MODEL
DETAILED PROJECT REPORT

ESTABLISHMENT OF INTEGRATED COLD STORAGE UNIT

UNDER UTTAR POORVA TRANSFORMATIVE INDUSTRIALIZATION SCHEME (UNNATI), 2024

उद्योग संवर्धन और आंतरिक व्यापार विभाग
DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE

DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE
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1. Introduction

Integrated cold storage facilities are critical infrastructure in the supply chain, designed to store perishable products like fruits, vegetables, dairy, meat, and pharmaceuticals at controlled temperatures. By maintaining ideal storage conditions, these facilities help preserve product quality, reduce waste, and extend shelf life, thereby supporting food security and enhancing the profitability of producers, suppliers, and distributors.

The demand for integrated cold storage is rising due to several factors, including population growth, urbanization, dietary shifts towards fresh produce and protein-rich foods, and the expanding pharmaceutical sector. With technological advancements such as automation, remote monitoring, and energy-efficient refrigeration, integrated cold storage systems have become more effective and sustainable. Overall, integrated cold storage facilities play a pivotal role in the agricultural and healthcare sectors, improving the accessibility and quality of perishable goods while reducing losses. The project aims to establish a modern integrated cold storage facility that meets these demands, ensuring efficient storage, preservation, and distribution of perishable goods.

a. About the project

The proposed project is for setting up an Integrated Cold Storage Unit. Integrated cold storage facilities are vital for extending product shelf life, reducing waste, and supporting efficient supply chains. By maintaining controlled temperatures, they preserve the quality of perishable foods and temperature-sensitive pharmaceuticals, reducing spoilage and ensuring a steady supply. These facilities streamline distribution, lower costs, and contribute to food security and healthcare, especially with advancements like energy-efficient refrigeration. All these factors have contributed directly and indirectly towards an increased demand for integrated cold storage. The proposed integrated cold storage business venture entails a total investment of about Rs. XX.XX million. This includes a capital investment of Rs. XX.XX million and a sum of Rs. X.XX million as initial working capital. The project is financed through X% debt and X% equity. The Net Present Value (NPV) of the project is around Rs. XX.XX million with an Internal Rate of Return (IRR) of X% and a payback period of X.XX years. Higher returns on investment and a steady growth of business are expected if the entrepreneur has some prior experience / education in the related field of business. The project will generate direct employment opportunity for XX persons. The legal business status of this project is proposed as ‘Sole Proprietorship/Partnership/LLP/Pvt. Ltd.’.

b. Global Scenario

The global integrated cold storage market, valued at $140 billion in 2023, is growing at over 10% annually, driven by demand in food and pharmaceuticals. Roughly 40% of capacity serves food items like fruits, vegetables, and dairy, with rapid growth in Asia-Pacific—China alone has over 180 million cubic meters of cold storage, expanding by 12% yearly. In pharmaceuticals, temperature-sensitive drugs and vaccine distribution have boosted demand, with ultra-low temperature facilities growing 20% during the COVID-19 pandemic. Technological advancements, like IoT temperature monitoring and automated storage, are especially prevalent in the U.S. and Europe, where energy-efficient solutions are growing at an 8% CAGR.

c. Indian Scenario

India's integrated cold storage sector is expanding rapidly to address the high post-harvest losses in agriculture, which amount to roughly 20-30% of produce. Currently, India has about 8,200 cold storage facilities, with a combined capacity of around 37 million metric tons, though much of this is concentrated on single commodities, especially potatoes, which account for about 70% of capacity.

Despite being one of the largest food producers, India has limited cold storage facilities for perishable goods like fruits, vegetables, and dairy, leading to significant losses. The government is working to improve this infrastructure, investing in cold chain projects and offering subsidies to increase capacity for diverse commodities. The cold storage market in India was valued at around $10 billion in 2021 and is expected to grow at a compound annual growth rate (CAGR) of over 15% due to rising demand for fresh and frozen foods, as well as temperature-sensitive pharmaceuticals.

d. State Profile

Assam's integrated cold storage infrastructure is limited but growing, driven by the need to reduce agricultural losses and support the state's economy. Agriculture is a primary sector in Assam, with significant production of fruits, vegetables, tea, fish, and spices, yet post-harvest losses are high due to insufficient cold storage.

