
Speculative development	Highest vacancy/lease-up risk; captures development value but requires specialised CAPEX and power capacity.
Build-to-suit	Preferred risk-mitigation route when an anchor tenant commits to a long lease before construction.
Owner / operator 3PL	Captures storage/handling/service revenue plus asset economics but adds labour, refrigeration, customer-acquisition and operating risk.
Landlord-only	Long triple-net style lease to operator; lower complexity and lower operational upside. Recovered research cites 5–7% yields conceptually.
JV with operator	Research recommendation to align tenant/operator and investor, secure utilisation and reduce vacancy risk.

8. Pricing and Revenue

Metric	Value or range	Currency / unit	Geography	Year / date	Evidence classification	Source	Notes / limitations
Cold-storage rental premium	~50–100% above ordinary warehouse rents	% premium	Benchmark / not UAE-specific	Research citation	INDUSTRY ESTIMATE	[3]	Recovered report relies on industry benchmark; UAE achieved-rent evidence not preserved.
Illustrative cold rent	AED 150/sqft/year	AED/sqft/year	UAE illustrative	Model case	MODELLED ASSUMPTION	Recovered research	Used only in 50k sqft model; not verified as achieved rent.
Tenant lease term	10–20 years	years	Cold-storage benchmark	Research citation	INDUSTRY ESTIMATE	[3]	Research says cold tenants take longer leases and often cover taxes/insurance.
Landlord-only yield	5–7%	% yield	UAE / benchmark	2026 research	INDUSTRY ESTIMATE	Recovered research	Conceptual, not tied to a specific transaction.
Target stabilised yield on cost	6–8% minimum	%	UAE investment target	2026 recommendation	MODELLED ASSUMPTION	Research recommendation	IC hurdle, not observed market fact.

The recovered report explicitly does not provide achieved UAE cold-storage rents by JAFZA, Dubai South, DIC, NIP, KEZAD or Abu Dhabi Food Hub. It also does not provide standard dry-warehouse achieved rents in those locations. Therefore the rental premium cannot be locally underwritten from this research alone.

9. Facility Requirements

- Thick insulated sandwich panels and high-R-value envelope.
- Heavy-duty refrigeration plant (research references ammonia or CO_2 systems).
- Vapour barriers and cold-room flooring.
- Automated or high-density pallet racking; high clear heights to improve pallet efficiency.
- Dock seals / fast doors to minimise thermal loss.
- Redundant backup generators / power resilience.
- IoT / continuous temperature monitoring and alarm systems.
- Food certification capability (HACCP / ISO22000) and pharma GDP/GxP where applicable.
- Fire protection including cold-environment sprinkler/suppression systems.
- Solar and intelligent controls where site/roof/load profile permit.

10. CAPEX

Metric	Value or range	Currency / unit	Geography	Year / date	Evidence classification	Source	Notes / limitations
Cold-storage construction cost	US$130–350/sqft (~AED 500–1,300/sqft)	USD/AED per sqft	International / applied to UAE conceptually	Research citation	INDUSTRY ESTIMATE	[4]	Research says 2–3× dry-warehouse cost; not a UAE contractor quote.
100,000 sqft facility benchmark	US$12–20M excluding land	USD	Benchmark	Research citation	INDUSTRY ESTIMATE	[4]	Equivalent ~US$120–200/sqft; within cited broader range.
Illustrative 50,000 sqft all-in cost	AED 40–50M	AED total	UAE model	2026 illustrative	MODELLED ASSUMPTION	Recovered research	Includes land + capex per narrative; no line-item split.
Contingency recommendation	20%+	%	UAE	2026 recommendation	MODELLED ASSUMPTION	Research recommendation	Recommended due technical/energy/cost risk.

Requested size-model status

Item	Finding from completed research
25,000 sqft	Not publicly verified in the available research. No complete land/construction/refrigeration/equipment model was provided.
50,000 sqft	Illustrative total cost AED 40–50M; AED 150/sqft/year rent; 85% occupancy example. Internal yield inconsistency flagged in Section 18.
100,000 sqft	Only a general international benchmark of US$12–20M excluding land was provided. No UAE land/rent/NOI/IRR model.
250,000 sqft	Not publicly verified in the available research. No complete model was provided.

