



HOA LONG MECHANICAL
Optimise Your Warehousing

A member of Fgroup



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HOA LONG MECHANICAL PRODUCTION JOINT STOCK COMPANY

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STORAGE **RACKING** SYSTEMS
WAREHOUSING AUTOMATION **SOLUTIONS**
MECHANICAL **PRODUCTION**



About us03

Our Journey04

Future of Warehouse05

Automated Storage Retrieval Systems (AS/RS)06

Storage & Retrieval ASRS07

Transport & Conveyors08

Picking & Palletizing09

Solutions Overview10 - 11

Shuttle Racking Systems12

Mobile Racking Systems13

Selective Racking Systems14

Very Narrow Aisle (VNA) Racking Systems15

Double-Deep Racking Systems16



Drive - In Racking Systems17

Pallet - Flow Racking Systems18

Push Back Racking Systems19

Multi - Tier Racking Systems20

Cantilever Racking Systems21

Other Product22

Customer - Partner23

Connecting With Stakeholders24 - 25

Fgroup Ecosystem26 - 27

ABOUT US

Began with an excellent team of engineer and mechanical workshop, HLM have enjoyed successful journey. We become a leading company in Vietnam market and be always a reliable partner for famous customers of each industry. Nowadays, logistics industry is more complex and rapid development, customers need and expect not only a conventional warehouse. We understand our clients' desire, that's lodestar for us to continually develop sustainable and integrated solutions, focusing on:

- Quality product – Quality service
- Tailor on Demand
- Timing is everything
- Continuous improvement
- Service coverage in Vietnam and Southeast Asia
- Sustainable Solutions

We offer end-to-end warehousing solutions from survey, consultancy to installation.

“
**Let HLM contribute to your value chains
and be your strategic warehousing partner**

OUR JOURNEY



2019

MAKING BIG SALE

1st Semi-Automation project installed by HLM



2020

PARTNERSHIP

Formed a partnership with AUTOMHA world-class Semi and Fully Automated Warehouse solutions



NEW STRATEGY

- Developing Automation Solutions in Vietnam
- Reaching Global Market for exporting Racks and Mechanical Products

2018

START HERE

Invested by Hoa Long Investment, HLM was established and took over the racking factory that have experienced since 2000



