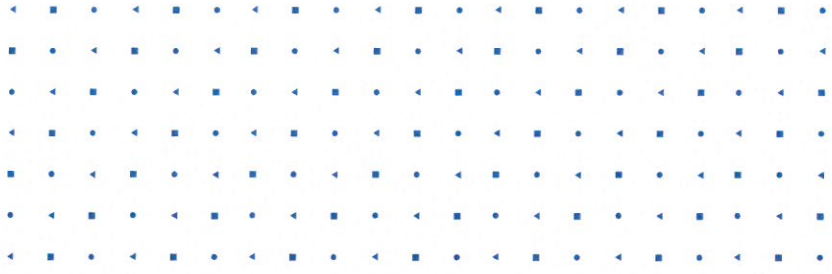
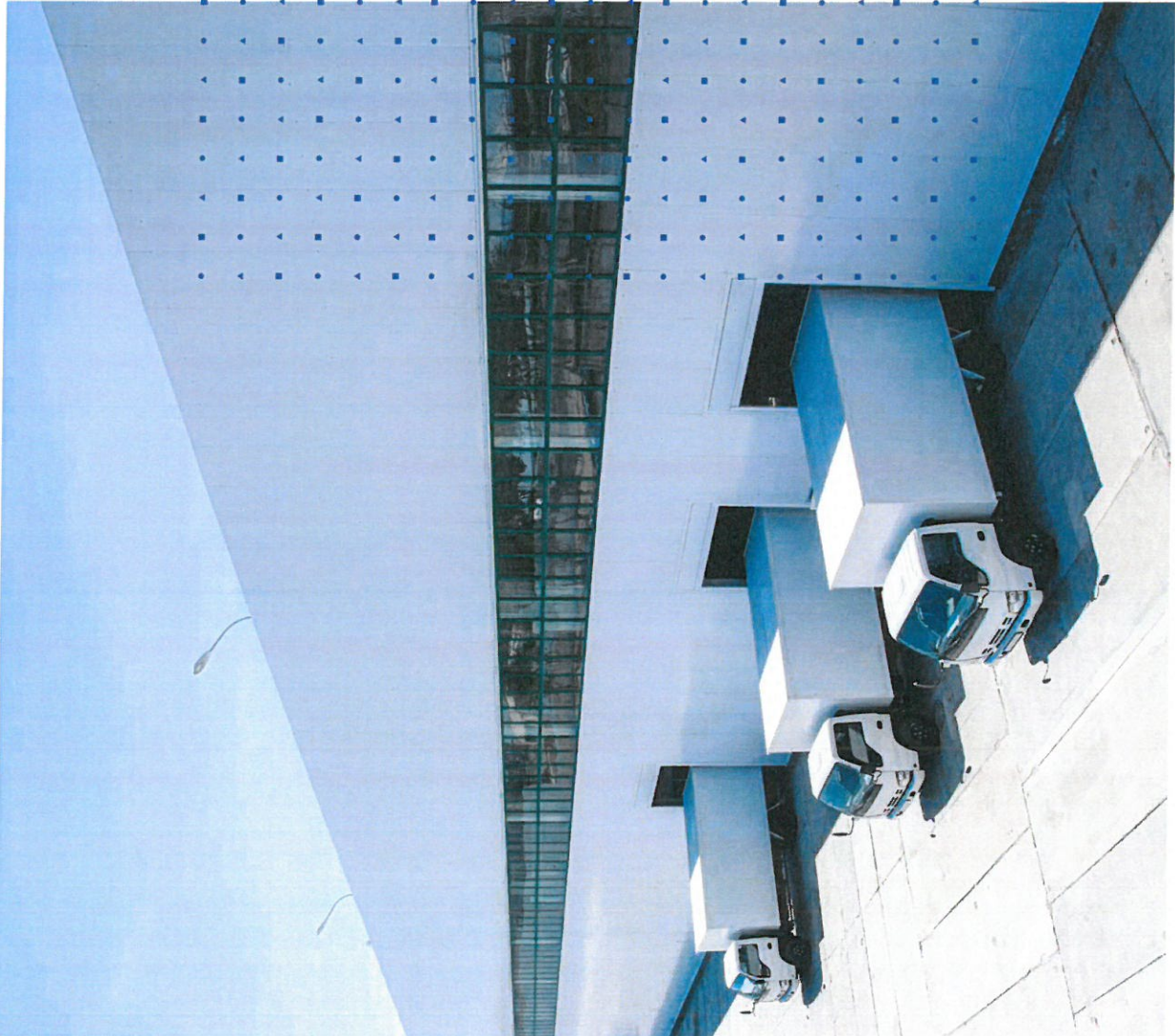