The state currently has around 25 operational cold storage facilities with an estimated capacity of about 120,000 metric tons, which is inadequate given the region's agricultural output. Most existing facilities are used for potatoes and a few select items, while perishable fruits and vegetables still face high spoilage rates. The lack of adequate storage results in an estimated 30-40% post-harvest loss in certain crops, limiting income potential for local farmers and impacting food supply. While challenges remain, Assam's focus on expanding cold storage capacity and adopting integrated cold chain solutions aims to improve local food security, reduce waste, and enhance farmer incomes across the state.

e. Sector Overview

The agriculture and allied sectors in India suffer from high post-harvest losses, estimated at 20-30% or $14 billion annually, due to inadequate cold storage. In horticulture, India produces 320 million metric tons of fruits and vegetables, yet only 15% benefits from cold storage. Fisheries, contributing 1% to GDP with 14 million metric tons of production, face spoilage as only 10-12% of fish is stored at controlled temperatures. In dairy, with 210 million metric tons produced yearly, rural areas especially lack cooling, affecting milk quality. Meat production, at 8 million metric tons, also sees about 20% wastage. Expanding integrated cold storage across these sectors could reduce losses, improve quality, and increase exports, bolstering the agricultural economy.

2. Investor's Background

Details of all Investors in below format

Name	To be filled by the applicant

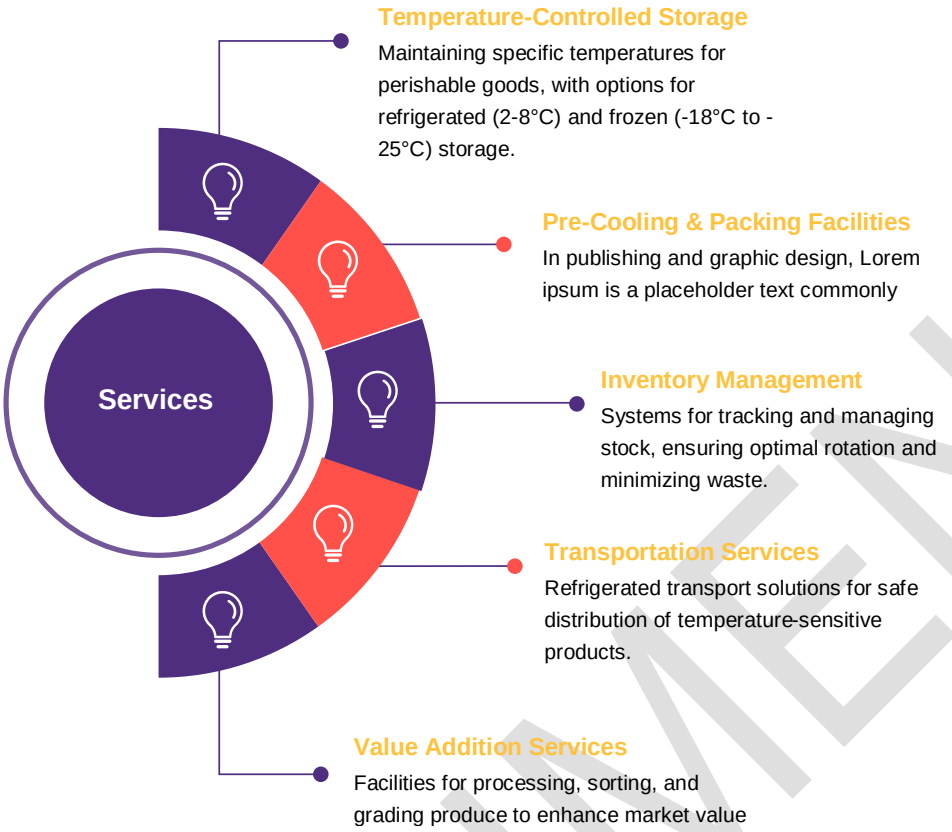
DOB	To be filled by the applicant
PAN	To be filled by the applicant
Address	To be filled by the applicant
Academic Qualification	To be filled by the applicant
Experience in business	To be filled by the applicant
Functional Responsibly in Unit	To be filled by the applicant
Name of associate concern (if any)	To be filled by the applicant
Nature of association (if any)	To be filled by the applicant
Net Worth	To be filled by the applicant

