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Smart SMT reel storage rack proposal

Laborious and time-consuming when finding reels in warehouse?

Don't know the inventory amount and where they are put?
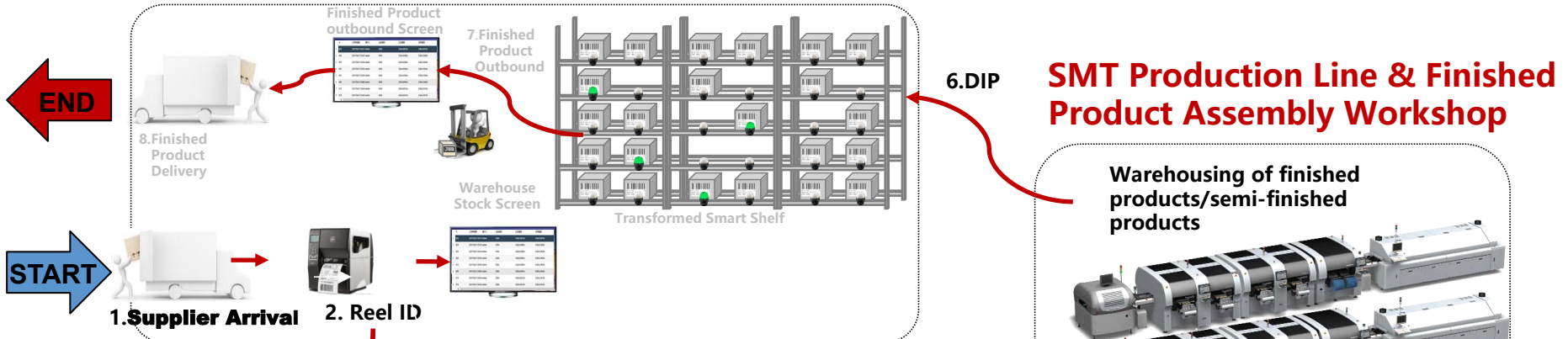
Each material countering costs you lots of time?

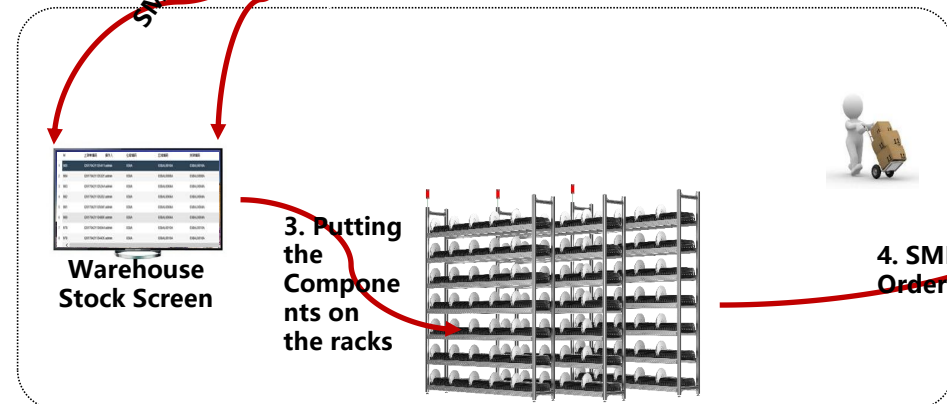Long reel taking out and putting on process has affected your production efficiency?