EXPORT

Began exporting to Southeast Asia



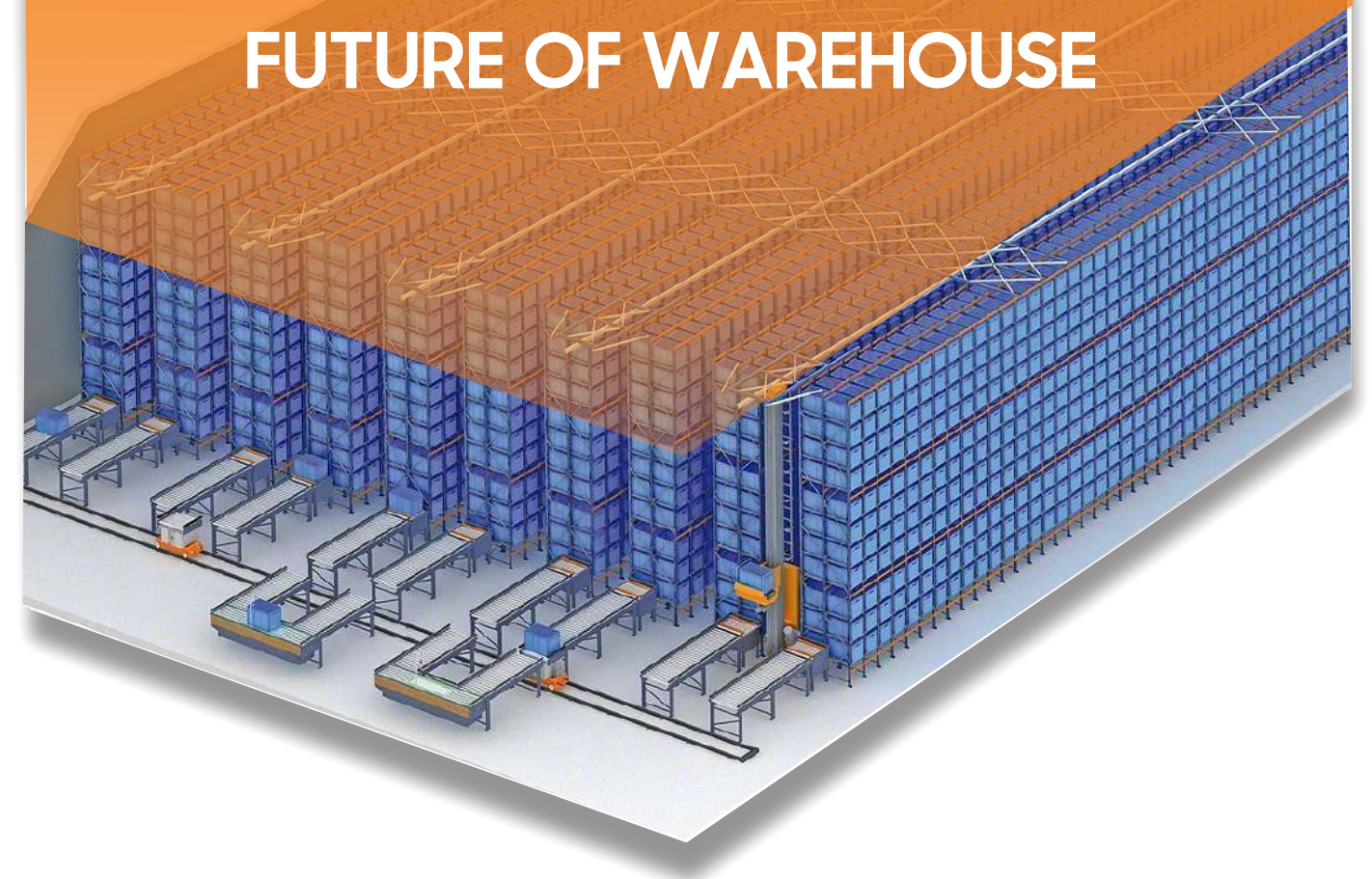
2021

NEW ACHIEVEMENT

- Formed a partnership with SWISSLOG world leading Warehouse Automation companies
- 4th Semi-Automation project installed by HLM



FUTURE OF WAREHOUSE



What is the future of Warehouse/Intralogistics headed?

The warehouse become flexibility, full automation and smart.

Digital development is motivating the economic environment and establishing new sets of rules. That is also true for intralogistics, which is evolving from large, rigid systems into modular, flexible, and software-driven solutions—robot-supported and self-optimizing.



AUTOMATED STORAGE RETRIEVAL SYSTEMS (AS/RS)



Innovating robot-based storage solutions instead of conventional systems.

These fully automated systems boost warehouse quality, flexibility and efficiency.

Structures can be single-depth, double-depth or high bay storage.

Modular, flexible and software-driven ASRS for maximum efficiency.
Adaptable to special temperature and humidity conditions.



STORAGE & RETRIEVAL ASRS

- Pallet shutter - **Power Store**
- Pallet Stacker - **Crane Ventura (ASRS)**



- Cube - Based **Auto Store**
- AGV/AMR - based **Carry Pick**
- Light Goods Shuttle **Cyclone Carrier**



- Mini Load Crane **Tornado**
- AMR based - **Cased handling Robotic System**



TRANSPORT & CONVEYORS

- Electrified Monorail Transport System
- AGV/AMR
- Pallet Conveyors Pro Move
- Small Loads Conveyors QuickMove



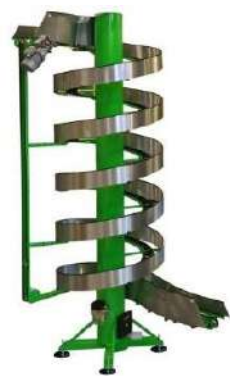
Food



Textile



Pharmaceutical



PICKING & PALLETIZING

- Person to Goods Case Picking-Caddy Pick
- Picking system Goods to Person
- Robot based
 - a) Mixed Case Palletizing ACPa Q
 - b) Single Item Picking Item –PiQ/Auto PiQ



SOLUTIONS OVERVIEW

STEP 01

Tailored solutions

Pallet warehouse automation designed around your business needs.



