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PROJECT CASES FORM CHEMICAL INDUSTRY

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INTELLIGENCE STORAGE EQUIPMENT CO., LTD.

2025.4.7

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01

BASF
We create chemistry

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PROJECT CASES FORM CHEMICAL INDUSTRY -BASF

Basic Information

BASF Factory in Jinshan Chemical Industrial Park is divided accordingly based on different products, mainly producing diphenylmethane diisocyanate (MDI) and toluene diisocyanate (TDI), polytetrahydrofuran (PolyTHF), and polyisocyanate (Basonat). The main packaging forms include ton bag, 25kg bag, 200kg barrel, IBC etc. Different products are stored on pallets with different specifications, including CP1 1200 * 1000, CP2 1200*1200, CP3 1140*1140.

The original operating mode was to temporarily store the finished products in each processing factory, then transferring them to a third-party logistics warehouse for bulk storage. However, the storage method was always ground stacking, resulting in low storage utilization. Multiple transfers have added many problems to synchronizing product information.

PROJECT CASES FORM CHEMICAL INDUSTRY -BASF

Customer Needs

Build a central warehouse within Jinshan Factory to realize bulk storage and management of products from several factories with high production volumes. The products are directly stored in the central warehouse after production, and then directly shipped to customers from the central warehouse. The first phase of the new warehouse is planned as Class C and requires dense storage equipment. The equipment needs to be compatible with different products and pallet attributes of customer (the designed racking needs to be compatible with three different pallet specifications), and needs to be jointly designed with the design institute. The racking and civil construction need to be inspected together for fire protection.

PROJECT CASES FORM CHEMICAL INDUSTRY -BASF

Customer Needs

Expansion, intensive storage,
Double the warehouse capacity

When used in conjunction with forklifts, it can significantly improve work efficiency and reduce employee labor intensity

Moisture proof and prevent packaging damage

Strong operational security

PROJECT CASES FORM CHEMICAL INDUSTRY -BASF

WAP Solution

The stored products are featured as large quantities but less variety, and the customer has very high requirements for storage utilization. At the same time, considering the compatibility, WAP has customized shuttle racking system for the customer. The racking is compatible with three different pallet specifications, and the shuttles are independently developed and manufactured by WAP. The final plan was approved by the customer, and assistance was also provided to the customer's design institute to jointly complete the relevant equipment drawings required for fire inspection. The final racking of this project is designed as 4 layers, with 5-7 pallet depth, and the storage capacity is 8000 tons.

