

## *Instruction*

Intelligent reel shelf is a high volume ratio shelf for storing SMT chip devices. When loading, the materials are placed in the corresponding card positions in order according to the tray, and the LED indicators on the shelves are bound through the corresponding relationship of the two-dimensional code of the item number / card position, and the ERP / MES system of the docking enterprise automatically realizes the light indication, the operation of receiving and sending materials quickly.



# Intelligent Reel Shelf Feature

- The delivery time is saved from two hours to 15 minutes, and the efficiency is increased by 8 times
- Each shelf can store 1400 trays of materials out of order, and the inventory area can be saved by 40%
- The location of each material can be quickly checked, and the inventory time can be reduced from 2 days to 2 hours
- Material / warehouse location / work order / station location is automatically bound, and the process of sending and feeding can be foolproof and error-proof



Traditional SMT warehouse

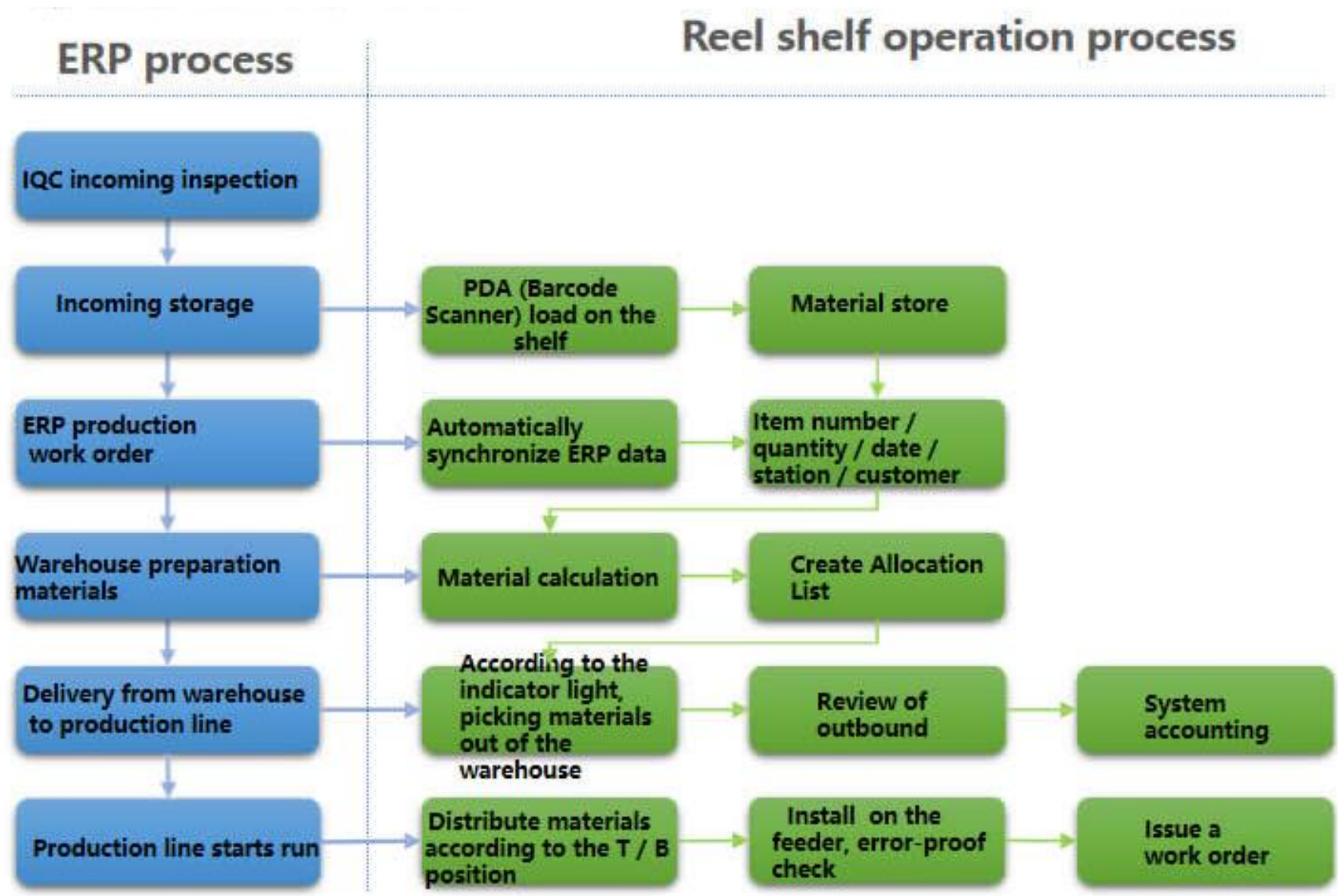


Smart SMT warehouse

# Comparison with traditional SMT warehouse

	<b>Traditional SMT Warehouse</b>	<b>Smart SMT Warehouse</b>	<b>Comparative Advantage</b>
<b>Material Management</b>	Materials must be sorted and stored according to the designated area, and the relevant increase and decrease records should be made in and out of the warehouse, which requires high skills for employees and is easy to make mistakes.	The materials can be stored at will, and the system automatically reminds the available storage locations. Employees can follow the signal prompts.	Simple operation and low requirements on employee skills
<b>Storage Space</b>	When the materials are sorted and placed there will be cases where the utilization rate of some material storage spaces is very low, and there is no storage space for other materials.	High volume ratio, 2.1*0.4*2.0m, can provide 1400 reels material storage marked with signal lights.	Comprehensive space utilization rate can be increased 40%.
<b>FIFO</b>	There are many types of materials and the distribution of storage locations is large, which makes it difficult to achieve first in first out during outbound operations.	Automatically calculate DayCode, LotCode and material storage time, accurately realize the first in first out of materials, and signal the staff to pick up the position.	Fully automatic material screening without human intervention.