STEP 02

Smart software integration

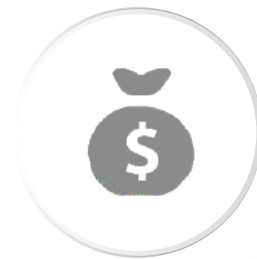
Leverage operational data for continuous improvement.



STEP 03

Cost & space savings

Save cost and space with our flexible and energy efficient pallet storage and retrieval solutions.



STEP 04

Expertise

Get the best service with over 40 years of experience in design and implementation of pallet warehousing solutions.



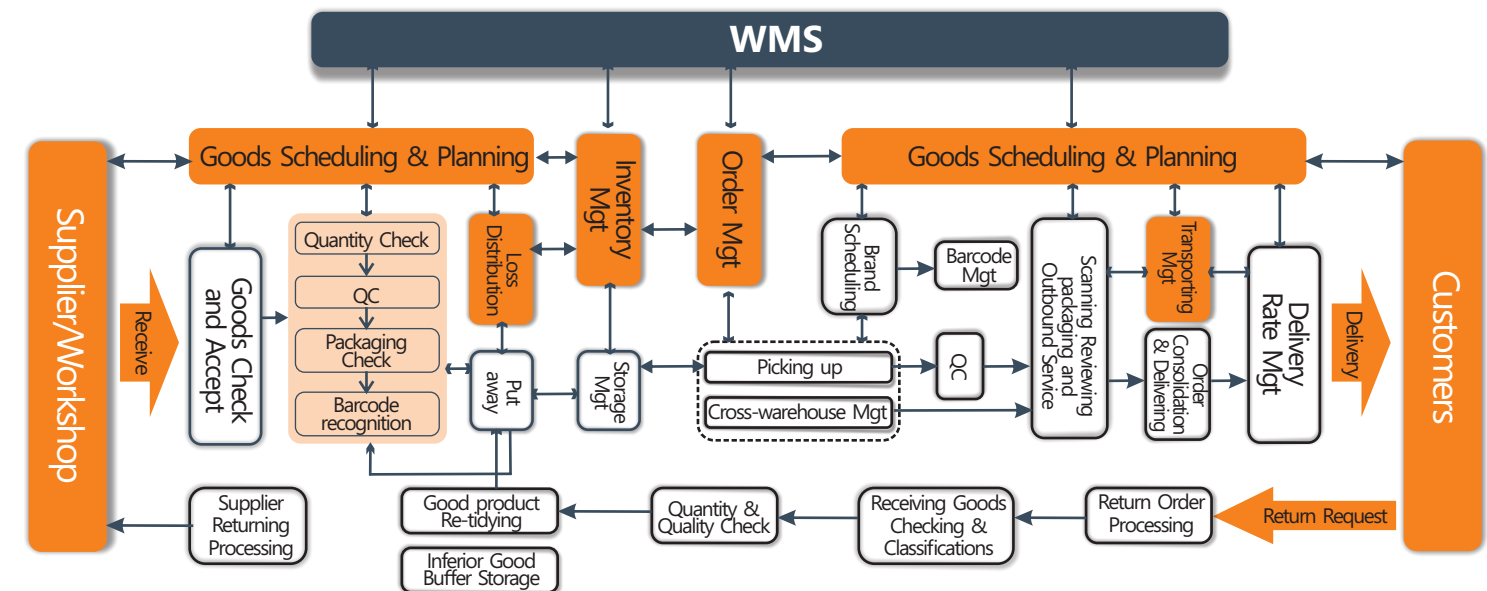
Inbound Handling

Convey and Transport

Case Picking

Piece Picking

Outbound Handling