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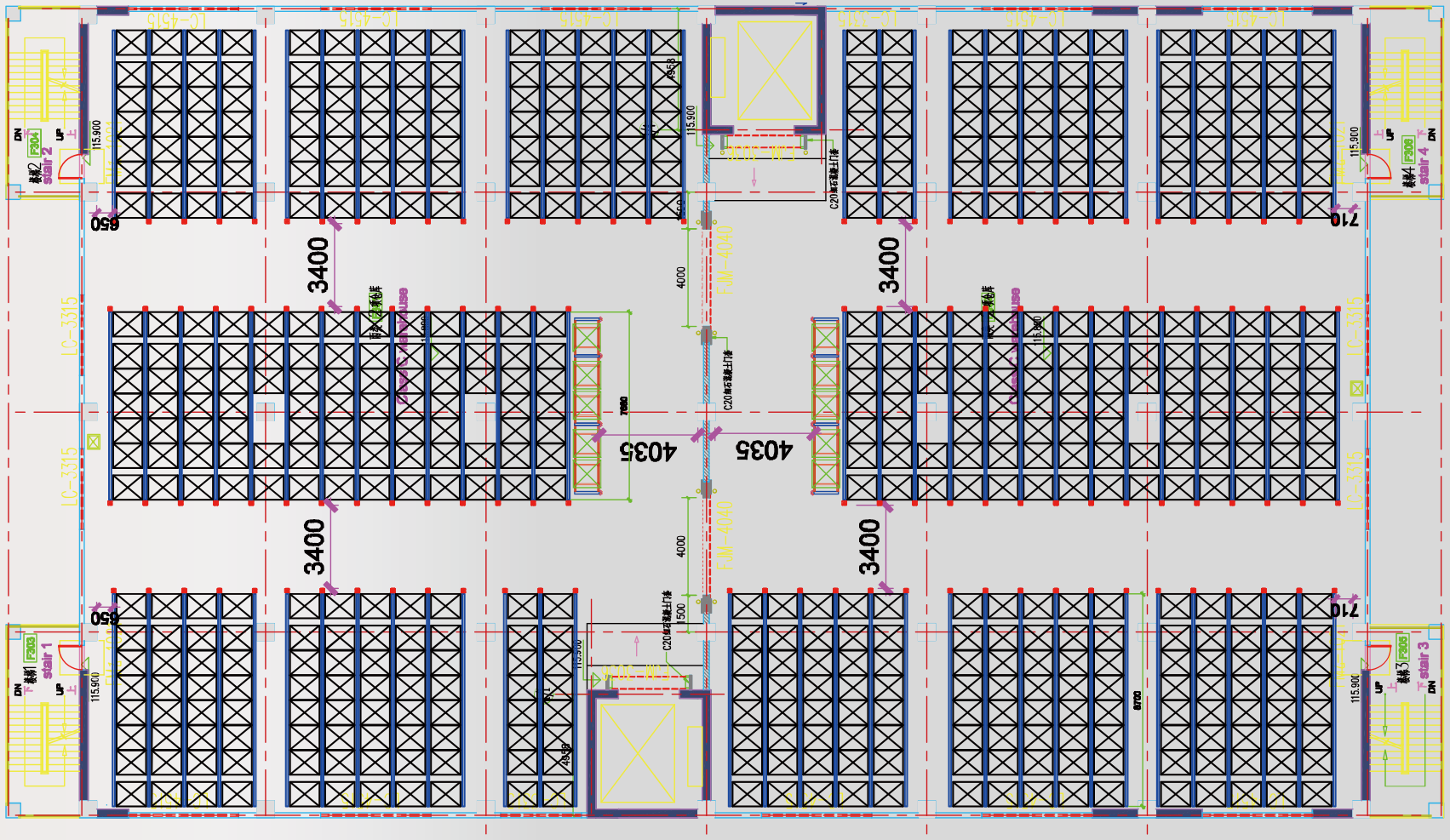
Improved benefits after renovation

1. No need for renting third-party logistics warehouses, saving storage costs;
2. Reduce the number of product transfers, further reducing transportation, labor, and other costs;
3. The use of the racking reduces product damage rate by avoiding goods-stacking;
4. First-in-first-out batch management is achieved and storage efficiency is improved;
5. WMS can be used to improve product traceability and inventory accuracy;



PROJECT CASES FORM CHEMICAL INDUSTRY -BASF

Project Effect

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02

Cargill® 嘉吉

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PROJECT CASES FORM CHEMICAL INDUSTRY -Cargill

