

SMART WAREHOUSE SOLUTION

To Achieve High Productivity with Maximized
Space Utilization and Rapid Processing Ability



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YUDO FAMILY



Smart Warehouse Solution

Maximize the Space Utilization and Storage Efficiency of the Warehouse
Provide High Turnover Rate by Rapid Processing Logistics Ability

Smart Warehouse Solution makes it possible to handle various sized logistics units and get more flexibility, connected to WMS. 'Transparent Warehouse Management' is to be realized by monitoring status of warehousing and visualizing storage capacity, available resources, and inventory. Now, storage, picking, buffering, sequencing, restocking, and etc. are not complicated processes at all, combined to an integrated system which brings high ROI.



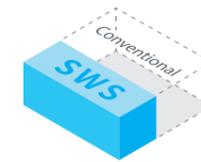
AGVs

Shuttle

Stacker Crane



Benefits



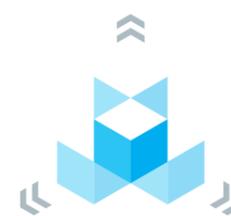
Storage Capacity

- ✓ Space savings of 30% at least
- ✓ Minimize gap between two boxes
- ✓ Maximize storage density for high volume
- ✓ Enhance storage efficiency by double-deep storage



Increase in Productivity

- ✓ High individual logistics accessibility, Reduce picking travel time
- ✓ Increase throughput per unit time
- ✓ More than 2 logistics can be moved at once
- ✓ Accurate sequencing of logistics



Scalable & Flexible

- ✓ Easy to expand X, Y, Z axis of warehouse
- ✓ Handling various sizes of boxes
- ✓ Extending automation to the whole production line
- ✓ Allow simultaneous loading/unloading



Safety

- ✓ Prevent accidents and Provide high safety
- ✓ Minimize facilities maintenance costs
- ✓ Collision Avoidance Algorithm and Safety Mechanism
- ✓ High accessibility for maintenance



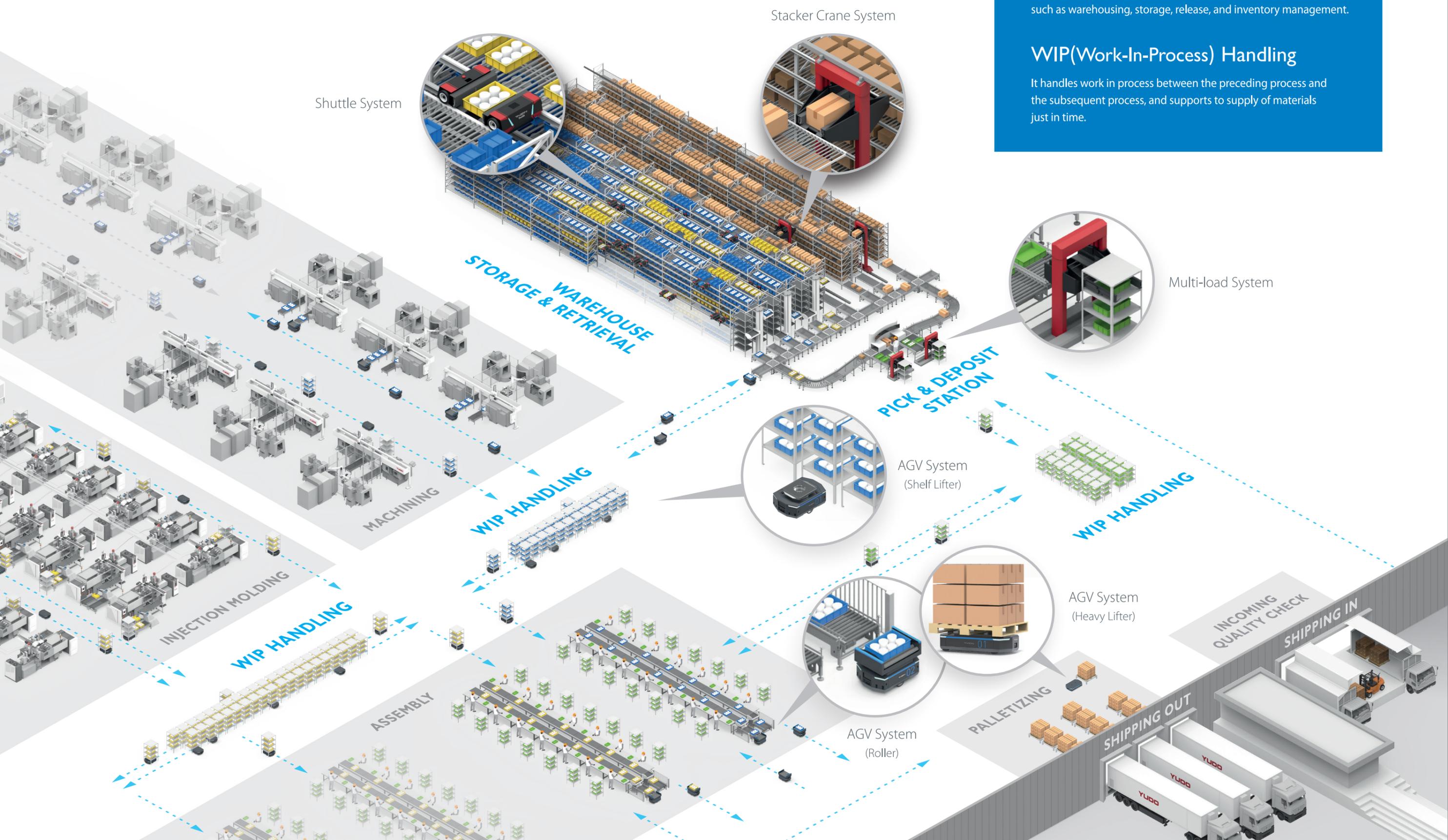
Cost & Energy Savings

- ✓ Increase energy efficiency with minimal power consumption
- ✓ Increase productivity and reduce labor costs
- ✓ Reduce installation costs (2D-code positioning)
- ✓ Reduce costs per cell and increase the ROI