SEMI AUTO & MOBILE RACK

Radio Shuttle rack
Mobile rack system

ASRS

Shuttle Stacker Crane
Miniload Stacker Case
Chain conveyor
Auto Guide Vehicle

SOFTWARE SYSTEM

WMS/ WCS/ RFS/ PLC
Pallet Conveyor
Sorting System

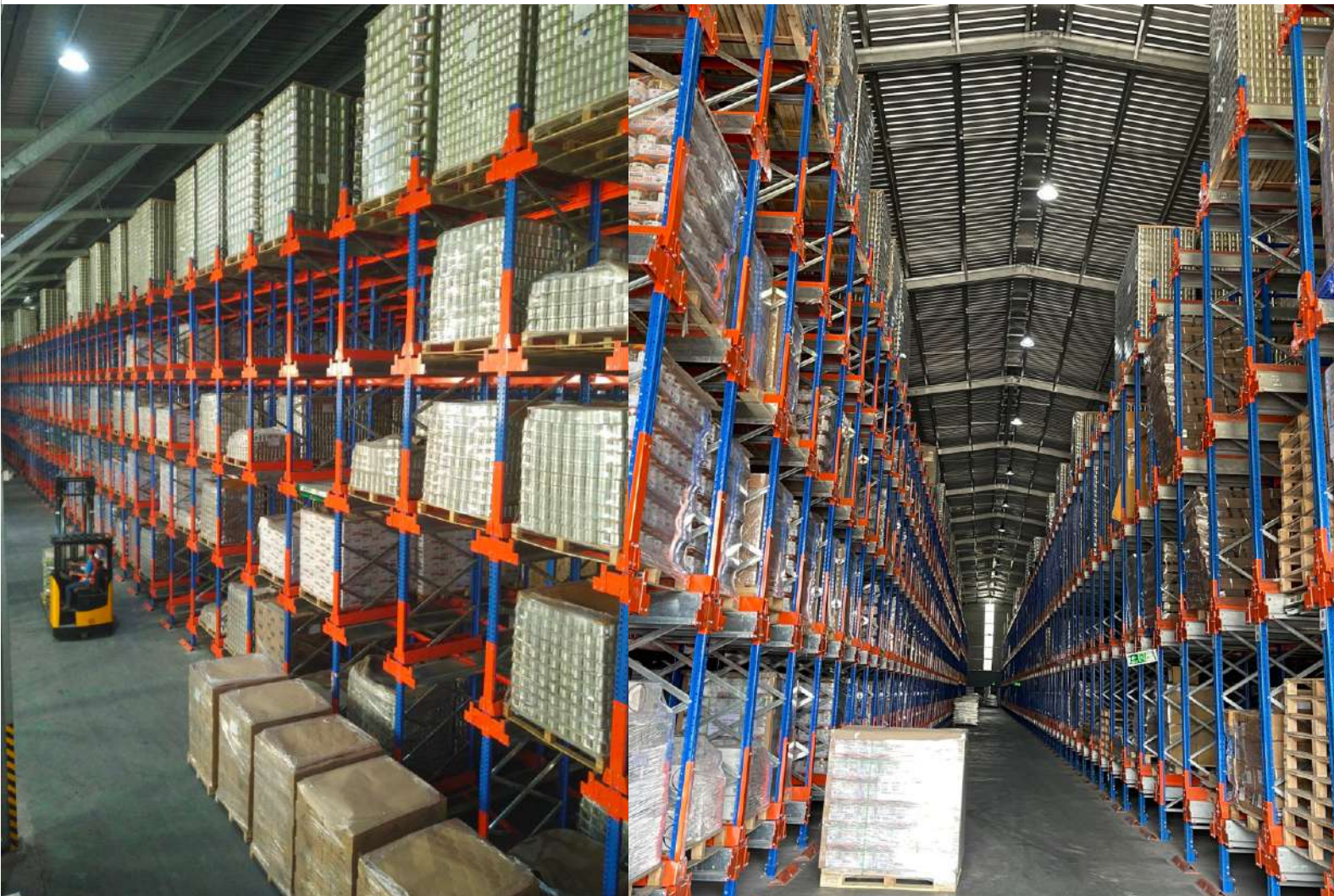
SHUTTLE RACKING SYSTEMS

A **High-Density Storage System** are operated with semi-automated Shuttle Carts / Pallet Runner moving the pallets in the rack.

FIFO and LIFO operation.

Automates the handling of goods on pallets through a system of sensors

An ideal solution for high volume per item.