Customer Profile

Previous warehouse status: ground stacking

Goods weight: 1,200kg

Warehouse area: 1440m2

Pallet size: 1300W * 1100D

Pallet type: steel 川-shaped pallet

Goods size (including pallet): 300W * 1100D * 1500H/2000H

Warehouse net height: 10-12 meters

Warehouse temperature: ambient warehouse

Warehouse address: Songyuan city, Jilin province

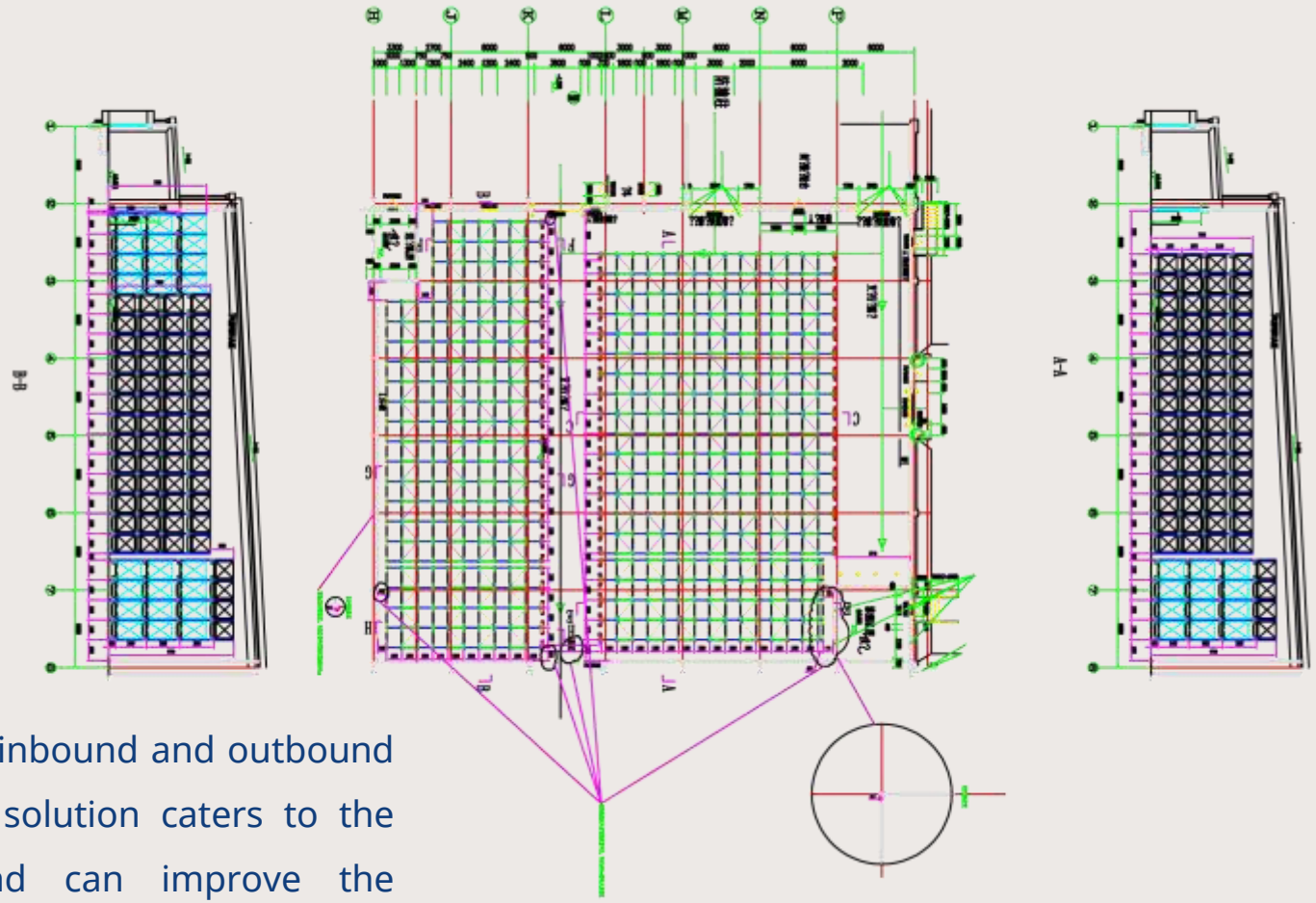
PROJECT CASES FORM CHEMICAL INDUSTRY -Cargill

Customer Needs

01: Enhance storage capacity and improve warehouse utilization rate to meet business development needs.

02: Improve warehouse data management level to avoid errors and confusion.

03: Reduce safety hazards



WAP Solution

Based on customer needs and the efficiency required for inbound and outbound goods, WAP recommends shuttle racking system. This solution caters to the characteristics of the pharmaceutical enterprise and can improve the inclusiveness of the warehouse. Shuttle racking reduces ineffective spaces such as forklift aisles in the warehouse, resulting in higher storage space per unit area and significantly improving warehouse utilization rate.

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Project Effect

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HUAYI 华谊集团

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PROJECT CASES FORM CHEMICAL INDUSTRY - HUAYI

Basic Information

Shanghai Huayi Tianyuan Chemical Logistics Co., Ltd., established in September 2003, is a subsidiary of Shanghai Huayi (Group) Corporation and a nationally recognized AAAA-level logistics enterprise. As a leading professional chemical logistics service provider in China, the company underwent a strategic restructuring in June 2010 to consolidate logistics assets and strengthen its dominant position in Shanghai's chemical logistics sector. The restructuring involved equity participation from Shanghai Tianyuan (Group) Co., Ltd. and Shanghai Chlor-Alkali Chemical Co., Ltd. (both under Shanghai Huayi Group), as well as Shanghai Chemical Industry Park Development Co., Ltd. and Shanghai Chemical Industry Park Investment Co., Ltd. (affiliates of Shanghai Chemical Industry Park). Post-restructuring, the company boasts a registered capital of RMB 263 million and handles over 10 million tons of logistics capacity. The "Tianyuan" brand traces its heritage to 1929, originating from China's earliest chemical enterprise, Shanghai Tianyuan Chemical Plant.