Section 16 Planning Application for Proposed Temporary Cold Storage for Poultry and Distribution Centre for a Period of 3 Years and Filling of Land for Site Formation Works at Various Lots in D.D.89 and Adjoining Government Land,,Man Kam To Road, Sha Ling, New Territories

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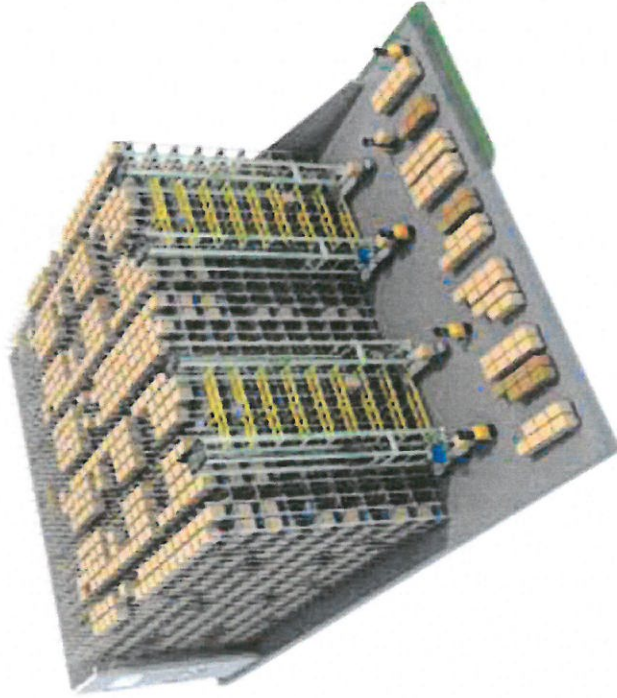
Catalogue of the Proposed System and Indicative Preliminary Layout of Automation System with Storage Racks



# How Automation Improve Warehouse Operation?

# 1. WAREHOUSE OPERATION IMPROVEMENT

## 1.1. Maximized Storage Capacity



4-Way Shuttle Automated Warehouse

- ❖ High density cubic storage of racks, pallets or totes
- ❖ Maximize the utilization of the warehouse space
- ❖ More flexibility in warehouse utilization with the space saving



200%~300% increase in storage capacity

# 1. WAREHOUSE OPERATION IMPROVEMENT

## 1.2. Maximized Operation Efficiency



AGV Automated Warehouse

- ❖ High throughput volume
- ❖ Simplified operation flow
- ❖ High picking accuracy to avoid manual mistake and double handling
- ❖ Reduced operation hours



3 x efficiency of manual labor



Accuracy up to 99.99%

# 1. WAREHOUSE OPERATION IMPROVEMENT

## 1.3. Minimized Labor Cost



AGV Workstation, Dashboard & Put-Wall

- ❖ Minimize labor deployment
- ❖ Goods to Person
- ❖ Reduced labor intensity and manual effort in picking, sorting and movement of goods
- ❖ Avoid manual mistakes