FEATURES

- All types of lift trucks.
- Operated in freezer chambers (up to -30°C).
- Lanes can be enhanced to 40 m deep.
- Good stock rotation
- Good picking rate
- Floor space utilization: up to 85%
- Each lane is exclusively for the same product type.



MOBILE RACKING SYSTEMS

A **High-Density Storage System** and **High Selective Rate** have only one forklift access aisle. The Pallet Racks are placed on mobile chassis providing simple access for forklift.

Systems of sensor ensure Labor safety the movement of the racks.

An ideal storage system for cold storage thanks to optimizing the land use.



FEATURES

- All types of lift trucks.
- Operated in freezing chambers (up to -30°C).
- Applying for fast-moving SKU/ many SKU warehouse
- Good stock rotation
- Picking rate: fast
- Selective rate: 100%
- Floor space utilization: up to 70%



SELECTIVE RACKING SYSTEMS

Can be called as Single Deep Systems which is most popular and economical form of pallet racking.

An Ideal solution for logistics warehouse with wide range of products. Non-standard pallet is accepted for loading.

VERY NARROW AISLE (VNA) RACKING SYSTEMS

A kind of Selective Racking System increasing the capacity of the warehouse without expanding the space by narrowing the work aisles.

Special handling equipment is required, such as VNA trucks/Three Way Forklift.

Designed for new generation of warehouse up to 15 m in height.



FEATURES

- All types of lift trucks.
- Height up to 11 m.
- Applying for fast-moving SKU/ many SKU
- Good stock rotation.
- Picking rate: fast
- Selective rate: 100%
- Floor space utilization: 30 %



SPECIFICATIONS

| Pallet (mm) | Forklift entry (mm) | BeamStandard (mm) | No. OF Pallet/Bay | Capacity |
|-------------|---------------------|-------------------|-------------------|----------|
| 800x1200 | 800 | 2700 | 3 | 1000 |
| 1000x1200 | 1000 | 2300 | 2 | 1000 |
| 1200x1200 | 1200 | 2700 | 2 | 1000 |



FEATURES

- Height up to 15 m
- Applying for many SKU warehouse
- Good stock rotation
- Picking rate: fast
- Selective rate: 100 %
- Floor space utilization: up to 50%
- Require the super – flat floor surface

SPECIFICATIONS

| Pallet (mm) | Forklift entry (mm) | BeamStandard (mm) | No. OF Pallet/Bay | Capacity |
|-------------|---------------------|-------------------|-------------------|----------|
| 800x1200 | 800 | 2700 | 3 | 1000 |
| 1000x1200 | 1000 | 2300 | 2 | 1000 |
| 1200x1200 | 1200 | 2700 | 2 | 1000 |

DOUBLE-DEEP RACKING SYSTEMS

Originating from Selective Racking Systems and having two rows deep instead of one.

This system has double storage capacity but 2-time reduction of selective rate in comparison with Selective Systems.

Double-Deep requires Reach Truck with double deep handling attachment.

FEATURES

- Require reach truck
- Height up to 11 m
- Average stock rotation
- Selective rate: 50 %
- Picking rate: above average
- Floor space utilization: up to 60%



SPECIFICATIONS

| Pallet (mm) | Forklift entry (mm) | BeamStandard (mm) | No. OF Pallet/Bay | Capacity |
|-------------|---------------------|-------------------|-------------------|----------|
| 800x1200 | 800 | 2700 | 3 | 1000 |
| 1000x1200 | 1000 | 2300 | 2 | 1000 |
| 1200x1200 | 1200 | 2700 | 2 | 1000 |



DRIVE-IN RACKING SYSTEMS

A high density storage solution by maximizing available space and height of warehouse by using the forklift operating aisles for storage.

This includes continuous racking row with one access aisle - where the last pallet in is the first one out (LIFO method - Last in, First out);

Handling equipment – forklift is required to drive into the racks.



FEATURES

- All types of lift trucks, Drive into racks.
- Safe product protection to height of 11 m
- Low stock rotation
- Picking rate: low average
- Floor space utilization: up to 70%
- Each lane is exclusively for the same product type.