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Customer Profile

Previous warehouse status: ground stacking (limited to 2 levels)

Goods specifications: 800/1,500 kg (including pallet)

Warehouse area: 2,830m2

Pallet dimension: 1,200mm (W) × 1,000mm (D)

Pallet type: Euro CP1/CP3 川-type wooden pallet

Goods dimension: 1,400/1,800mm (including pallet)

Warehouse net height: 8m (min) – 10m (max)

Warehouse temperature: ambient warehouse

PROJECT CASES FORM CHEMICAL INDUSTRY - HUAYI

Customer Needs

The existing ground-stacking method severely limits storage density and operational efficiency, only allowing two-level storage. To align with rapid business growth, the client seeks a high-density, batch-manageable storage solution that enhances:

1. Storage Capacity
2. Labor/Resource Efficiency
3. Corporate Image
4. Logistics Performance
5. Height-Segregated Material Management
6. Mechanization Level
7. Operational Safety
8. WCS Integration (Barcode scanning to minimize retrieval time)

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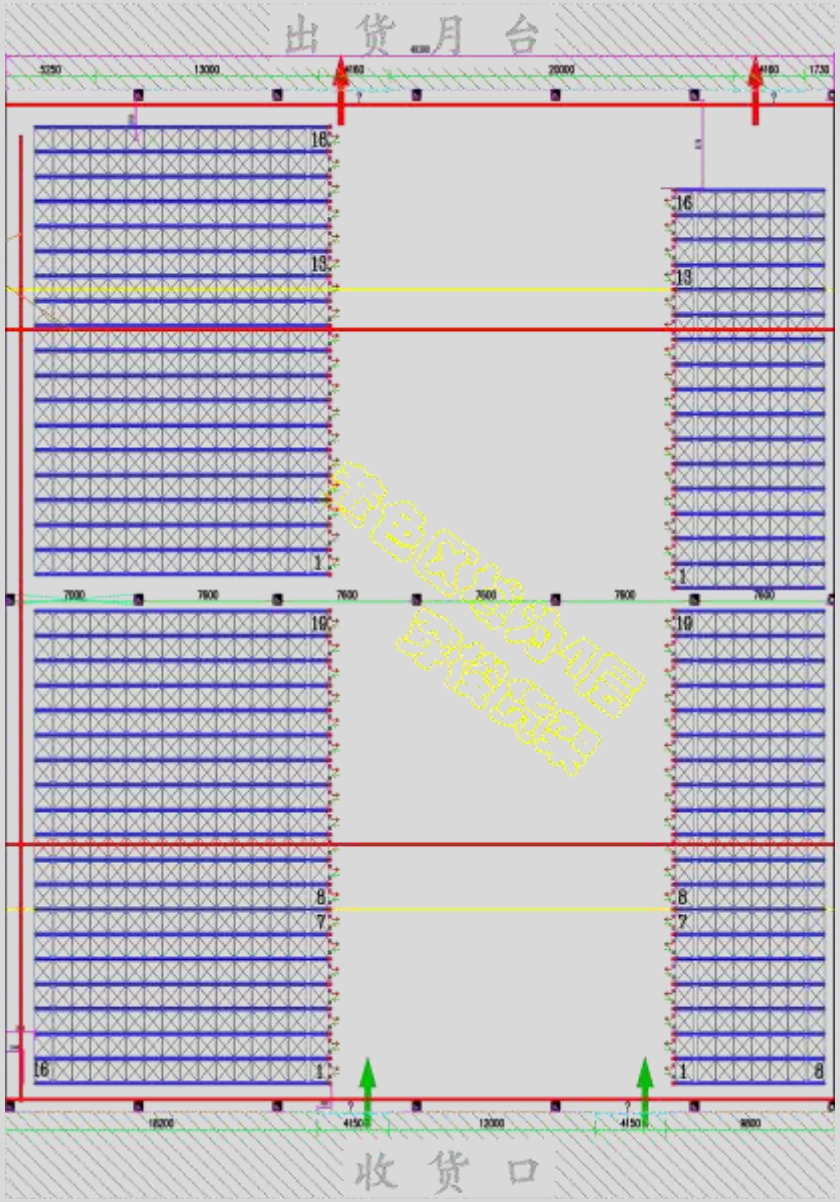