11. OPEX and Energy

Metric	Value or range	Currency / unit	Geography	Year / date	Evidence classification	Source	Notes / limitations
Cold warehouse energy intensity	~24–25 kWh/sqft/year	kWh/sqft/year	Benchmark	Research citation	INDUSTRY ESTIMATE	[5]	Research says ~4× ambient warehouse.
UAE electricity-rate assumption	~US$0.08–0.10/ kWh	USD/kWh	UAE illustrative	2026 research	MODELLED ASSUMPTION	Recovered research	Tariff source not preserved.
Stated energy cost	~US$4–6/sqft/ year	USD/sqft/year	Benchmark / UAE-applied	2026 research	INDUSTRY ESTIMATE	[5]	Does not reconcile with stated kWh × tariff; see Section 18.
Calculated from stated kWh × tariff	~US$1.92–2.50/ sqft/year (~AED 7.05–9.18)	USD/AED per sqft/year	Calculation from research inputs	2026	CALCULATED FROM PUBLISHED DATA	Research inputs	Shows internal inconsistency with US$4–6 claim.
Labour share of 3PL cold OPEX	~40–50%	% of OPEX	Benchmark	Research citation	INDUSTRY ESTIMATE	[5]	No UAE payroll model preserved.
Later energy statement	~AED 800/sqft/year	AED/sqft/year	Illustrative model paragraph	2026 research	CONFLICTING SOURCE DATA	[5]	Grossly inconsistent with earlier energy figures; do not use without re-verification.

Solar: the research cites rooftop solar and demand-management deployment in UAE cold-chain projects, including solar at RSA Cold Chain's JAFZA hub [7]. No payback, capex, irradiation, PPA or tariff-offset model was preserved.

12. Regulation and Licensing

Item	Finding from completed research
Food storage	Dubai Municipality food-safety licensing; HACCP and in some cases Halal certification referenced.
Pharmaceutical storage	GDP / GxP and Emirates Drug Establishment / Ministry-related approval referenced; Kuehne+Nagel Dubai South cited as EDE-approved.
Fire safety	Civil Defence approval required.
Utilities	DEWA utility NOCs referenced for Dubai facilities.
Free zones / customs	Additional free-zone / Customs NOCs may apply in JAFZA / other zones.
Data limitation	Exact licence names, approval sequences, fees and authority links were not preserved in the completed research and require current regulatory confirmation.

13. Financial Model and Returns

Only one complete numeric development example was preserved: a 50,000 sqft multi-temperature facility. The arithmetic is internally inconsistent and must be treated as a model artefact, not a verified underwriting case.

Input / metric	Value	Source / assumption type	Formula / logic	Calculated result	Limitations
Facility size	50,000 sqft	MODELLED ASSUMPTION	Input	50,000 sqft	No site/zone specified.
Total cost	AED 40–50M	MODELLED ASSUMPTION	Land + capex, per narrative	AED 40–50M	No line-item land/refrigeration/equipment split.
Rent	AED 150/sqft/year	MODELLED ASSUMPTION	50,000 × 150	AED 7.5M gross annual rent	Not a verified achieved UAE rent.
Occupancy	85%	MODELLED ASSUMPTION	7.5M × 85%	AED 6.375M occupied gross rent	Recovered report calls ~AED 6.4M "NOI", but no OPEX deduction is shown.
Yield on cost from recovered inputs	Cost AED 40–50M; occupied gross ~AED 6.4M	CALCULATED FROM PUBLISHED DATA	6.4 / 40 to 6.4 / 50	~16.0% to 12.8%	Conflicts with recovered report's stated ~7–8% yield.
Leveraged IRR	"Low double digits" over ~10 years in bull case	MODELLED ASSUMPTION	Not enough inputs to reproduce	Not reproducible	Debt terms, terminal value, capex replacement and OPEX missing.

The owner/operator versus landlord-only comparison is qualitative. The recovered report does not provide storage/handling revenue per pallet, throughput, utilisation, labour payroll, refrigeration maintenance, insurance, capex replacement or customer churn required for a true operator P&L.

