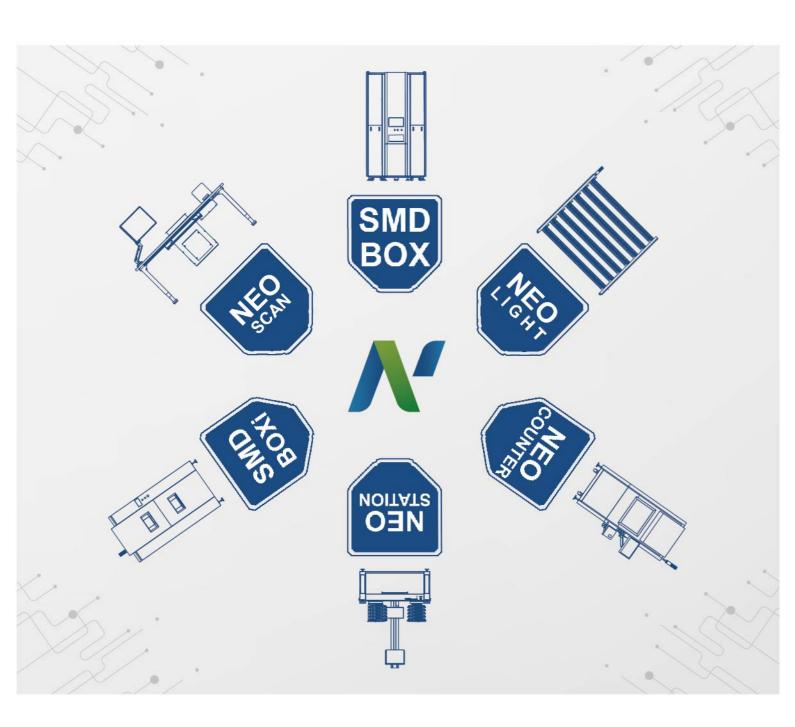
# **SMART MATERIALS FLOW**

Next-generation electronic material solutions for the Modern Age







# **SMART MATERIALS FLOW**

**INCOMING MATERIALS** 









#### **NEO SCAN**

INCOMING MATERIAL REGISTRATION











#### SMD BOX

STORAGE AND RETRIEVAL





**NEO COUNTER** COMPONENT COUNTING



**GOODS RETURN** 













# **NEO SCAN**

### **Incoming Material Registration System**



The NEO SCAN system is the perfect solution for material receiving processes. It streamlines the process by automating the recognition of materials, the generation of new unique identifiers (UIDs), and the placement of labels. With its cutting-edge technology, the NEO SCAN system saves time and improves accuracy in the material-receiving process, making it a valuable tool for various industries.

- Quick Material ID Recognition
- Automated Barcode Print
- UID Generator
- Different Material ID Recognition

ITEM	NEO SCAN NEO SCAN PLUS		
Model	NS100	NS200	
Туре	Offline	Workcell	
Material receiving	Worktable, ESD design	Loading port	
Material supplying	Worktable, ESD design	Unloading port	
Trolley	No	Yes	
AGV	No	Yes	
Touch Screen	Standard	Standard	
Camera	16M pixel	16M pixel	
Scanning Area	400×400mm	400×400mm	
Printer	Industrial barcode printer	Industrial barcode printer	
Relabel	Manual	Auto	
Material Info	1D/2D code	1D/2D code	
UID Generator	Standard	Standard	
Traceability	Standard	Standard	
Label template	Standard	Standard	
OCR	Option	Option	
Communication	MES/WMS/ERP	MES/WMS/ERP	



# **NEO COUNTER**

#### X400 Offline Counter

The X400 Offline Counter operates in a semi-automatic mode, allowing for manual scanning, loading, unloading, and labeling of materials. It can handle up to 4 reels and counts components as small as 01005, thanks to its AutoMAT technology and Al-based object detection. Customizable barcode printing and API interface for communication with MES, WMS, and ERP systems add to its versatility and ease of use.

#### X800 Inline Counter

The X800 features batch storage, automatic material docking with AGV technology, and automatic material ID recognition with classification for both material and LCR components. Its advanced AutoMat technology can accurately count components as small as 01005, and its automatic label printing function can identify the location for printing. The batch retrieval feature further streamlines the process with automatic material distribution and AGV docking.