3. Company Profile

Name of the Unit	To be filled by the applicant
Constitution	To be filled by the applicant
PAN	To be filled by the applicant
Registered Office address	To be filled by the applicant
Activity	To be filled by the applicant
Loan details	To be filled by the applicant
Director	To be filled by the applicant
Unit Registration	To be filled by the applicant
Unit Location	To be filled by the applicant
Category of Project (Manufacturing/Service)	To be filled by the applicant
Zone	To be filled by the applicant
District	To be filled by the applicant
State	To be filled by the applicant

4. Details of services and its marketing potential

Integrated cold storage facilities are used to store and preserve perishable goods across various industries. Here's a breakdown of how they are utilized in different contexts:



The marketing potential of integrated cold storage is significant due to its ability to support diverse industries, reduce wastage, and enhance supply chain efficiency. In India, nearly 30-40% of perishable produce is wasted due to inadequate storage, highlighting the urgent need for cold storage facilities. The global cold storage market is projected to reach $372 billion by 2027, growing at a CAGR of 12.5%. Rising demand for perishable goods, such as fruits, vegetables, frozen foods, seafood, and pharmaceuticals, is driving growth, fueled by urbanization, changing dietary habits, and the expansion of e-commerce and retail chains. Cold storage facilities play a crucial role in agriculture, food processing, and pharmaceutical sectors by preserving quality, enabling exports, and ensuring compliance with international standards. Government incentives and schemes, such as PM-Kisan SAMPADA Yojana, which offers subsidies up to 50% of project costs, further boost opportunities. Technological advancements like IoT-enabled monitoring and solar-powered solutions enhance efficiency and appeal. Challenges such as high initial investments, which can range from ₹3 to ₹5 crore per 1,000 MT capacity, and infrastructure gaps can be mitigated through targeted marketing strategies, government partnerships, and awareness campaigns. By addressing these challenges, integrated cold storage can unlock vast potential in rural and urban markets, export hubs, and high-demand sectors.

5. Details of Raw Materials with required quantity

Supplier	Raw material	Quantity	Year	Cost
To be filled by the applicant	To be filled by the applicant	To be filled by the applicant	To be filled by the applicant	To be filled by the applicant

6. Proposed location and Site Plan

Sl. No.	Particulars	Details
1	Land Area	To be filled by applicant
2	Status of Legal title & Possession	To be filled by applicant
3	if leased, Period of lease	To be filled by applicant
4	Coordinates of location	To be filled by applicant
5	Details of CLU	To be filled by applicant
6	Connectivity to roads i) State Highway (in Km.) ii) National Highway (in Km.)	To be filled by applicant
7	Availability of Water	To be filled by applicant
8	Availability of Power	To be filled by applicant

a. Electrical Power

Power availability is one of the main factors for the successful operation of every organization/ establishment. The Unit will need power load of around 250 KW to operate the cold storage entirely including provision for general lighting. For which, it has already applied to Assam Power Distribution Company Limited. As the power requirement is reasonable and to have uninterrupted power at the cold storage unit, it has proposed to have a diesel generating set of 450 KVA as standby arrangement in case of power cut from grid supply. Estimate of requisite load is being enclosed separately.

i. Construction Phase

KW	Quarter of the Year
To be filled by the applicant	To be filled by the applicant

ii. Steady Phase

KW	Quarter of the Year
To be filled by the applicant	To be filled by the applicant

iii. Peak Phase

KW	Quarter of the Year
To be filled by the applicant	To be filled by the applicant

b. Water Requirement

The water required for cold storage unit will be sourced from Local Municipal authority. Also, water requirement shall be met from ground water. The per day water requirement of the cold storage (500MT) has been estimated at 5800-9700 liters in the following manner:

i. Domestic consumption

Per Day	UOM
200-600	Liter

ii. Utilities

Per Day	UOM
5000-8000	Liter

iii. Engineering

Per Day	UOM
200-500	Liter

c. Transportation System

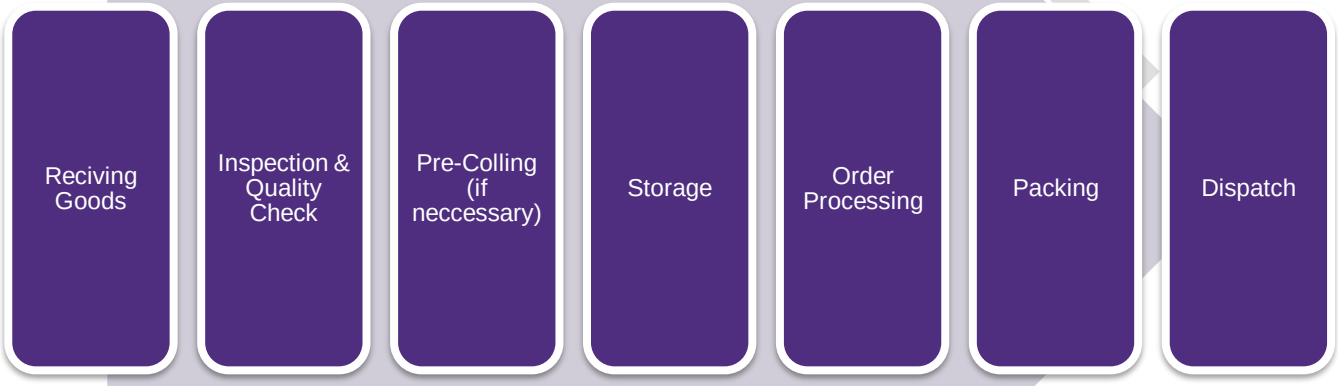
Some additional factors, which would weight in selection of site for a cold storage, would be adequate transport and communication facilities available to the products from various surrounding places. Main transportation mode to the Unit is Road and being situated in heart of town, it is well connected through National/ State highways, District highways & rural roads. Additionally, the Hospital is proposed to have a reasonably equipped Reefer trucks for facilitating transportation of the projects on demand. The site is around **XX Km** from **XXXX** Railway Station and **XX km** from **XXXX** Airport.

d. Local Infrastructure

The area is well equipped with roadways and airways. The availably of uninterrupted power and water is another added benefit for the unit. The area has a total population of approximately XXXX people and the proximity of the neighboring states is favorable

7. Product Process Flow

In an integrated cold storage facility, goods are received, inspected, and sorted upon arrival. If needed, items are pre-cooled before being placed in designated storage areas with controlled temperatures and humidity. An inventory management system tracks stock, with regular inspections to ensure quality. When an order is received, goods are picked, packed, and prepared for dispatch, including temperature adjustments if necessary. After a final quality check, items are loaded onto temperature-monitored vehicles for delivery.



8. Cost of the Project

Capex Components	Rs. (Lakhs)
Land and Land Development	-
Civil Cost	50.4
Plant & Machinery	55.26
Mis. Fixed Assets	10.2
Margin	17.33
Pre-operative/ Preliminary Expenses	2.00
Total Capex	**135.19/-**

a. Land details

The promoter Company own a plot of land measuring **X** bigha covered by **dag no. XXX** of **patta no. XX** of XXXX town, District: XXX, XXXX whereon present project is taken up. The site has already been developed by the promoter himself at his own cost. The location is within the heart of XXX town and cluster of Agriculture & Allied Industry. As we know, XXX town itself is known as Agriculture capital of XXX, people from distance places also visit the town to get avail cold storage facilities.

b. Building and civil works details

The total cost of civil work has been estimated to be Rs 50.4 lakhs, which includes technical civil work and non-technical civil work. Cost of civil work comprises of the cost of process building, Raw material warehouse, Finished goods warehouse, transformer house & Utility building.