14. Operating Requirements

- Specialist refrigeration engineering and preventive maintenance capability.
- Food/pharma QA and temperature-compliance processes.
- Warehouse operations, racking, loading/docking and inventory systems.
- Reliable backup power and monitoring/alarm escalation.
- For 3PL operation: customer acquisition, account management, labour scheduling, transport coordination and service-level management.
- For landlord-only: tenant covenant underwriting, long-form lease structuring, utility-capacity allocation and lifecycle capex responsibilities.

15. Risks

Item	Finding from completed research
Cost overruns	Specialised equipment, refrigerants, imported components and electrical infrastructure.
Technical failure	Compressor/refrigeration failure can create product-loss and tenant claims; obsolescence/lifecycle capex is material.
Energy volatility	Continuous cooling demand creates tariff and peak-load sensitivity.
Regulatory	Food/pharma certification, customs/free-zone rules and Civil Defence requirements.
Market / liquidity	Few buyers for specialised real estate; re-leasing may require tenant-specific reconfiguration.

Item	Finding from completed research
Oversupply	Large new projects in JAFZA/KEZAD/Sharjah and other hubs can pressure rent/occupancy in niche segments.
Operator risk	3PL model adds labour, utilisation, customer concentration and service-level risk.
Design-tenant mismatch	Wrong temperature split, pallet density, dock count or power specification can strand capital.
Climate	UAE heat increases cooling load and equipment stress.
Exit risk	Specialised assets are less liquid than standard logistics properties.

16. Investment Recommendation

Item	Finding from completed research
Best location	Research highlights JAFZA/Jebel Ali for re-export; KEZAD/Abu Dhabi Food Hub for port-linked Abu Dhabi demand; proposed Dubai food/logistics nodes as secondary.
Ideal size	50,000–100,000 sqft.
Best tenant segment	3PL-ready food/FMCG/e-grocery; regulated pharma where certification and operator capability are in place.
Preferred structure	Long lease or JV with operator / build-to-suit rather than fully speculative development.
Temperature mix	Flexible multi-temperature design including at least -20°C frozen and +2–8°C chilled zones.
Yield hurdle	At least 6–8% stabilised yield on cost.
Contingency	20%+ recommended.
Risk level	Moderate-to-high: specialised capex and technical/energy risk partly offset by long tenant leases and structural food/pharma demand.
INVEST condition	Secure power, compliant design, anchor/credible tenant, long lease, modular temperature zones, realistic lifecycle capex and rent that supports hurdle after corrected energy/OPEX.
DO NOT INVEST condition	Speculative facility without tenant demand validation; underwriting based on the recovered AED 800/sqft energy figure or 7–8% yield calculation without reconciliation; inadequate power redundancy; non-flexible single-temperature design in oversupplied niche.

17. Missing Information and Due-Diligence Requirements

- Location-specific achieved cold-storage rents: Not publicly verified in the available research.
- Location-specific achieved standard warehouse rents and local cold-storage rental premium: Not publicly verified in the available research.
- Land price / leasehold cost for JAFZA, Dubai South, Dubai Industrial City, NIP, KEZAD and Abu Dhabi Food Hub: Not publicly verified in the available research.
- 25,000 / 100,000 / 250,000 sqft UAE financial models: Not publicly verified in the available research.
- Detailed 50,000 sqft capex split (land, shell, refrigeration, panels, racking, dock equipment, backup power, automation, fire, software, pre-opening): Requires current supplier quotation.
- Current UAE electricity tariff and demand-charge model for industrial users: Not publicly verified in the available research.
- Refrigeration maintenance / lifecycle replacement budget: Requires current supplier quotation.
- Solar capex/payback/PPA case: Requires current supplier quotation and site-specific engineering.
- Owner/operator 3PL pricing per pallet/day, handling fees, throughput and labour model: Not publicly verified in the available research.
- Quantified vacancy/oversupply forecast by zone and temperature segment: Not publicly verified in the available research.
- Exact authority approvals, licence fees and current GDP/food-safety compliance pathway: requires current regulatory/legal confirmation.
- Original source URLs/publication dates: Original citation unavailable in the chat output.