SPECIFICATIONS

| Pallet (mm) | Forklift entry (mm) | BeamStandard (mm) | No. OF Pallet/Bay | Capacity |
|-------------|---------------------|-------------------|-------------------|----------|
| 1000x1200 | 1200 | 1070 | 1370 | 1000 |
| 1200x1200 | 1200 | 1070 | 1370 | 1000 |

PALLET-FLOW RACKING SYSTEMS

A high density storage uses gravity-driven conveyors to move pallets.

Containing static racks and dynamic roll tracks, may contain brakes to control speed.

The Pallet-flow rack suits FIFO (First-in First-out) which only require an aisle for loading and another aisle for unloading

An ideal solution for moving pallet without forklift truck.



FEATURES

- FIFO (First-in First-out)
- All types of lift trucks
- Requires higher quality pallets
- Excellent stock rotation
- Fast picking rate
- Floor space utilization: up to 85%
- Each lane is exclusively for the same product type

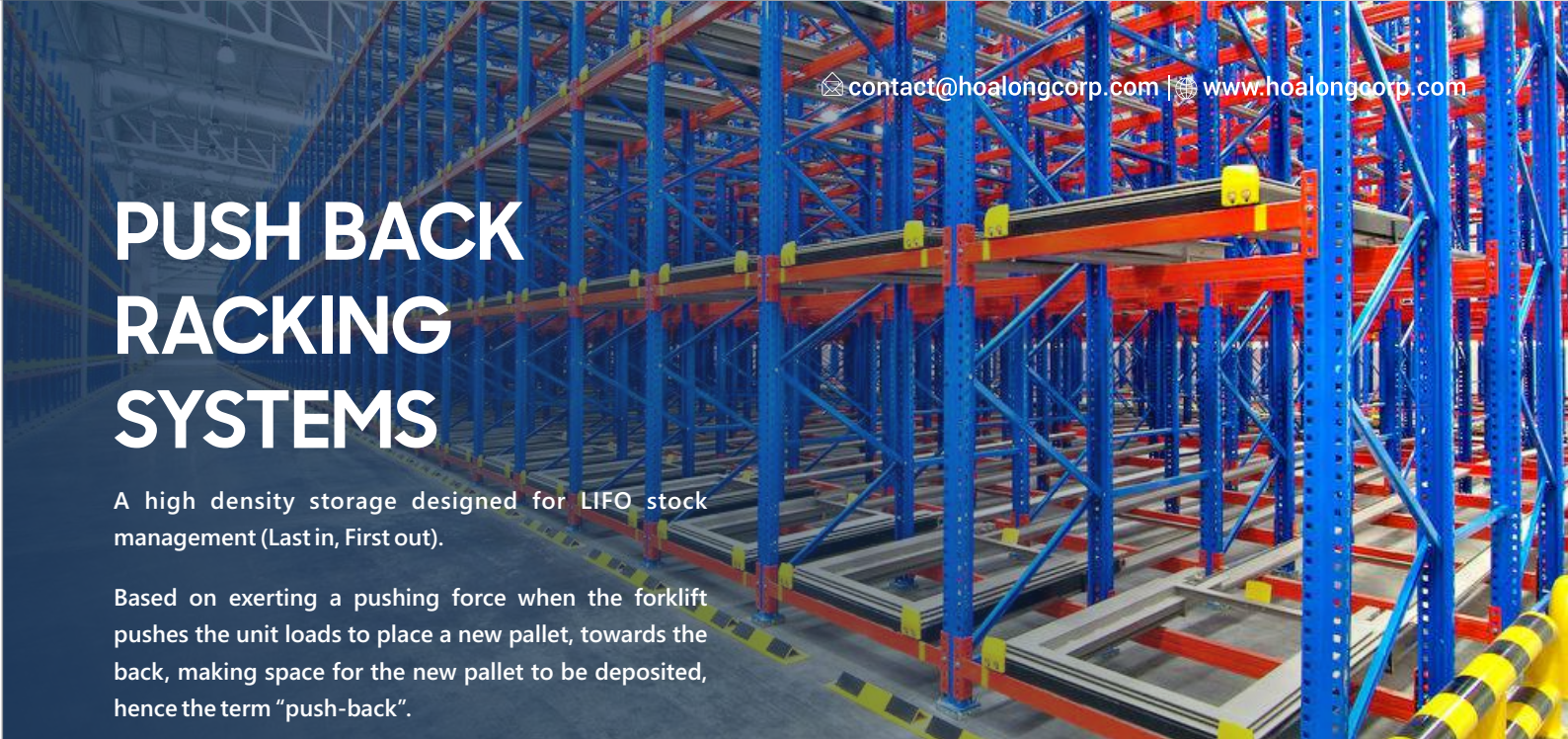
SPECIFICATIONS

| Pallet (mm) | Forklift entry (mm) | Capacity |
|-------------|---------------------|----------|
| 800x1200 | 800 | 1000 |
| 1000x1200 | 1000 | 1000 |
| 1200x1200 | 1200 | 1000 |

PUSH BACK RACKING SYSTEMS

A high density storage designed for LIFO stock management (Last in, First out).

Based on exerting a pushing force when the forklift pushes the unit loads to place a new pallet, towards the back, making space for the new pallet to be deposited, hence the term “push-back”.



FEATURES

- LIFO (Last-in First-out)
- All types of lift trucks
- Height up to 11 m
- Average stock rotation
- Floor space utilization: up to 70%
- Each lane is exclusively for the same product type

SPECIFICATIONS

| Pallet (mm) | Forklift entry (mm) | Capacity |
|-------------|---------------------|----------|
| 800x1200 | 800 | 1000 |
| 1000x1200 | 1000 | 1000 |
| 1200x1200 | 1200 | 1000 |





MULTI-TIER RACKING SYSTEMS

Combining Mezzanine floor and Shelving system. The system integrates maximizing warehouse space by height and manual handling.

