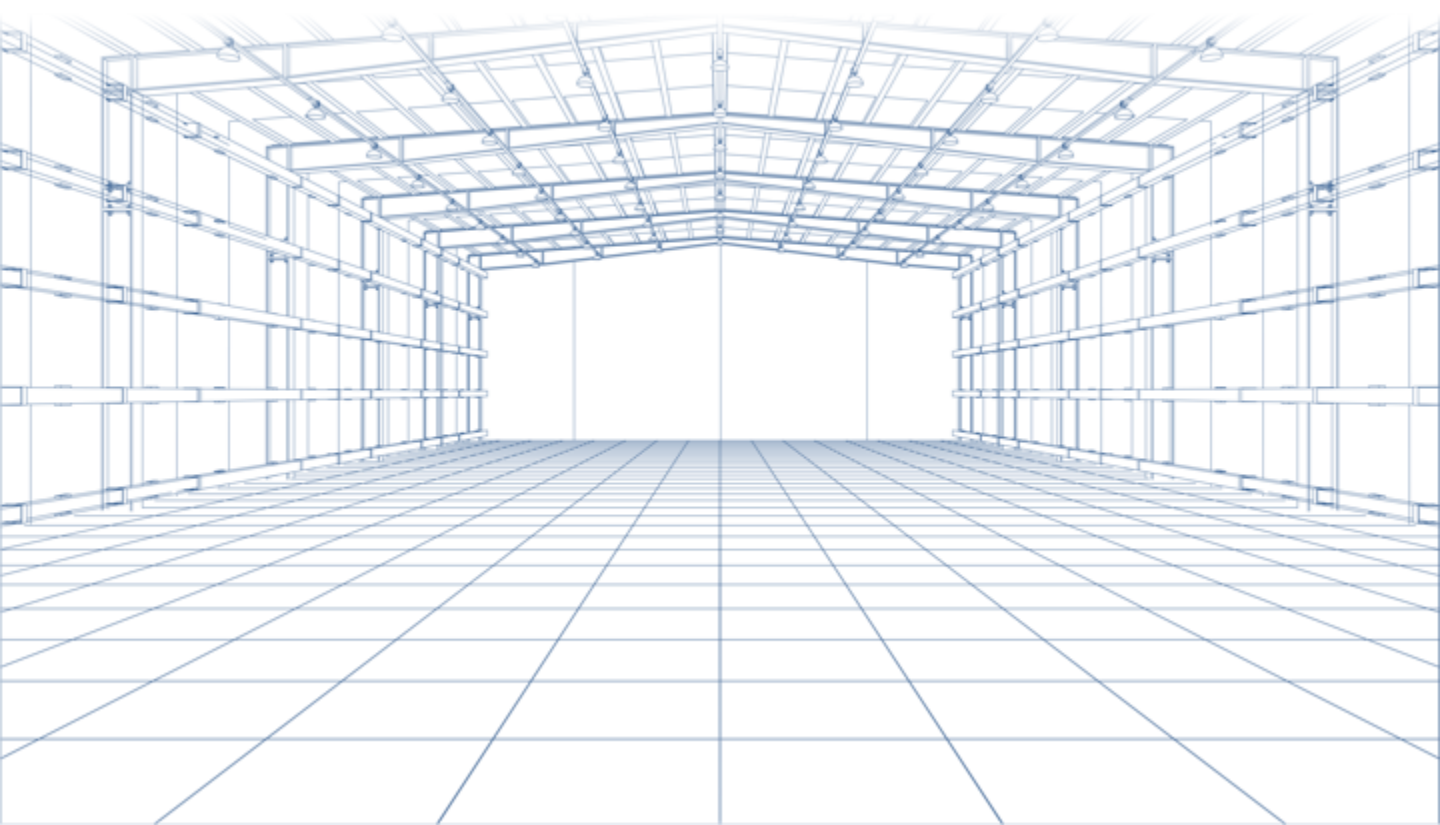




Design Innovation For Cost Optimization: Lessons From A Cold Storage Capital Project

December 2019





About Kelmic

Kelmic Consulting helps organizations capture opportunities and dramatically improve their operations.

Helping our clients improve their operations since 2002

We partner with our clients to drive bottom-line impact by addressing and dramatically improving efficiencies in People, Processes, and Property. Our exceptional people draw upon more than 100 years of combined experience to bring you the right perspectives and expertise to help you tackle complex challenges and realize your strategic ambitions.



Background

About the Client

- Leading refrigerated trucking company expanding into 3PL freezer storage
- Demand for over 6,000 pallet locations from existing customer base
- Need for significant competitive advantage to ensure market penetration and ensure new facility viability

“The client had no experience with real estate development or design and operation of a freezer storage facility.”

A leading BC refrigerated trucking business identified a demand from its exiting customers for 3PL freezer storage solutions. The project commenced with an initial feasibility study into the viability of a 40-60,000 sq ft freezer storage facility.

The initial studies indicated a large, growing demand for 3PL freezer storage with limited recent development on the supply side. The cost per pallet was highlighted as the key metric for viability of this capital project.

Significant current challenges within the exiting industry were identified, these mainly included:

- Excessively long truck turn-around times at facilities tying up dock doors;
- Long dwell times for products in above freezing locations of both in-bound and staged products;
- Shortage of available industrial land and rapidly escalating cost per acre in excess of \$1 million, creating challenges with the financial feasibility of these projects and inhibiting investments in new facilities;
- Larger 3PL players actively focusing on bigger customers at the cost of smaller businesses in need of storage space;
- Significant costs associated with maintaining ammonia-based cooling equipment within smaller facility setups.