WAP Solution

To address customer's needs, WAP proposes a semi-automated shuttle racking system, delivering:

- ✓ 303% Storage Boost: replacing ground-stacking (original capacity: 1,135 pallet positions) with shuttle racking for 1/2 of the warehouse area, achieving 3,440 pallet positions.
- ✓ Operational Efficiency: WCS software enables real-time inventory tracking, greatly enhancing the on-site picking efficiency, the company image, and logistics management level.
- ✓ Future-Proof Design: the remaining 50% space serves as a buffer zone for expansion.

PROJECT CASES FORM CHEMICAL INDUSTRY - HUAYI

Project Effect

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LANXESS 朗盛
Energizing Chemistry

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PROJECT CASES FORM CHEMICAL INDUSTRY - LANXESS

Basic Information

LANXESS is a German specialty chemicals group headquartered in Cologne, formed in 2004 after Bayer Group’s strategic spin-off of its chemicals and select polymer businesses. As Germany's fourth-largest chemical company, LANXESS operates in 31 countries with 17,000 employees (2013 revenue: €8.3 billion). With a wide variety of products, LANXESS focuses on high-end business areas, specializing in specialty, basic, and fine Chemicals, as well as rubber and plastics.

PROJECT CASES FORM CHEMICAL INDUSTRY - LANXESS

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Customer Profile

Previous storage method: ground stacking (single-layer only)

Warehouse area: 2,580 m²

Pallet standard: Euro CP1/CP3

Goods weight: 1,100 kg/pallet

Pallet specification:

Small: 1,200(W)×1,000(D) mm (CP1)

Large: 1,140(W)×1,140(D) mm (CP3)

Goods height (including pallet):

Small: 1,400 mm (25 kg/bag)

Large: 1,700 mm (1T/bag)

Project Key Challenges

Diverse packaging (CP1 for small bags, CP3 for big bags) demands segregated storage

Small packaging: 25kg/bag

Large packaging: 1T/bag

PROJECT CASES FORM CHEMICAL INDUSTRY - LANXESS

Customer Needs

The existing storage model utilizes floor stacking, allowing only single-layer placement on the ground. To align with the company's rapid growth, a new warehouse solution is required to achieve higher storage density, improved efficiency, batch traceability, and enhanced corporate image.

1. Increase storage capacity
2. Reduce labor and resource costs
3. Meet moisture-proof requirements and prevent packaging damage
4. Elevate logistics capabilities and operational efficiency
5. Separate storage and management for CP1/CP3 packaging
6. Enhance mechanization level
7. Ensure operational safety
8. Strengthen overall corporate image