↓

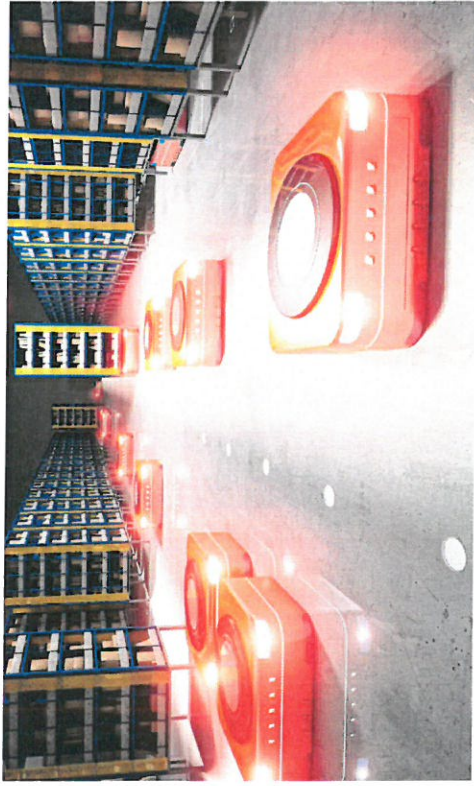
Reduces labor by 50~70%

↓

Reduces the chances of manual mistake by 80~90%

# 1. WAREHOUSE OPERATION IMPROVEMENT

## 1.4. Energy & Electricity Saving



AGV Storage Area

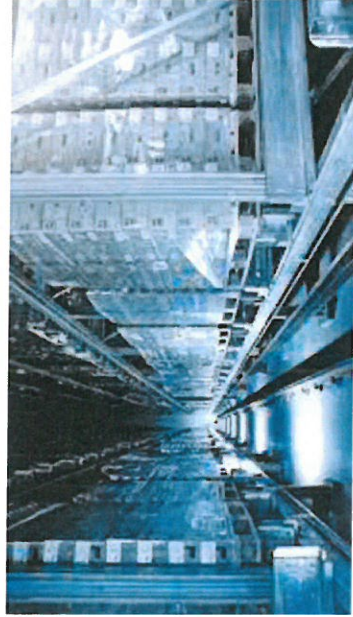
- ❖ Robot picking which allows no lighting in automation storage area
- ❖ Minimize the usage of warehouse MHE
- ❖ Optimized solution and workflow to eliminate redundant movements
- ❖ Cold Chain: use less freezing power in “Human Zone”; more freezing power in “Storage Zone”

0 lighting for 40~50% of the warehouse area



# 1. WAREHOUSE OPERATION IMPROVEMENT

## 1.5. Safe & Labor Friendly Working Environment



Automated Frozen Warehouse

- ❖ Patented Security Solution that meet CE standards ensure safe human-robot interaction
- ❖ System has high fault tolerance
- ❖ Cold Chain: separate human work from undesirable frozen storage area



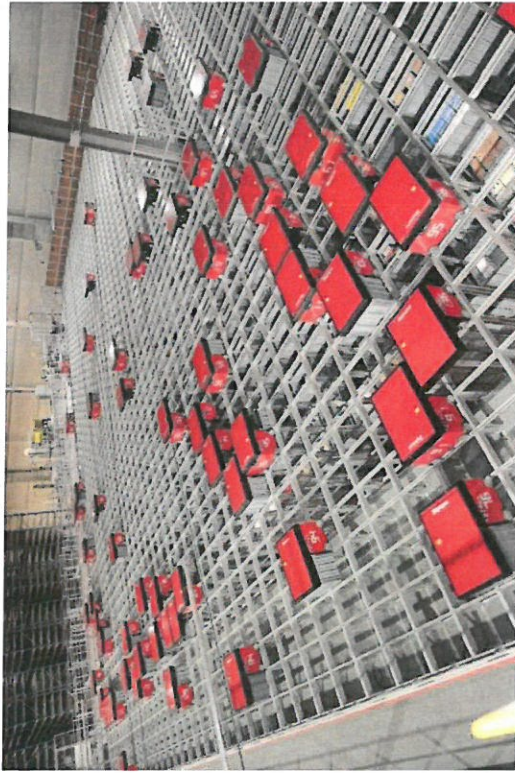
Reduces warehouse safety issue or accidents by 50%



Increased labor willingness to work in Cold Warehouse

# 1. WAREHOUSE OPERATION IMPROVEMENT

## 1.6. Flexible To Expand With Business Growth



Picking Spider System Expansion In Warehouse

- ❖ Modular design of the automation equipment: Big/Small, Tall/Short
- ❖ Number of robots could be flexibly adjusted
- ❖ Diverse range of robots with different specifications for varying business needs or industries
- ❖ High performing system design and customization