ITEM	X400	X800
Machine Type	Offline	Inline
Max Reel Capacity	4	20
Xray Source	Close Tube, Micro focal spot	Close Tube, Micro focal spot
Xray Voltage	50kV	50kV
FOV	434mm×434mm	434mm×434mm
Max Thickness	85mm	85mm
Min. Component Size	01005	01005
Cycle Time	8-10s	8-10s
Accuracy	>99.9%	>99.9%
Controller	PC	PC
Touch Screen	13 inch monitor	13 inch monitor
Material ID	Handheld Barcode scanner&	Embedded vision system
	Embedded vision system	A. AutoMAT more :
Material Receiving	Manual	Auto
Material supplying	Manual	Auto
AGV	No	Yes
Label printing	Auto	Auto
Label Placement	Manual	Auto
Connectivity	Yes	Yes
Equipment Dims(LWH)	900*980*1950mm	4100*1850*2100mm
Weight	450kg	According to the final configuration
Power Supply	AC220V, 50/60Hz	AC220V, 50/60Hz
Power	1.5KVA	2KVA
Radiation Leakage	<1uSv	<1uSv



### SMD BOX

#### SMD BOX SISO

The Single Input & Single Output (SISO) system from Neotel is the ideal solution for entry-level material storage and retrieval. With its simple and straightforward design, the SISO system is easy to use and perfect for organizations with basic storage needs.

The system is designed for single input and single output management, making it ideal for small operations or for companies just starting to implement an automated material storage and retrieval system. This system can help you streamline your material flow, improve accuracy and efficiency, and increase productivity, all while taking up minimal space.





#### SMD BOX MIMO

SMD BOX MIMO is designed to work seamlessly with AGV (Automated Guided Vehicle) or trolley systems to provide a comprehensive and efficient material handling solution. The integration of SMD BOX MIMO with AGV or trolley allows for smooth and automatic transfer of materials from the storage area to the production line, improving material flow and reducing the need for manual handling.

### SMD BOX DUO

SMD BOX DUO is an advanced storage system designed to meet the needs of users with larger inventory requirements. With a capacity of up to 2500 reels, SMD BOX DUO offers a scalable solution for managing large quantities of materials. Additionally, the option to integrate an ML module allows for automatic material loading and unloading with the help of an AGV.

For users who require even more storage capacity, SMD BOX DUO offers a flexible solution that can be easily upgraded with the ML module. This integration allows for an autonomous material collection system that streamlines the material handling process and maximizes productivity.





### SMD BOXi

SMD BOXi is the innovation of the SMD BOX series and is designed to be integrated into the SMT production line. It has the ability to communicate with the Pick & Place machine, enabling the prediction of material shortages and effective management of Work-in-Process (WIP) materials. SMD BOXi is capable of storing solder paste, reels, and tray materials.













ITEM	SISO	MIMO	DUO	SMD BOXi
Max Capacity	1064	796	2528	400
Batch Process	No	Yes	Yes	No
AGV Integration	No	Yes	Yes	No
T&H Log	Yes	Yes	Yes	Yes
Material ID	1D/2D	1D/2D	1D/2D	1D/2D
Compatibility	7-15inch	7-15inch	7-15inch	7-15inch
Tray	Yes	Yes	Yes	No
MSD Material	Yes	Yes	Yes	Yes
Dimensions(mm)	1450*1450*2950mm	1650*1650*2650mm	3750*2250*2600mm	1400*1120*2000mm
Color	Jet black (RAL9005)	Jet black (RAL9005)	Jet black (RAL9005)	Jet black (RAL9005)
	White aluminum	White aluminum	White aluminum	White aluminum
	(RAL9006)	(RAL9006)	(RAL9006)	(RAL9006)
Power Supply	Single Phase	Single Phase	Single Phase	Single Phase
	AC200V- AC240V	AC200V- AC240V	AC200V- AC240V	AC200V- AC240V



# SMD BOX ONE

### Relabel, Counting, Storage All in One Machine

The SMD Box One system is a revolutionary solution that integrates multiple functions into a single machine. It streamlines your material handling process, saving time, reducing errors, and increasing efficiency.