The client had no experience with real estate development or design and operation of a freezer storage facility. Hence, support was required for the entire project from concept and feasibility through financing, site sourcing and land acquisition, to construction, equipping and commencement of operations.

Facility size was limited by available equity to between 40,000 to 50,000 sq ft. A min of 6,300 pallet locations were necessary for facility economics to make sense.

Debt financing for the development was also possible through leveraging pre-contract LOI's from prospective customers.

Implemented Solution

Kelmic compiled a detailed feasibility study that included a comprehensive cost estimate and operational financial plan based on preliminary facility layout plans. This was used to secure 80% bank funding for the development cost, including racking installation.

Our proposed innovative design resulted in the use of an advanced pallet shuttle system under conventional racking, allowing staging of products in the freezer. This resulting in a significant reduction in product-on-dock dwell time to less than 5 mins. The dock size was also reduced by more than 45% compared to the typical dock size by eliminating the need for product staging on the dock.

Inbound FTL product can be off-loaded and in freezer within 30 mins dramatically improving truck turns at dock doors.

Integrated design and careful building column location allowed for over 7,000 pallet locations in 37,200 sq ft facility. This increased density reduced the development cost per pallet to approximately 75% of average cost for a significant cost advantage over competitors.

Use of specialized freezer trucks and battery charging equipment allowed reach trucks to remain in the freezer 24/7, dramatically reducing wear and tear on the equipment from condensation and other temperature change effects. These truck also charge in the freezer.

CAPEX requirements per pallet reduced by over

25%

Reduced product on dock time to less than

5 min

Increased facility's cube density by over

40%



Key Results Achieved

- Designed 37,200 sq ft facility capable of storing 7,000 pallets
 - 40% increase in density
 - Over 400 individual pick faces in freezer
 - Capable of pre-staging over 420 pallets in freezer
- Negotiated and arranged bank finance for 80% of entire project for client
- Use of pallet shuttle allowed internal freezer staging and less than 5 min time on dock for product
- Reduced FTL truck turn around time to less than 40 mins
- Reduced dock size by over 45%
- All-in project cost including racking less than 75% of average cost per pallet location

ROI



40%

Increase in facility
cube density

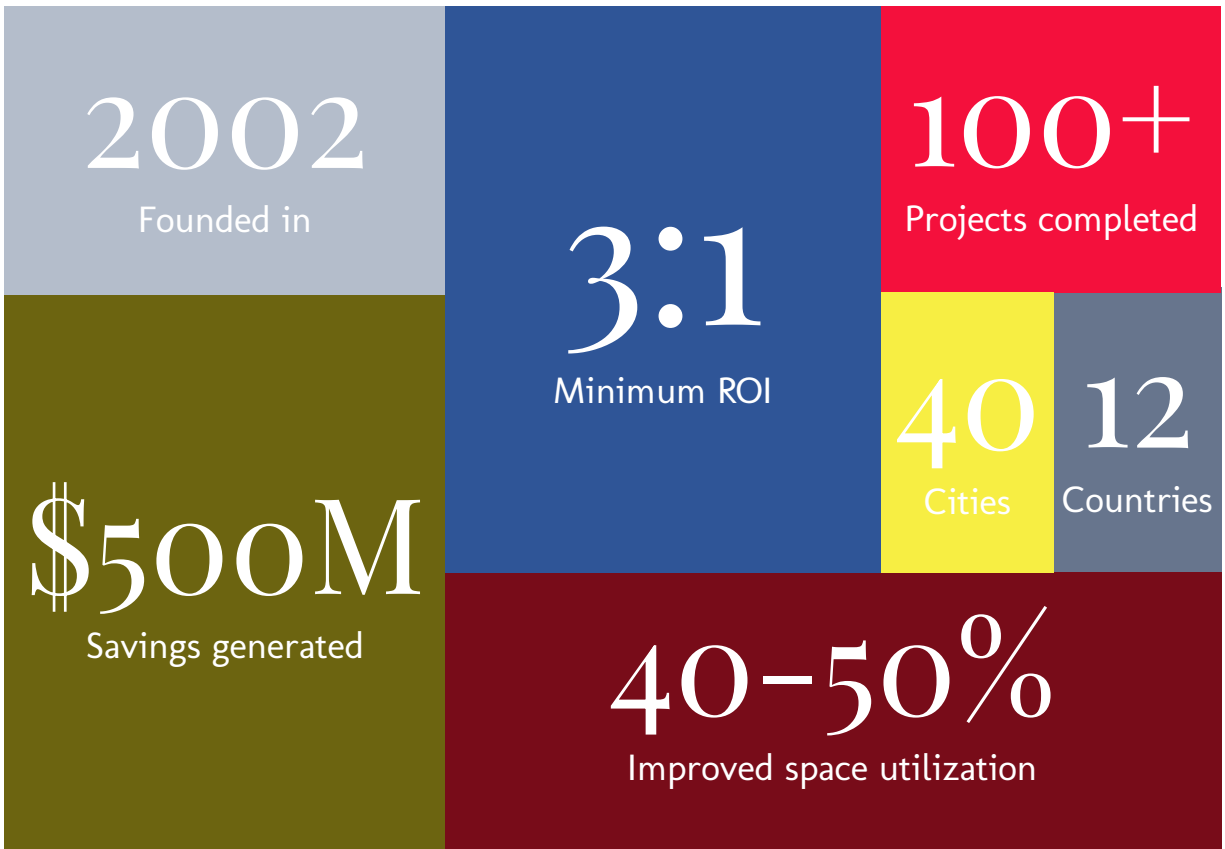
Reduced

Product time on dock
to less than 5 min

25%

Reduction in CAPEX
requirement per pallet

Kelmic at a Glance





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