Mezzanine can be more than one levels high. There is Multi-purpose solution that load level can be designed to fit the size of cartons and miniload storage

FEATURES

- Applied for Spare parts, Merchandising, Pharmaceutical industry,...
- Operating with by Hand, Trolleys and Work Assist Vehicle,...
- Quick & easy to assemble
- Can be adapted to specific client requirements

CANTILEVER RACKING SYSTEMS

This is the ideal storage solution for storing long-length or volume loads in bulk, such as tubes, long bars, pipes and other non-palletized items. Cantilever arm elevations are easily adjustable to accommodate any bundle size.



FEATURES

- Easy assembly.
- Simple and resistant structure.
- Great mobility.

SPECIFICATIONS

| Product Specification | Dimension (mm) | Level | Load (Kg/tier) |
|-----------------------|----------------|-------|----------------|
| Column | 1200-6000 | 3 | 500-1000 |
| Arm | 500-1000 | 4 | |
| Single Sided Base | 500-1000 | 5 | |
| Double Side Base | 1000-2000 | 6 | |

OTHER PRODUCT

STELL PALLET

Steel pallet are heavy duty, chemical resistant and durable.
These products are Made to Order (MTO) and usually used in food storage or cold storage.
Electro Static Power Coating and Hot dipped galvanized steel pallet.



NESTAINER

Nestainer is used for raw materials, semi-finished products or products divided by zones and blocks and can be which is possible to move whole block from place to another place.
An Ideal solution for Logistics, Distribution Centers, Agricultural products ...

OTHER PRODUCTS

Trolley
Wire Mesh Decking
Mini Load Shelving
Trolley Ladder



ELECTROSTATIC POWDER COATING

Protect the surface of product, increase durability.
Protects against the effects of chemical and weather.
Many choice of colors and highly accurate.
Coating furnaces: maximum length of 12m including both semi-automatic and automatic mode.