Civil Cost	Total Area Req (SQM)	Civil Cost (Per SQM)	GST Rate (%)	Total Civil Cost (Lacs)
Cold Store	600	8,000	5.0%	50.4
Non-Core Area				
Utilities and Support Infrastructure	-	8,000	5.0%	-
Other (Mis Area)	-	8,000	5.0%	-
Total Civil Cost	**600**			**50.4**

c. Plant and machinery details

Sl. No.	Particulars	Qty	Approx. Rate (Rs.)	Approx. Rate (Rs.)
1	Insulation Cold Storage Panels including PUF Panels (40mm,50mm,60mm), XPS Panels & Insulated Panel	1	52,200	52,200
2	Refrigeration System	1	1,82,0000	1,82,0000
3	Cold Room Doors	4	32,000	1,28,000
4	DG Set (450 KVA) along with Electrical cable & control panel Installation	1	28,49,000	28,49,000
5	Steel Racking System	25	25,000	6,25,000
6	Temperature Monitoring System	4	13000	52,000

Sl. No.	Particulars	Qty	Approx. Rate (Rs.)	Approx. Rate (Rs.)
	Total			**55,26,200**

d. Pre-operative expenses details

Rs. 2.0 Lakh

Working Capital details

I) Operation costs: - (Annual)

II) Utilities (Per Annum)

Sl. No.	Item	Total (Rs.) Lakh
1	Units Consumed per year (250 KW per day @ 8.00 Rs. per unit) for 300 Days	12.00
GRAND TOTAL		**12.00/-**

iii) Salary & Wages (Per Annum)

Sl. No.	Designation	No.	Wages/Month (Rs.)	Total/Annum (Rs.)
1	Factory Manager	1	25,000	3,00,000
2	Storage Executive	1	20,000	2,40,000
3	Supervisors	4	15,000	7,20,000
4	Maintenance Mechanic	1	12,500	1,50,000
5	Storage Boys	30	12000	43,20,000
GRAND TOTAL				**57,30,000**

Note: Every year increment @ 5% has been considered towards financial calculation.

iv) Selling& General Administration (Annum)

v) Advertisement & General Stores

Sl. No.	Items	Cost (Rs.)
1	Advertisement per Annum	3,00,000/-
2	General Stores & Inventory	3,85,500/-
Total		**6,85,500/-**

WORKING CAPITAL= II+III=57.30+12.00 = Rs. 69.30/-

9. Proposed Means of Finance

Particulars	Amount (Rs. In Lacs)
Promoter's Capital	64.89
Unsecured Loans	
Term Loan form Bank/ Financial Institution	70.30
Total	**135.19/-**

a. **Working Capital limit:** Rs. 17.33 Lakhs

10. Implementation Schedule with time chart

Activities	Starting Month	Ending Month
Arrangement of land	To be filled by applicant	To be filled by applicant
Single window clearance	To be filled by applicant	To be filled by applicant
Land development	To be filled by applicant	To be filled by applicant
Building and Civil Works	To be filled by applicant	To be filled by applicant
Order and delivery of P&M	To be filled by applicant	To be filled by applicant
Power arrangement	To be filled by applicant	To be filled by applicant
Manpower arrangement	To be filled by applicant	To be filled by applicant

Procurement of raw materials	To be filled by applicant	To be filled by applicant
Trial Operation	To be filled by applicant	To be filled by applicant
Commercial Operation	To be filled by applicant	To be filled by applicant

11. Projected Financial Analysis

i. Cost & Profitability statement (Lakhs)

Particulars		**1st Year**	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**
Capacity Utilization		60%	65%	70%	75%	80%
Revenue						
Rental Income		90	97.5	105	112.5	120
Total revenue		90	97.5	105	112.5	120
Expenses						
Salary & Wages		34.38	37.245	40.11	42.975	45.84
Utility		7.2	7.8	8.4	9	9.6
Admin & Gen. Store		4.116	4.459	4.802	5.145	5.488
Repairs & maintenance		0.252624	0.273676	0.294728	0.31578	0.336832
Total expenses		**45.95**	**49.78**	**53.61**	**57.44**	**61.26**
Expenses%		51%	51%	51%	51%	51%
EBIDTA margin		95.87%	95.87%	95.87%	95.87%	95.87%
PBDIT		44.05	47.72	51.39	55.06	58.74
Depreciation		13.33	11.58	10.07	8.76	7.63
PBIT		30.72	36.14	41.32	46.30	51.10
Interest on term loan		4.96	4.01	2.99	1.88	0.68
Interest on working capital		0	0	0	0	0
PBT		25.76	32.13	38.34	44.42	50.42
Tax		6.70	8.35	9.97	11.55	13.11
PAT		**19.06**	**23.78**	**28.37**	**32.87**	**37.31**
Cash profit		**32.39**	**35.36**	**38.44**	**41.64**	**44.94**
		21.18%	24.38%	27.02%	29.22%	31.09%