Project Flow Chart

Product Warehouse

Finished Product outbound Screen

7.Finished Product Outbound

6.DIP

END

8.Finished Product Delivery

Warehouse Stock Screen

Transformed Smart Shelf

START

1.Supplier Arrival

2. Reel ID

SMD Electronic Reel

Plug/Assembly Component

SMT Production Line & Finished Product Assembly Workshop

Warehousing of finished products/semi-finished products

5.Table in-line

line Storage Area

Warehouse Stock Screen

3. Putting the Components on the racks

4. SMD Work Order Preparation

Intelligent SMT reel racks

Raw Component Warehouse

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SIS7000A

- Suitable for 7inch reels, double-sided
- Slot width: 17mm
- Size: 2170mm*400mm*1900mm
- Storage: 7*100*2=1400 SLOT
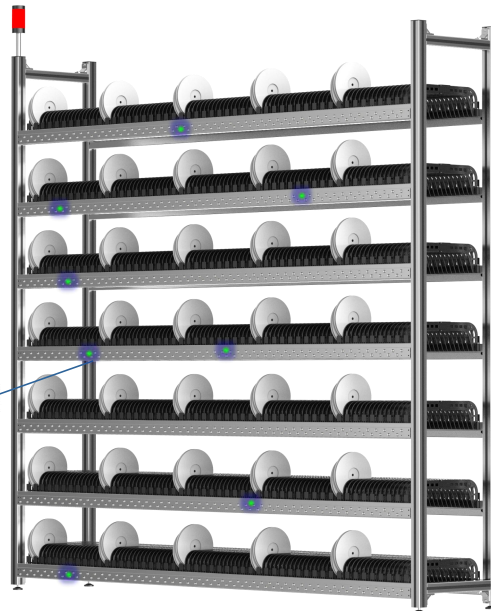
SIS4000A

- Suitable for 13inch reels, single-sided
- Slot width: 40mm
- Size: 2170mm*640mm*1900mm
- Storage: 4*100=400 SLOT

LED Indicator

Parameter of intelligent SMT reel storage racks

Model	SIS7000A	SIS4000A
Name	7-inch SMT reel storage rack	13-inch SMT reel storage rack
Overall size(mm)	2170*400*1900	2170*640*1900
single size(mm)	17	40
Layers	7	4
Number of Reels	1400	400
Power (w)	100	100
Function	Storage 7-inch SMT reel	Storage 13-inch SMT reel
Illustrate	Optionally install casters or foot cups	

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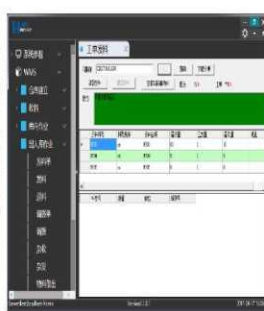
Smart SMT reel storage rack proposal

Electronic reels inbound and outbound control logic

| Warehouse | warehousing | Preparation | Take out | Send to production workshop |

1.Each location on the rack corresponds to an LED light

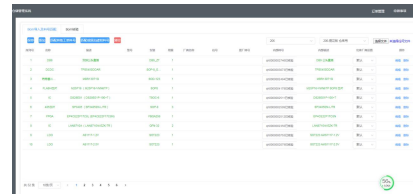2.The material has a unique code, which corresponds to the location one by one, and can be stored at will

3.Work order out of the warehouse, the system automatically calculates, first in first out, tailings first out principle

4.The corresponding warehouse location lights up, the warehouse staff takes materials according to the lights, and the LED color of the multi-work order is different
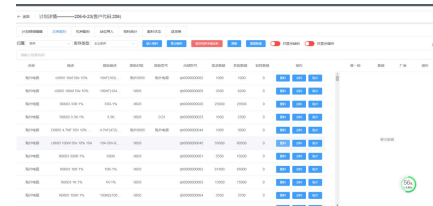
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Distribution Process

Incoming Material Check

All incoming materials counted in the system and stick the QR code(include all the information of the material and the Unique Code)

The Whole List Generated

Combined based on multiple BOM lists, can form into a production plan.

BOM Importing

Import the original BOM list, generating the rack BOM list automatically. With the method of one by one matching, improving the system BOM list.

Scanned and Put on Shelf

The reels with QR code can be put on the shelf by PDA scanning based on needs and the reel package form.

Production Process

Material Issuing

Based on the production plan, the system automatically generates the priority reel and the back-up reels, the priority reels are put on the feeder racks, and the prepared reels are put on the back-up reels storage racks.