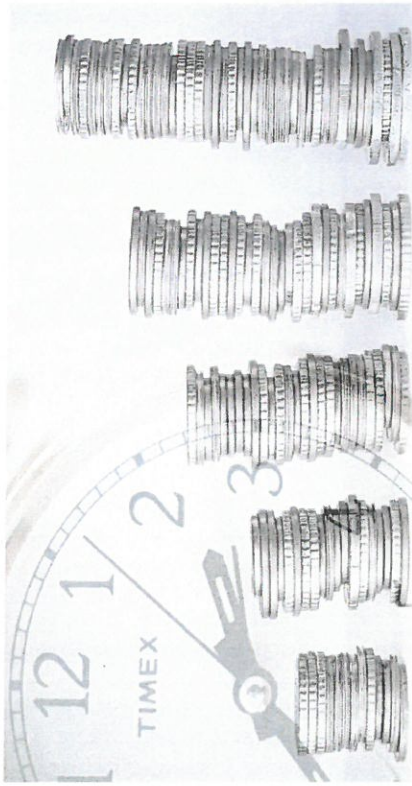


Cost saving from deploying automation with right size



# 1. WAREHOUSE OPERATION IMPROVEMENT

## 1.7. Fast ROI



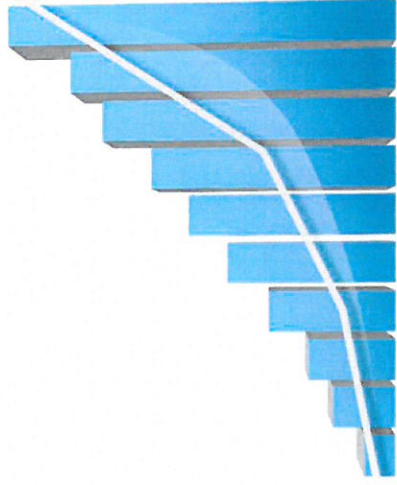
- ❖ Major cost factors in warehouse: Rental cost and Labor Cost
- ❖ Automation saves money by cutting labor costs and increasing capacity
- ❖ Fast & regular training & maintenance can further increase the ROI

✓ ROI in 3~5 years

↓ Total cost reduction of 50~60%

## 2. WAREHOUSE DESIGN

### 2.1. To Maximize Efficiency



To maximize capacity, throughput & energy efficiency, automated warehouse should be:

- ❖ Deigned on an open and leveled warehouse footprint
- ❖ High clear height in the building
- ❖ Lesser compartments

# 3. VOICE FROM THE INDUSTRY

## 3.1. Letter From Kerry Logistics



1<sup>st</sup> April 2019  
Ha Che Development Limited  
Yang Wu Holdings Limited  
Unit 1213, 13/F, New East Ocean Centre,  
9 Science Museum Road, Tsim Sha Tsui,  
Kowloon, HONG KONG

Dear Sirs,

Re: Proposed Structure for Temporary Wholesale Trade Food for a Period of 5 Years at Several Lots in D.111 ("Project")

We are writing in regard for your layout.

First of all, we are impressed by the investment of your automated system within the structure for such use and the effort your company has contributed to the industry. Your courage for acting as the pioneer of the automation goods storage solution is truly appreciated. We believe investing in a fully automated system will facilitate and encourage the future development of our industry as well as the society.

Secondly, we would like to make a suggestion for your layout. Based on our experience, we suggest you apply for an adjustment to a clear height of 37.5m or above so as to maximise the efficiency and throughput of your wholesale trade F&B.

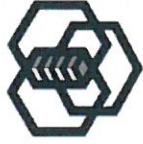
Yours faithfully,  
For and on behalf of  
Kerry Logistics Engineering Limited

Philip Cheung  
Director

Kerry Logistics Engineering Limited  
10/F, Kerry Logistics Centre 50, Yung Ho Road, Hong Kong, Hong Kong  
TEL: 852 2412 8001    FAX: 852 2500 0574    www.kerrylogistics.com

## 4. Precedent Case

### 4.1. Comboxx Project



**COMBOXX**

STORING THE FUTURE

Comboxx SuperHub One is in Yuen Long with fully automated storage system warehouse.

The site is 200,000 sq. ft. with steel structure of 18m height. It sets the standard of future warehouses in Hong Kong.

