

Storage optimisation with high-bay warehouse implementation

Sineurope: Breaking through storage challenges by leveraging advanced technology



In order to achieve a higher storage density at Sineurope, one of Asia's biggest premium seafood suppliers, Körber implemented an automated high-bay warehouse consisting of a 31-metre-high freezer-rated pallet stacker crane equipped with two autonomous satellite vehicles (ASV), and created more than 2,800 pallet locations.

The Customer

Sineurope Pte Ltd is one of Asia's biggest suppliers of premium seafood, including shark's fin and sea cucumber. Among the most successful businesses in Asia, Sineurope holds an esteemed reputation, given its sterling year-on-year growth since its establishment in 1981. While they mainly focus on North Asian markets including Vietnam, China, Hong Kong, and Japan, they also have strong relationships with suppliers in Uruguay, Yemen, the Maldives, Latin America, and Europe.

As a means to maintain its competitive edge and to keep pace with its growth in Asia, Sineurope needed

to increase its storage capacity and upgrade its production by leveraging an automated warehouse.

At a glance

Project goals

- To enhance customer's strong presence in several Asian countries by improving its production and storage capacity
- To boost their supply chain efficiency and cater to the global demand for premium seafood products

Solution

- Deployment of an Automated Storage and Retrieval System (ASRS) to increase storage density
- Incorporated Warehouse Management System (WMS) to optimise warehouse operations

Features and benefits

- Installed an automated high-bay warehouse with a 31-metre-high freezer-rated pallet stacker crane equipped with two autonomous satellite vehicles (ASV)
- Increased storage density with 2,800 pallet locations
- Prevented heat loss and achieved energy efficiency with no human intervention



Challenges

The growth in business resulted in Sineurope expanding their operations and capacity. The cold storage facility which operates 24 hours tend to consume an enormous level of power endlessly. Since the energy loss and cost of energy are constantly increasing due to operating a manual warehouse, one of the biggest challenges was to reduce the footprint which will lead to an improved energy efficiency.

While all warehouses in a land scarce nation like Singapore face space constraints, cold chain warehouse also has other difficulties. Along with proper space utilization it was required to limit the potential impact that the harsh sub-zero working environment could have on the workers.

Another pressing issue was to have skilled workers who can keep up with the cold working environment and stay productive at the same time. Looking into these challenges, the company wanted a solution that can reduce their dependence on manual processes and achieve new levels of efficiency, safety and optimizing land utilization.

Solution

The automated high-bay warehouse implemented by Körber consisted of a 31-metre-high freezer-rated pallet stacker crane equipped with two Autonomous Satellite Vehicles (ASV). Körber was successful in significantly increasing the storage density and created more than 2,800 pallet locations within a small warehouse footprint. If the customer were to build a manual warehouse, they would have needed close to 1,900 sqm of warehouse space, but with Korber's ASRS system they were able to fulfil their needs with only 435 sqm of space.

Further, the process was reinforced by deploying a Warehouse Management System (WMS) to optimise warehouse operations, and interface with the customer's enterprise resource planning (ERP) system.

Results

Sineurope gained significant annual savings through the automated system. It omitted the need for external storage, maximised land utilisation, and improved operational efficiency. The installation of state-of-the-art technology not only helped the company cope with labour shortages, but also lowered the cost of cooling. This was achieved because energy loss due to exchange of air between different temperature-controlled zones is higher in a manual warehouse compared to an automated high bay warehouse. With no human intervention, heat loss

was prevented, paving the way for the company to become more energy efficient.

“With business running at full capacity, coupled with the disruption of the global logistics services, we have had to arrange expensive external storage. Additionally, as we’re expanding operations and capacity, the constraint of looking for more staff is becoming increasingly difficult in the current environment, especially when working in a cold room storage. The safety and health of our employees is extremely important, as well as reducing our carbon footprint and energy consumption, which is why we decided to partner with Körber. They proposed a holistic solution comprising of an automated system and software that would solve our problems and get us ahead of the competition.”

Melvin Foo

Founder and CEO, Sineurope

Facts and Figures

Storage density

Single or double-deep telescopic forks, multiple deep storages with a satellite vehicle

Height

Up to 40m

Load type

Pallets

Temperature range

-30 to 40°C

Travelling speed

Up to 240 m/min

Load capacity

Up to 1500 kg