<b>Feeding efficiency</b>	After receiving the system work order, the material preparation, picking, and outbound inspection are all manual operations, and the material search / picking / verification process requires a lot of labor and the operation intensity is high.	Connect ERP / MES, automatically compare materials and positions, and generate spare parts list and picking list, employees can quickly pick and review with multiple tasks according to different color signals.	The delivery time can be shortened from 2 hours to 15 minutes, and the efficiency is increased by 8 times.
<b>Footproof and error-proof</b>	Employees need to verify the process of picking materials, checking out the warehouse, marking the station number, and transferring materials, etc. The process is cumbersome and the easy to make mistake.	According to the indication of the signal light, the retrieving and hanging materials are automatically verified by scanning the number, and the station information is saved in the system to the Feida area to complete the secondary verification of the materials and station before production.	Connect multiple delivery links, automatic verification
<b>Remove the end plate</b>	Disassembly will occur during the process of production and distribution, and a large number of tails will appear during the return process. Storage operations require a large number of points, assortment and other operations, which are difficult to manage in and out of the warehouse	Automatically calculate the quantity according to the number of materials drawn from the production work order, dynamically adjust the ratio of the entire dist and the tall disk to reach the optimal inventory of the tail disk.	Automatically calculate the end / removal of the stock to reduce the daily inventory workload

# Operation Process



## Materials upload



Scan material barcode



Scan code for any empty location



The empty position lights up, prompting to put materials



Atuo recommend the next available location

## Material Outbound Operations

Interfacing with ERP data



Picking according to different color signals

## Move Material Truck Feeding And Production Line

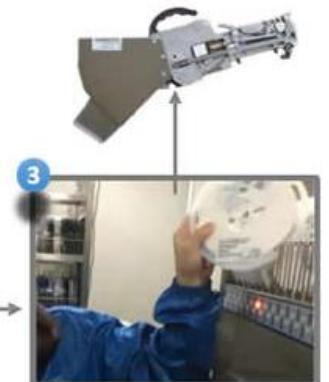
Material station table

The warehouse sends materials according to the light

- Distribute according to the line of T / B plane
- Install on the feeder, error-proof check
- Issue a work order



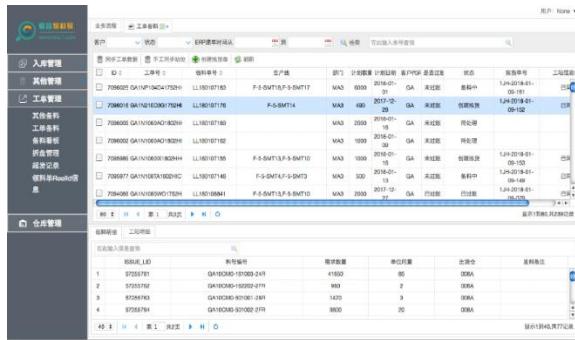
Scan the code out of the warehouse and review



Loading material on the Removable material shelf

Warehouse management software is a web-based warehouse processing system (WMS) that provides professional flexible, efficient, and accurate electronic material management functions.