### Material Receiving

The SMD Box One system is designed to efficiently receive materials. It automates the receiving process, eliminating manual handling and reducing the risk of errors. This feature allows for quick and accurate processing of materials as they arrive, ensuring they are ready for immediate use or storage.

### Label printing

Generate unique codes and ID label, then place the label to reels.

# 

### Counting

Utilize X-ray wireless scanning technology for accurate material counting.

#### Retrieval

The SMD Box One system enhances efficiency with its automated retrieval feature. It can swiftly locate and retrieve materials from storage, reducing the time spent on manual searches. This feature ensures that the right materials are always available when needed, improving workflow and productivity.

### **Benefits**

All-in-One: SMD Box One is a comprehensive, single-machine solution, eliminating the need for multiple systems and simplifying operations.

Efficiency: By automating various tasks, SMD Box One significantly increases operational efficiency and productivity.

Accuracy: Automated counting and relabeling features ensure precise inventory management, reducing errors and enhancing reliability.

AGV Ready: SMD Box One is compatible with Automated Guided Vehicles, ready for seamless integration and enhanced automation.







Max Capacity144005832Batch Material LoadingYesYesAGV IntegrationYesYesMaterial ID Recognition1D/2D1D/2DT&H LogYesYesMaterial Compatibility7-15inch7-15inchTrayYesYesMSD MaterialYesYes	ONE
AGV Integration         Yes         Yes           Material ID Recognition         1D/2D         1D/2D           T&H Log         Yes         Yes           Material Compatibility         7-15inch         7-15inch           Tray         Yes         Yes	
Material ID Recognition1D/2D1D/2DT&H LogYesYesMaterial Compatibility7-15inch7-15inchTrayYesYes	
T&H LogYesYesMaterial Compatibility7-15inch7-15inchTrayYesYes	
Material Compatibility 7-15inch 7-15inch Tray Yes Yes	
Tray Yes Yes	
MSD Material Ves Ves	
WOD Material 103	
Network Ethernet Ethernet	
Equipment Dimensions (LxWxH) 6200*3400*4600mm 6200*3800*	4700mm
Color Jet black(RAL9005) Jet black(R	AL9005)
White aluminum (RAL9006) White alum	inum (RAL9006)
Power Supply Three phase 380V Three phase	e 380V



# SMD BOX XLC

### **Container Solution**

SMD BOX XLC is a solution for efficient and automated material management that covers a range of operations, including automatic storage, intelligent sorting, and automatic retrieval matching of various materials such as bulk materials, tooling fixtures, PCBs, and semi-finished products. The customizable inner space, container, and tray designs meet the storage requirements of all materials, while the integration of automatic transplanting lines and AGV can significantly improve production efficiency by reducing material distribution time during the production process.

#### Key features:

Capability to handle different types of loading units such

as trays, plastic containers, and others

• Load capacity: 20 to 100 kg

Length: up to 40 mShuttle lane: 1-2Pallet qty: 1-2

• Horizontal speed: up to 5 m/s

• Loading lifting device: Single or double-depth telescopic forks

• Temperature and humidity control













ITEM	XCC1	XCL	XCC2
Material Type	Container	Cable	Container
Material Size	592*570*250mm	600*600*450mm	600*400*200mm
Capacity	100	24	266
AGV Integration	Yes	Yes	Yes
Material ID	1D/2D	1D/2D	1D/2D
T&H Log	Yes	Yes	Yes
Network	Ethernet	Ethernet	Ethernet
Dimensions(mm)	7000*2040*2830	3800*2140*2830	14522*2000*3400
Color	Jet black (RAL9005)	Jet black (RAL9005)	Jet black (RAL9005)
	White aluminum (RAL9006)	White aluminum (RAL9006)	White aluminum (RAL9006)
Power Supply	Three Phase 380V	Three Phase 380V	Three Phase 380V



# SMD BOX SP

The SMD BOX SP automates several important steps in the process of handling solder paste, including barcode reading, information extraction, storage in a cooling area, and equilibration to the environment temperature. The system also features a built-in mixer for optimizing viscosity and removing air bubbles, which helps to prevent defects in the soldering process.