18. Conflicting or Updated Information

Item	Earlier / stated figure	Conflicting calculation / evidence	Classification	Resolution
Energy cost from intensity × tariff	24–25 kWh/sqft/year × US$0.08–0.10/kWh	Calculates to ~US$1.92–2.50/sqft/year, not US$4–6.	CONFLICTING SOURCE DATA	Reconcile with current UAE tariff and measured facility benchmarks before underwriting.
Later energy statement	Research later says energy may consume ~AED 800/sqft/year	Earlier stated US$4–6/sqft/year ≈ AED 14.7–22.0/sqft/year. AED 800 is ~36–54× larger.	CONFLICTING SOURCE DATA	Treat AED 800/sqft/year as erroneous until source recovered.
50k facility NOI	85% of AED 7.5M gross rent ≈ AED 6.4M	This is occupied gross rent, not NOI unless landlord has effectively no OPEX under triple-net terms.	CONFLICTING SOURCE DATA	Need lease/OPEX assumptions.
50k yield	Research states ~7–8% yield	AED 6.4M / AED 40–50M = ~12.8–16.0%.	CONFLICTING SOURCE DATA	Cannot use both figures simultaneously.
JV model paragraph	“25M AED villa equivalent example: a 25 m sq.ft. cold warehouse …”	Unit/wording is malformed and appears copied from a villa example.	CONFLICTING SOURCE DATA	Preserved as a data-quality issue; excluded from recommendation math.
Rent evidence	Report says cold rents can be several hundred AED/sqft/year and uses AED 150/sqft/year model rent	No local achieved-rent table is provided, and cited rent-premium evidence is generic/benchmark.	CONFLICTING SOURCE DATA	Requires UAE broker/transaction evidence before underwriting.

19. Source Register

#	Original token	Title	Organisation / publisher	Publication date	Direct URL	Information supported	Source type
[1]	Original token 44	UAE cold-chain market report (exact title unavailable)	Original publisher unavailable	Not stated	Original citation unavailable in the chat output.	2026 market size, CAGR, segment shares, Dubai share, food-security/pipeline data including KEZAD.	industry

#	Original token	Title	Organisation / publisher	Publication date	Direct URL	Information supported	Source type
[2]	Original token 45	UAE cold-chain demand / food-security market analysis (exact title unavailable)	Original publisher unavailable	Not stated	Original citation unavailable in the chat output.	Food imports, pharma exports, e-grocery demand, multi-temperature trend.	industry
[3]	Original token 49	Cold-storage real-estate leasing benchmark (exact title unavailable)	Cushman & Wakefield referenced in recovered research	Not stated	Original citation unavailable in the chat output.	50–100% rent premium, 10–20 year tenant leases, long-lease characteristics and pipeline absorption commentary.	industry
[4]	Original token 51	Cold-storage construction cost benchmark (exact title unavailable)	Original publisher unavailable	Not stated	Original citation unavailable in the chat output.	2–3× dry warehouse cost; US$130–350/sqft; US$12–20M for 100k sqft; site/height cost effects.	industry
[5]	Original token 59	Cold-storage energy and operating-cost benchmark (exact title unavailable)	Original publisher unavailable	Not stated	Original citation unavailable in the chat output.	24–25 kWh/sqft/year, energy-cost ranges, labour share of OPEX.	industry
[6]	Original token 60	UAE food-security / sustainability source (exact title unavailable)	Original publisher unavailable	Not stated	Original citation unavailable in the chat output.	Inland cold-node / food-security references and rooftop-solar / demand-management examples.	government / industry, exact provenance unavailable
[7]	Original token 64	UAE cold-chain operators and project pipeline source (exact title unavailable)	Original publisher unavailable	Not stated	Original citation unavailable in the chat output.	RSA JAFZA hub, Gulftainer K-Flow, Kuehne+Nagel Dubai South, ADQ/Aramex, competitor list and climate/pipeline observations.	industry / company data aggregation

Source recovery limitation: The completed report retained original citation tokens but not the underlying URLs/titles. No replacement URLs were invented and no new web research was conducted during consolidation.