Warehouse management software connects to ERP / MES production system, provides convenient fuzzy search function, rich management report, first in first out, end of day management, material optimal calculation and multi-warehouse classification, material distribution by station, continuous work order etc.



PC operation interface



PDA scanner operation interface

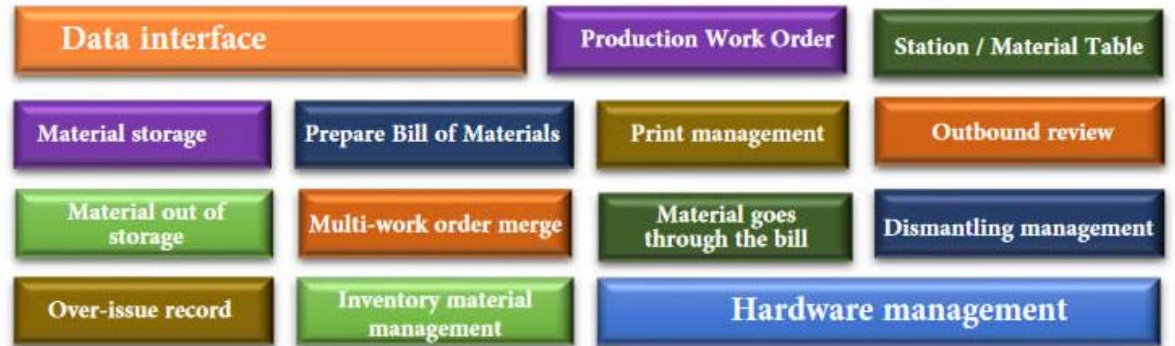
## System interface:

- Support XML, CSV, Excel and other file interface formats
- Support Oracle, MS SQOL, MySQL and other mainstream databases
- Support both automatic docking and manual docking

## Function extension:

- PDA mobil terminal
- Barcode management and printing
- SMT machine shortage automatic notification
- Inventory electronic ord interface
- X-Ray point machine data access
- Automatic labeling machine data access

## Software function:



## Structural dynamic adjustment:

1. The storage position can be flexibly adjusted in width, supporting multiple specifications (7/13/15 inch) dynamic adjustment of materials of different thickness
2. Scan code on PDA supports merge and split storage locations
3. LED lights corresponding to the location adjustment dynamic binding related position

Take out the partition net to be adjusted



1

Adjust width dynamically according to material thickness



2



4

LED Indicator automatically combined display



3

The library location is dynamically bound

PDA scan location code, merge location

## Safe and reliable control:

Each material rack is equipped with an industrial PC (optional), no series connection and flying wire connection are required, and wiring and layout are more flexible

TCP / IP communication, support network cable connection, and support wireless 2.4 / 5G at the same time, the response speed is faster;

The wiring in the shelf is connected through the wiring board, the wiring is clear, and there is no manual method such as adhesive tape and heat shrinkable tube;

## Flexible interface expansion:

Flexible connection with multiple business systems, SAP/Oracle/hopFlow and many other well-known ERP/MES success cases;

Provide HTTP + JSON secondary development interface, cross-platform multi-language support;

## Software function expansion:

For the production mode of small batch multi-work orders, it provides functions such as sending materials by station / fast online material search / work order continuous hitting;

Can be connected to a variety of smart devices (X-Ray counting machine / automatic labeling machine / task kanban) to empower the smart factor

Standard intelligent shelf specification (For 7-inch trays with a thickness less than 17mm)

Model	SIS7200A
weight	115KG
layers	7
dimension	2130*400*2000mm
number of station per layer	200 pcs/layer
total number station	1400pcs
input voltage	AC 220V
power	0.075KW
network	support wired and wireless connection



SIS7200A

# Product use cases



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