By using SMD BOX SP, users can enjoy the benefits of an automated and optimized system for managing their solder paste inventory. The system's software is programmed to allocate materials based on user production information, and all information is stored locally and can be shared with the user's traceability system when needed.



















ITEM	SP	SPC	
Solder Paste	Yes	Yes	
Glue	Yes	Yes	
Jar	Yes	No	
Cartridge	Yes	Yes	
RFID Relabling	No	Yes	
RFID Reading	No	Yes	
Barcode Recognition	Yes	Yes	
Loading Capacity	30	20	
Unloading Capacity	1	5	
Refrigeration Area	Yes	No	
Temperature Range	0~10℃, adjustable	No	
Capacity	210	No	
Temperature Monitor	Yes	No	
Ambient Temperature Area	Yes	Yes	
Capacity	60	126	
Mixing Area	Yes	No	
Capacity	2	No	
Mixing Timer	Max 90min	No	
Weight Scaler	Resolution 0.1g	No	
Touch Panel	Yes	Yes	
Software	SMF Standard	SMF Standard	
Connectivity	API	API	
Dimension(mm)	1450*1510*2650	1340*1210*2090	
Power Supply	Single phase AC200V- AC240V	Single phase AC200V- AC	2401

# SMD BOX HYBRID



SMD BOX HYBRID offers unparalleled versatility in material management. It can accommodate a wide range of materials with varying sizes and weights, including solder paste, PCBs, feeders, and product modules. With its automated storage and retrieval capabilities, SMD BOX HYBRID ensures efficient material handling.

One of the key advantages of SMD BOX HYBRID is its compact design, which does not require a high ceiling height like traditional vertical lift systems. This makes it ideal for facilities with limited space and height requirements, providing a flexible and practical solution for material management needs.







ITEM	SMD BOX HYBRID
Module Qty	1/2
Material ID Recognition	1D/2D
T&H Log	Yes
Material Compatibility	7-15inch
Tray	Yes
MSD Material	Yes
Solder Paste	Yes/Carrier required
PCB	Yes/Carrier required
Others	Customizable
Network	Ethernet
Color	Jet black (RAL9005)
	White aluminum (RAL9006)
Power Supply	Single phase AC200V- AC240V



# **NEO LIGHT**

The Neo Light series offers an economical solution for digital material management with its core concept of "PICK TO LIGHT/PUT TO LIGHT". This system helps improve accuracy, efficiency, and reduces labor costs by using light guiding for different tasks, such as picking, putting, classifying, and assembling. The user system software integrates work order distribution, BOM synchronization, online material replenishment, multi-work order processing, stock return, and real-time inventory.



#### NL series

The Neo Light system lights up the material's position and allows workers to access product information through a PDA or other portable electronic equipment. Its simplicity also reduces training time for staff. The NL series can manage electronic materials, with a maximum storage capacity of 1400 reels and the ability to store materials in sizes ranging from 7-15 inches and trays.

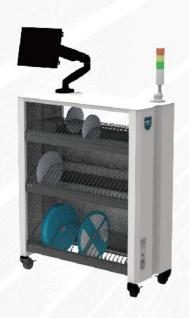
### **NLP** series

The Neo Light Plus is equipped with a position sensing sensor in addition to traditional light guiding. After pick and put operations, the system automatically senses the position information without the need for repetitive code scanning and position confirmation. If an incorrect position is picked, the sensor immediately sends a warning to the operator. This helps to nearly eliminate production errors (Poka-Yoke).



### NLM/NLMP series

The Neo Light Mobile/Neo Light Mobile Plus offers comprehensive and mobile material management. Its mobility reduces work-in-process while line-stocking is performed, and materials and trays in sizes ranging from 7-15 inches can be stored without repetitive code scanning or position confirmation. The WIFI function allows for real-time material management.





#### **NLS** series

The NLS series can store a variety of stencil sizes, from smaller stencils to larger ones, and its maximum storage capacity is adjustable to meet different production requirements. The system's compact design also helps to reduce the overall footprint of the material management system, freeing up valuable floor space for other activities.