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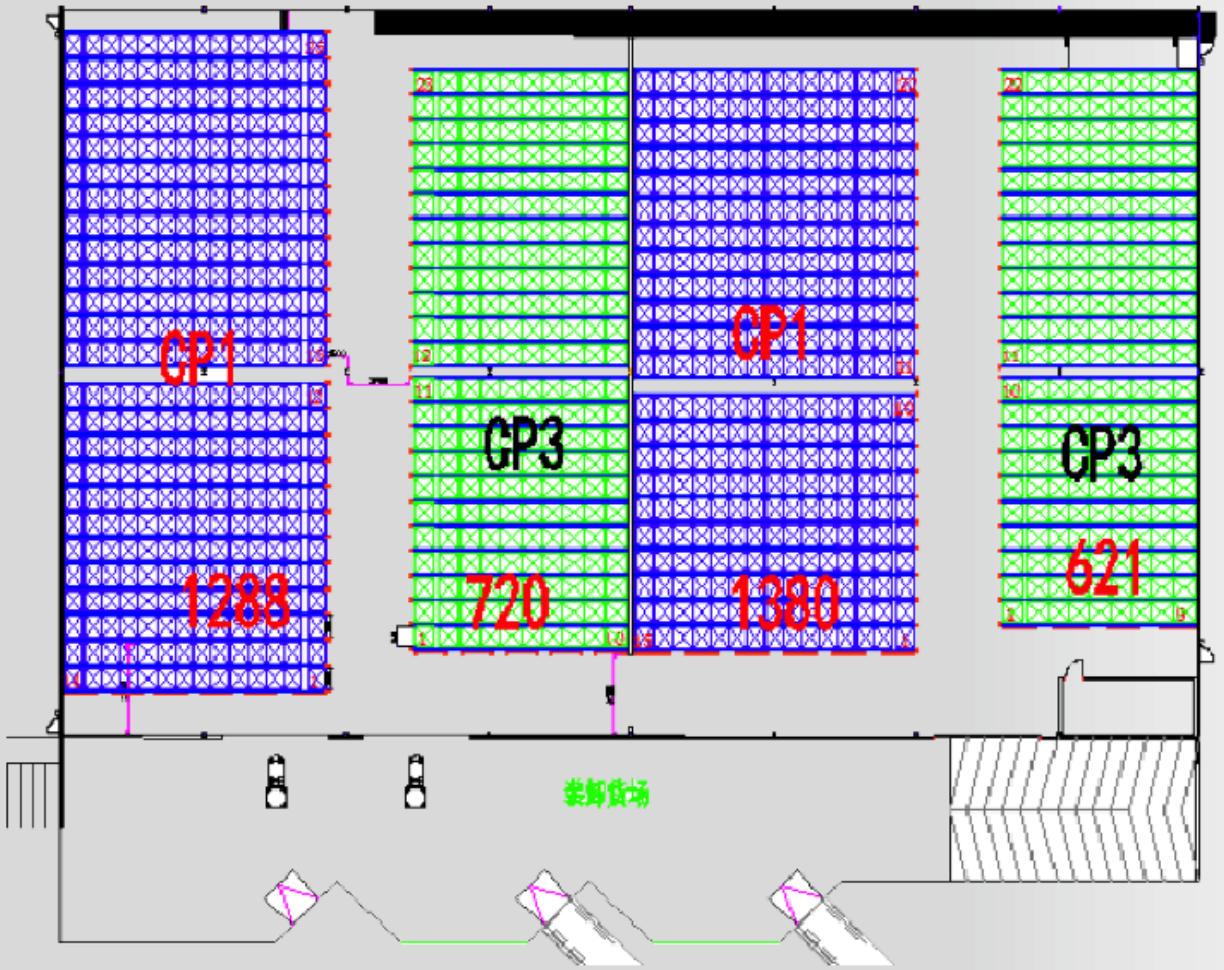

WAP Solution

According to the needs of Wuxi LANXESS, WAP proposes an semi-automated shuttle racking system. This high-density storage solution addresses:

1. Capacity Expansion: Shuttle racking enables dense storage, doubling warehouse capacity.
2. Efficiency Gains: Integration with forklifts significantly boosts productivity and reduces labor intensity.
3. Moisture Resistance: Protect goods from humidity and packaging wear.
4. Operational Safety: Robust design minimizes risks.

- CP1 capacity: 2,668 pallet positions
- CP3 capacity: 1,341 pallet positions
- Total capacity: 4,009 pallet positions

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KUMHO-SUNNY
锦湖日丽

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PROJECT CASES FORM CHEMICAL INDUSTRY - KUMHO SUNNY

Basic Information

KUMHO SUNNY, jointly invested and established by KUMHO Petrochemical and Shanghai SUNNY in 2000, is one of the few plastic modification enterprises that continues to focus on the PC/ABS and ABS fields, possessing raw material and compatibilizer polymerization technology. KUMHO SUNNY currently has three major production bases: Shanghai Minhang Factory, Guangdong Factory, and Shanghai Jinshan Factory. Among them, Jinshan factory is put into operation in 2015, and after its operation, the annual production capacity reaches 270,000 tons.