ii. Debt Service Coverage Ratio

Profit after tax		19.06	23.78	28.37	32.87	37.31
Depreciation		13.33	11.58	10.07	8.76	7.63
Interest on term loan		4.96	4.01	2.99	1.88	0.68
Total A		**37.35**	**39.37**	**41.43**	**43.51**	**45.63**
Repayment of term loan		12.00	12.95	13.98	15.09	16.28
Interest on term loan		4.96	4.01	2.99	1.88	0.68
Total B		**16.96**	**16.96**	**16.96**	**16.96**	**16.96**
DSCR		2.20	2.32	2.44	2.57	2.69
DSCR - Average		2.44				

iii. Projected Balance Sheet

	1st Year	2nd Year	3rd Year	4th Year	5th Year
Liabilities					
Capital	64.89	64.89	64.89	64.89	64.89
Revenue Reserves	1.91	2.38	2.84	3.29	3.73
Net Worth	66.80	67.27	67.73	68.18	68.62
Term Loan	4.96	4.01	2.99	1.88	0.68
Working Capital Limit	0.00	0.00	0.00	0.00	0.00
Current Liabilities					
Creditors	108.44	101.75	97.03	94.04	92.56
Liability for expenses	45.95	49.78	53.61	57.44	61.26
Total	**226.15**	**222.81**	**221.35**	**221.53**	**223.13**
Assets					
Fixed Assets					
Gross block	105.66	92.33	80.75	70.68	61.91
Depreciation	13.33	11.58	10.07	8.76	7.63
Net Fixed Assets	**118.99**	**103.91**	**90.82**	**79.44**	**69.55**
Non-Current asset/investments					
Current assets					
Inventory	90	97.5	105	112.5	120
Debtors					
Security Deposits					
Loans and Advances					
Cash & Bank Balance	17.16	21.40	25.53	29.58	33.58

Total	**226.14**	**222.81**	**221.35**	**221.53**	**223.13**

iv. Break Even Analysis						
		1st Year	**2nd Year**	**3rd Year**	**4th Year**	**5th Year**
Capacity utilization		60%	65%	70%	75%	75%
Capacity Utilization		60%	65%	70%	75%	75%
A. Sales		90	97.5	105	112.5	120
B. Variable cost		45.95	49.78	53.61	57.44	61.26
Admin & selling		4.12	4.46	4.80	5.15	5.49
Salary & Wages		34.38	37.25	40.11	42.98	45.84
Utilities		7.20	7.80	8.40	9.00	9.60
Repairs & maintenance		0.25	0.27	0.29	0.32	0.34
C. Contribution (A-B)		**44.05**	**47.72**	**51.39**	**55.06**	**58.74**
D. Fixed cost		**18.29**	**15.59**	**13.06**	**10.64**	**8.32**
Interest on term loan		4.96	4.01	2.99	1.88	0.68
Interest on working capital		0	0	0	0	0
Depreciation		13.33	11.58	10.07	8.76	7.63
E. Breakeven point % = (D/C)		**41.52%**	**32.68%**	**25.41%**	**19.33%**	**14.16%**

v. Payback period					
Year	**Net Profit After Tax**	**Interest**	**Depreciation**	**Total cash inflow**	**Cumulative Surplus**
1st Year	19.06	4.96	13.33	32.39	14.10
2nd Year	23.78	4.01	11.58	35.36	19.76
3rd Year	28.37	2.99	10.07	38.44	25.38
4th Year	32.87	1.88	8.76	41.64	30.99
5th Year	37.31	0.68	7.63	44.94	36.63
6th Year					
Payback period = 5 (Approx)					

12. Projected Employment Details

Type of Employment	Number of Employees	Projected Cost (Lakh)
Skilled Manpower	7	14.1

Type of Employment	Number of Employees	Projected Cost (Lakh)
Semi-skilled Manpower	-	
Unskilled Manpower	30	43.20
TOTAL		**57.30/-**

13. Requirement of Statutory clearances

Item	Status
Partnership Deed	
Lease deed registration	
PAN	
GST Registration	
UDYAM	
Trade License	
NOC form local authority	