CUSTOMER

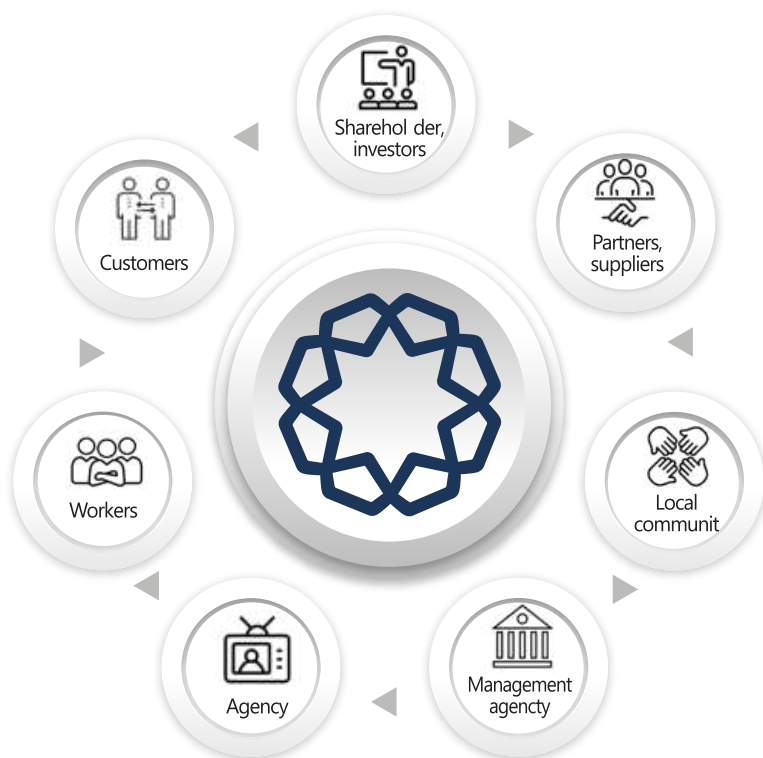


CUSTOMER SERVICES

Contact us immediately if you found any damage in your inventory
Let HLM inspect any doubt in your systems then give feedback with the best solution.

CONNECTING WITH STAKEHOLDERS

HLM always welcomes the feedback from the stakeholders. This is a valuable source of information for HLM to help to develop and strengthen the business. At the same time, HLM will carefully review and research to feedback into the company policies and operating activities.



IMPORTANT STAKEHOLDERS FOR HLM

HLM identifies the stakeholders based on the influence of HLM's activities on them or Those who have concern and influence on HLM's development path. We build the relationships based on the long-term benefits between the parties, trust, transparency and appreciate HLM's ethical standards.

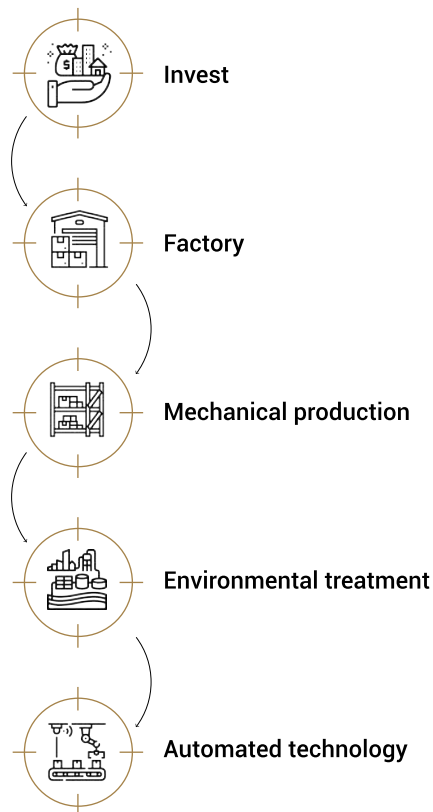


FIRST PRINCIPLES

HLM approaches the stakeholders through various information channels to listen to each party's opinions and concerns regarding to HLM's Operations, especially Corporate Governance issues, Human resource development, Economic growth and social contribution.

The process of exchanging with the stakeholders helps HLM proactively identify the current trending issues as well as objectively to view the policies, report and information disclosed to the outside from HLM.

As a **FINANCIAL AND TECHNOLOGICAL INVESTMENT GROUP** inspired to dare to dream and dare to realize, **FGROUP** takes the criteria of sustainable development in all business investment activities, building a reputation for the community during its development formation. **FGROUP** has a vision to 2030 with a diversity of advanced industries and 6 key ecosystems: **Finance - Technology - Industry Commercial - Agriculture - Education**.



CONVENIENT INDUSTRY ECOSYSTEM

Is an ecosystem created by Fgroup financial and technology investment group. FGC.Industry is an extensive and intensive chain of industry group companies that creates comprehensive convenience for customers, helping all business activities, develop quickly, save costs, increase benefit value and achieve sustainable efficiency.