PROJECT CASES FORM CHEMICAL INDUSTRY - KUMHO SUNNY

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Customer Profile

Warehouse area: 5000m2

Warehouse temperature: ambient warehouse

Warehouse net height: 5-9 meters

Pallet specification: 1300(W)mmx1100(D)

Goods size: 1400mm (pallet included)

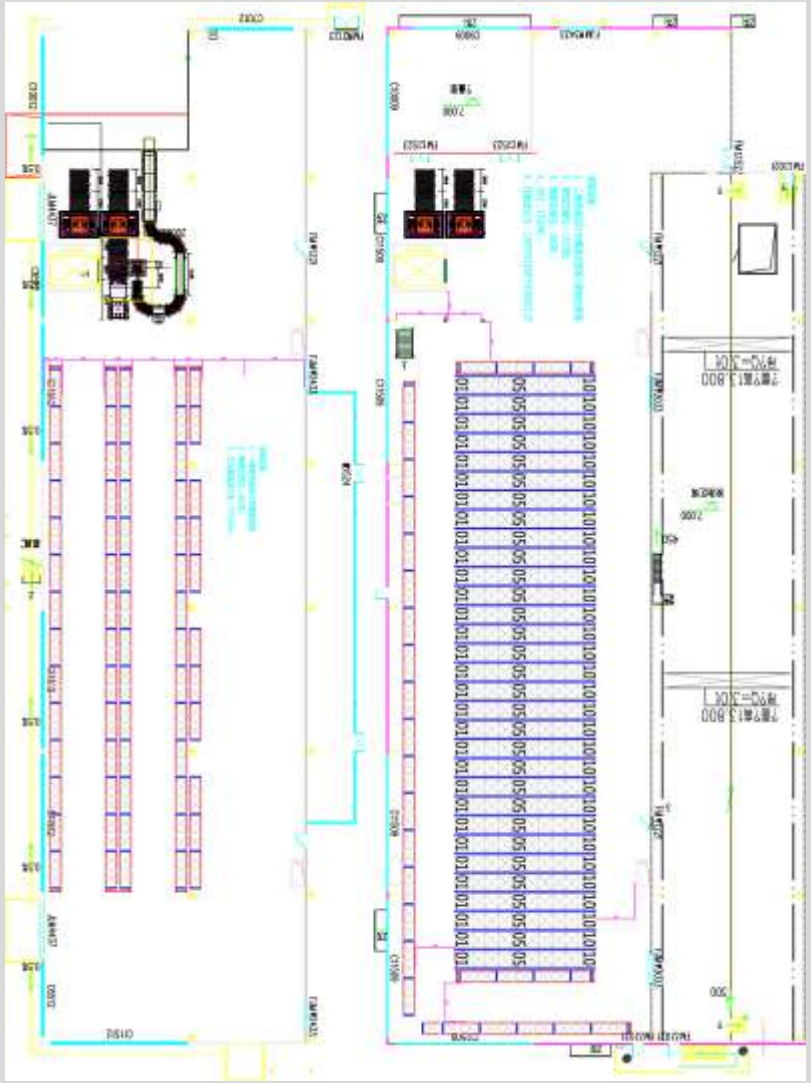
Goods weight: 1000KG/pallet

Customer Needs

With a demand for 100,000 tons of modified plastics per year, this warehouse is mainly used to store raw materials and finished products. The customer needs to increase warehouse capacity and improve warehouse utilization rate while ensuring efficiency.

1. **Improvement:** upgrading enterprise image and improving efficiency
2. **Capacity:** increase storage capacity and improve warehouse utilization rate
3. **Safety:** improved operational safety
4. **Accuracy:** reduced shipment error rate

PROJECT CASES FORM CHEMICAL INDUSTRY - KUMHO SUNNY



WAP Solution

- ✓ Racking types: shuttle racking system & beam racking
- ✓ Goods dimension: 1300mm (W) × 1100mm (D) × 1400mm (H)
- ✓ Load capacity: 1,000kg/pallet
- ✓ Storage layers: 4 layers
- ✓ Inventory flow methods: FIFO (First-In-First-Out) and FILO (First-In-Last-Out)
- ✓ Forklift aisle width: minimum 3,300mm clearance
- ✓ Storage capacity: 3,396 pallet positions (shuttle system); 2,610 pallet positions (beam racking)

Project Effect

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Project Effect

The End

Thank you for listening.

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