ITEM	NL	NLP	NLMP	NLS
Material	Reel	Reel	Reel	Stencil
Position Sensor	No	Yes	Yes	Yes
Max Capacity	1400	1400	240	90
Work Order Color	Yes	Yes	Yes	Yes
LAN	Yes	Yes	Yes	Yes
WiFi	Yes	Yes	Yes	Yes
Touch Screen	Option	Option	Yes	Option
Battery	No	No	Option	No



# **NEO SHELF KIT**



### Neo Shelf Kit: Bridging the Gap Between Traditional & Digital

Digital Transition: Upgrade conventional storage racks to a tailored digital system for the electronics industry.

Component Visibility: Easily locate, identify, and track components with digital precision.

Display: Clear, energy-efficient displays ensure component details are always visible in industrial environments.

Real-time Updates: Sync with your inventory system for real-time component quantities, reducing stock errors.

Interactive Interface: Intuitive design for

immediate status updates, accurate stock checks, and real-time order updates.







### Integration with SMF

Revolutionize Inventory: Go digital for real-time component stock monitoring.

Streamlined Production: Ensure steady component supply from digital racks to production line.

Data-Driven Optimization: Utilize analytics for efficient component management.

Instant Updates: Neo Shelf Kit seamlessly syncs with SMF for accurate stock information.

Unified Interface: Combines Neo Label and SMF for user-friendly operations.

### Advantages of Upgrading

Efficiency Boost: Save time searching for

components on digital racks.

Accuracy: Minimize human errors in inventory

management.

Adaptive Production: Quickly adjust to design

changes with digital rack updates.

Future-Proofing: Stay ahead with digital component

storage advancements.

### Your Plug-and-Play Transition

Plug-and-Play: Neo Label easily integrates into your

existing system.

Intuitive Setup: Transition to Neo Label is straightforward with its intuitive design.

Compatibility: Neo Label fits smoothly into various

storage systems in the electronics industry.

Smooth Transition: Quick integration with minimal disruption to ensure seamless operations.



# **SMF: SMART MATERIALS FLOW**

SMF(Smart Material Flow) material management software is a new WES software. It's a hybrid system that combines specific WMS functionality and Warehouse Control System (WCS) functionality for automated materials management.





### KANBAN

User Kanban can help users visualize material collection, work order execution, etc.



### Work Order

Work Order based material delivery, user can generate work order from SMF or triggered by own MES/ERP. With work order system will check material availability and send alarm message to users by emails.

### **Inventory Strategy**

Different work order and component type requires different inventory strategy: FIFO (First Input First Output), FEFO (First Expired First Out) and other conditions.



### Report System

Material information stored in Cloud/Server can help user know well of real-time inventory information and save time on periodic inventory. It's time to say Goodbye to traditional stock! The real-time inventory capability makes "Work In Process Inventory" a reality. The modular design of the hardware ensures user adjusting on-site material management based on capacity at any time.

### M2M/Connected Factory

On factory-level, this machine-to-machine (M2M) communication works on a relatively simple basis, with processes and data being fed into and managed from a central platform. On a wider basis, however, information from previously separate parts of the supply chain are also being used to inform decisions on the factory floor, and vice versa.

SMF provides vary methods for users

- XML
- Shared Folder
- · API
- Database Exchange
- CFX/HERMES
- · and more



### **AGV** integration

Neotel Smart Material Flow is a system that integrates with Automated Guided Vehicles (AGVs) to automate material handling and transport. The use of AGVs in this system provides several benefits such as unmanned material transport, flexible material movement, and reduced material handling time. The integration of the top-side module also helps to ensure a smooth integration of the system with other material handling equipment and processes. This can lead to increased efficiency and productivity, as well as improved material management and inventory control.





#### **About Us**

At Neotel Technology, we are committed to delivering the most advanced and competitive intelligent material handling solutions to our customers. As a leading manufacturer of production intralogistics in the electronics industry, we owe our success to the hard work and expertise of our experienced sales and technical team. Our efforts have made a significant impact on various industries across the globe, earning us recognition from both our customers and the industry at large. We are proud to continue pushing the boundaries of innovation and providing the best possible solutions to meet our customers' needs.

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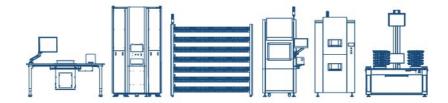
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