→

Priority Reel

All priority materials from the warehouse are put in the line storage area, and the production department can choose the machine type for production with PDA.

→
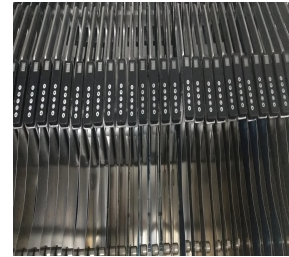
In-line

Based on the light status change with PDA, put all the materials indicated by lights, and put them in-line based on the Pick&Place Machine stations.
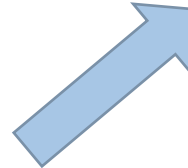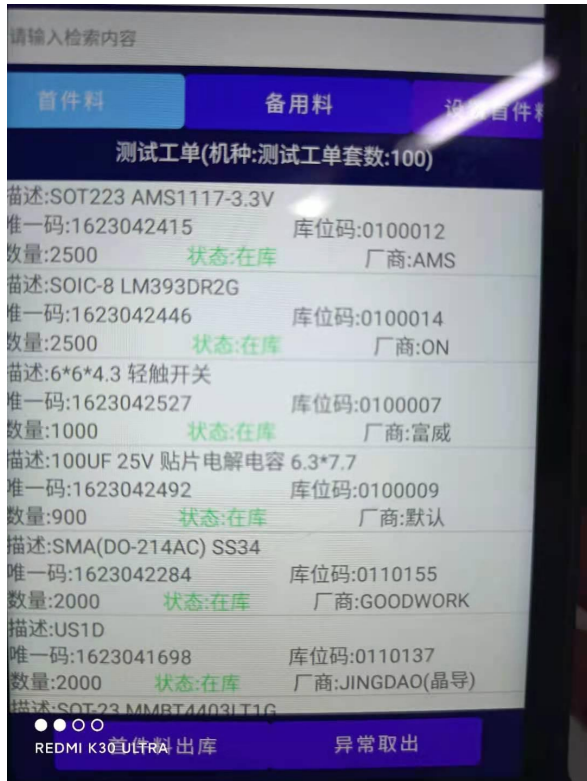
→

Back-up Materials

The lacked material in the in-line process and be searched in the back-up reel storage racks by scanning the QR codes on the reels with PDA.

Smart SMT reel storage rack proposal

Operation Display

Rack 1

Rack 2

All corresponding reel locations lights on, different color lights selectable
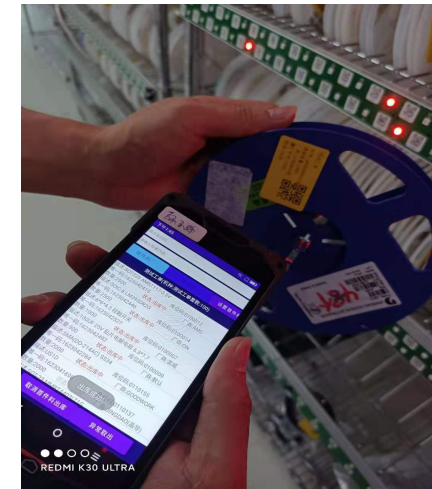
Priority reels one-button taking out with PDA