Overview of Smart Warehouse

Warehousing (Storage and Retrieval)
Maximized turnover of warehouse & transportation as automating those works at warehouse followed by production planning such as warehousing, storage, release, and inventory management.

WIP(Work-In-Process) Handling
It handles work in process between the preceding process and the subsequent process, and supports to supply of materials just in time.



Shuttle System

Stacker Crane System

Multi-load System

AGV System (Shelf Lifter)

AGV System (Heavy Lifter)

AGV System (Roller)

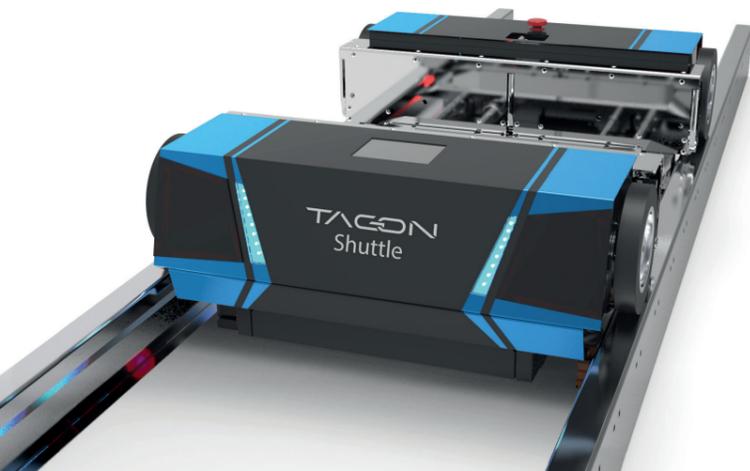
TAGON AGV

TAGON AGV is a transportation robot system for logistics efficiency. It automatically transfers all forms of logistics units such as container, carton box, cart, rack, pallet, etc. safely and precisely. It makes production without down time and maximizes logistics efficiency.



TAGON Shuttle

TAGON Shuttle is to transport supplies, following rail between racks. Single or double-deep picking/loading is available, and positioning is to be done by reading coordinates of 2D-code at the side of rail. As shuttle system is connected to WMS and automation system such as lifter and shuttle lifter, throughput and warehouse turnover can be maximized.



ILC | Integrated Logistics Controlling

Establish a reliable logistics process with 'Integrated Logistics Controlling system'

ILC (Integrated Logistics Controlling system) is a real-time logistics flow monitoring system to manage procurement, manufacturing, and inventory status of raw materials from production to shipment, followed by location information of unit LOT in a plant. ILC comes with 'Transparent Logistics Management' to realization by visualizing the overall flow of logistics with reducing the waste, which tracks congestion, waiting, losses, and other cost-adding problems.



Integrated Logistics View

Calculates the level of logistics congestion between nodes and links, establishes resolution and provides view on availability and efficiency of transportation

From - To Chart

Monitors the overall flow of materials including the frequency, quantity, and intensity of transportation in forward and backward logistics

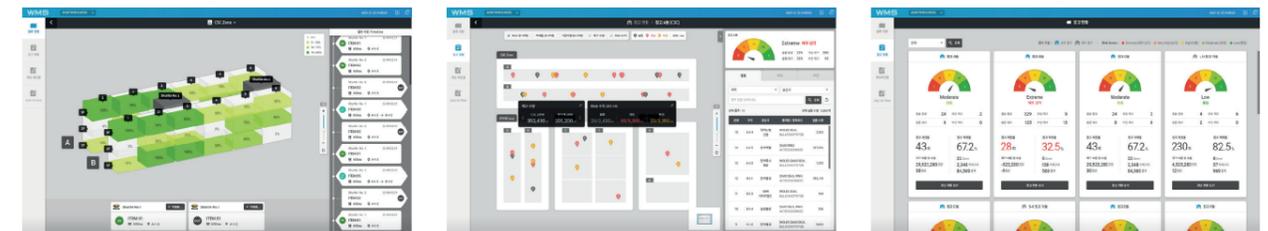
Activity Relationship Analysis

Evaluates the adequacy of on-site flow design and derives an effective strategy in transportation based on the activity relationship between the frequency and lead time

WMS | Warehouse Management System

Integrated 'Warehouse Management System' for effective inventory management and warehouse operation

WMS (Warehouse Management System) supports warehouse management as real-time computerizing accumulated data such as inventory levels and turnover rate. Main factors are presented through intuitive GUI view, which brings accurate recognition in management status and paves the way for effective warehouse management with constant improvement.



Warehouse Status

Readiness for changes of the traffic volume by figuring out the status of stock, arrangement, and capacity in each location

Detailed Warehouse Monitoring

Flexible planning of inventory management by figuring out the status of loading location, quantity, amounts, and date of the inventory

Risk Score

Integrated management of identified items as Risk by figuring out the status of shortage, overstock, aging inventory items