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Priority reels lights on

Take out the reels

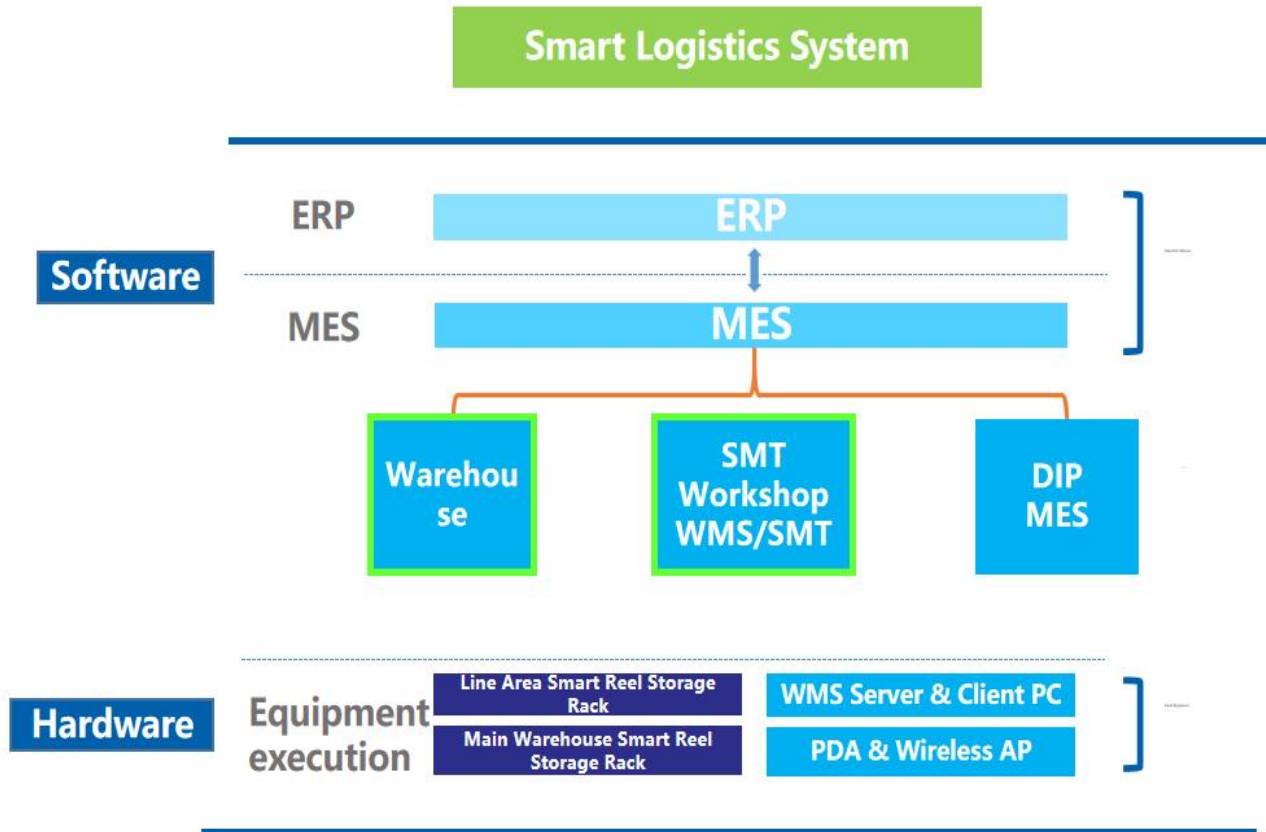Wrong reels taken out

Correct reels taken out, red light off

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Material to the Warehouse Process Analysis

Before

1. Hold material

2. Material putting in corresponding position → **Rack**

Material

After

1. Material taking freely

Manager

(PDA)

2. Material putting in any position

3. Continue to put the materials

New Rack
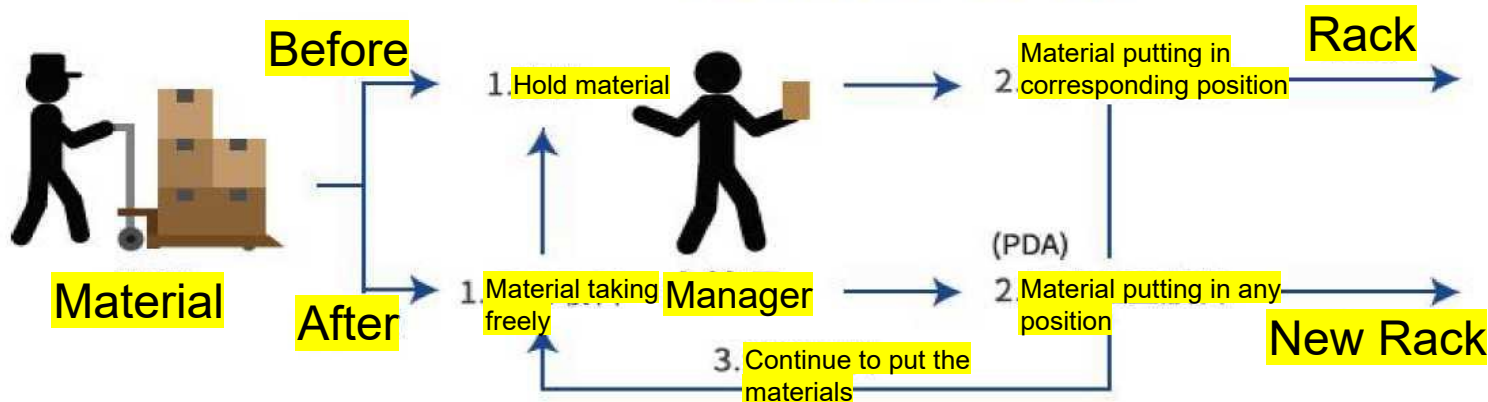
Warehouse Staff					
Item	Project	Current Status	Improved Status	Effect	Remark
1	Staff Training	90 Days	2 Days	98%	Improved: Staff training days reduce by 97%
2	Staff Skill Influence	Yes	No	100%	Improved: No skill requirement for staff skills, reducing by 100%
3	Staff Change Influence	Yes	No	100%	Improved: No influence for warehouse work left by staff change
4	Time Consumption for 100 Reels	50	16	300%	Before: 50 min/100 reels After:16min/100 reels, efficiency improves by 300%
5	Labor	8	3	63%	Improved: 63% staff are cut down, efficiency improves by 300%

Overall Informatization Plan

Smart Logistics System

Software	ERP	**ERP**
	MES	**MES**

| **Warehouse** | **SMT Workshop WMS/SMT** | **DIP MES** |

Hardware	**Equipment execution**	Line Area Smart Reel Storage Rack	**WMS Server & Client PC**
		Main Warehouse Smart Reel Storage Rack	**PDA & Wireless AP**

Preparation Work Before Installation

Power supply: each shelf position is paired with a power socket (220V AC, need to be connected to the earth)

Server: used to install software and store data, with higher configuration requirements

Switch: POE switch, the interface depends on the number of racks

WIFI full coverage: need the position of PDA and material rack, WIFI network needs to cover comprehensively, it is recommended to use AC+AP mode

Network cable: Same as the power supply above, each position is paired with a network cable to connect to the switch

System interface: ERP MES system external interface

Application
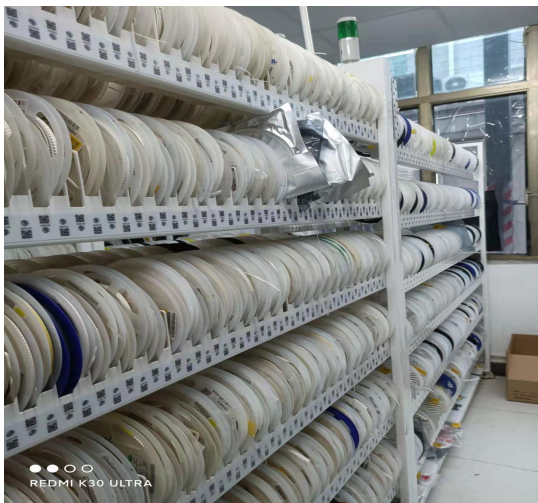
Best After-sales service

SOUTHERN MACHINERY

— **Worldwide Support**

— **Free Installation/ Training**

— **1 day lead-time (spare parts)**

— **1 Month customize solution**

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