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Top picking solutions for distribution warehouses

What is picking, what picking methods are there and which one fits best with your distribution process?

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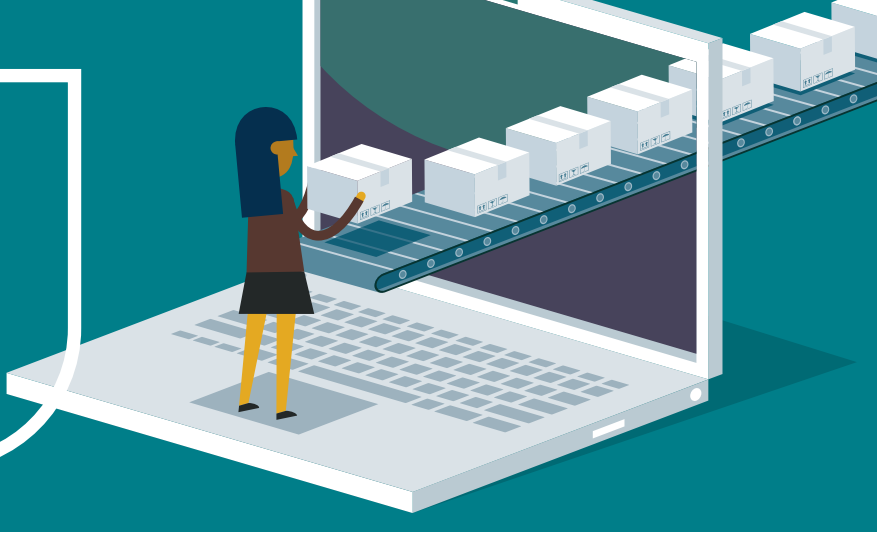
Picking solutions and their benefits



What is picking?

Picking is the term used by warehouses and distribution centres for gathering goods a customer has ordered.

The task - or picking - is carried out by an order picker who selects the products, and ensures they are ready to be packaged up and sent to the customer.

A ‘picker’ is required to read pick lists, find the goods in the warehouse and open packaging units (or operate picking devices depending on the picking method) in order to help get the customer order ready for sending.

What picking solutions are currently available?

The various methods of picking differ, so when implementing picking solutions, you need to carefully consider which technology suits your needs best.

Let Brother take you through all the options, the technology, and the pros and cons of each picking method currently available.

Pick-by-paper | Pick-by-voice | Pick-by-light | Pick-by-scan | Pick-by-RFID | Pick-by-vision

Pick-by-paper

This is a traditional picking process whereby pickers work from printed picking lists containing information on the item number, storage location and the quantity of goods that have been ordered. From this list the picker needs to manually collect and check off each product on the list.

As part of this process the picker must also indicate any issues, for example, if the data on the inventory is incorrect. The information must then be manually entered into the warehouse management system. The slightly more modern variant of this is pick-by-tablet, in which the paper list is replaced by a tablet.

Pros

- Inexpensive and easy to set up
- Perfect for new businesses

Cons

- High chance of human error
- Complex and time consuming

Pick-by-voice

With pick-by-voice technology, the order picker receives information via a headset, leaving both hands free to do the picking.

A computer voice provides picking employees with information about the storage location of the goods and the number of pieces that are required for the order.

The employee in turn acknowledges by voice so that the inventory can be updated directly in the warehouse management system.

Pros

- Simple system that requires a headset and a data device
- Extremely reliable when used in the right setting
- Having constant guidance improves accuracy

Cons

- Excess noise can interfere
- Not yet available in all languages
- Employees can tire easily of monotonous voice instructions

Pick-by-light / put-to-light technology

The pick-by-light method and its inversion, put-to-light, are based on light signals that are attached to warehouse shelving units and show the picker the correct storage compartment.

The picking lists are replaced by displays on the shelves which show the employee which quantities are to be removed or stored. After removing the ordered goods or filling the shelf, the picker confirms by pressing a button directly on the shelf or screen to acknowledge that the task has been completed.

An integration component connects the warehouse management system and the sensor network, while an application component is used to monitor order data. This allows the warehouse inventory to be updated in real time and eliminates the need for the order picker to carry a pick list or other equipment.

Pros

- High picking speed with few mistakes
- Minimal training needed
- Real-time inventory management

Cons

- Can be very expensive
- Limitations when scaling

Pick-by-scan

(mobile data acquisition device)

With pick-by-scan, employees use a hand scanner to record both the barcode label on the shelf and the one on the article that is picked. This technology, also known as pick-by-barcode, is a proven and comparatively inexpensive solution for paper-free picking.

For this to be successful however all products must have a clean, readable barcode so a durable label printer should be used. Pick-by-MDE usually consists of a barcode scanner – usually handheld – and a display or touchscreen. Pick-by-scan can also be used in conjunction with pick-by-vision.

Pros

- Easy to run and implement
- Inventories can be updated automatically

Cons

- Employees do not have both hands free
- Relies on labels being intact and not damaged with legible/readable barcodes

Pick-by-RFID

(Radio-frequency identification)

This technology is based on radio identification between a transponder and a read/write unit. The transponder (also known as the RFID tag) consists of an antenna, a memory chip, and a carrier. This application can be useful if, for example, RFID tags are used for all product labels in the warehouse. The reader could then scan parts of the warehouse to locate certain products by detecting the RFID tags.

With Pick-by-RFID the user can capture information on the transponder without visual contact and the picker can record several transponders almost simultaneously if anti-collision algorithms are enabled. For example, this would allow pickers to complete pallets or pallet trolleys of tagged objects in one step.

Pros

- Many goods can be recorded at the same time
- Little to no human error

Cons

- Expensive to implement
- Interference with tags can be an issue

Pick-by-vision

Pick-by-vision technology has been used successfully in the aviation industry for assembly and repair for years and is now also available for logistics. Picking takes place with the help of data glasses or a head-mounted display (HMD).

Pick-by-vision devices can be divided into monocular and binocular versions - i.e. those that only display information in front of one eye or in front of both eyes.

In contrast to VR (virtual reality), where the viewer has no view of the surroundings, semi-transparent display technologies are used here so the picker retains their normal field of vision. With the scanner integrated in the data glasses, the picking process is confirmed and completed automatically, making this solution quick and easy.

Pros

- The picker has both hands free
- Error rates are incredibly low
- High picking performance

Cons

- Expensive and can be complicated to implement
- Battery life can be an issue and the devices can also be extremely sensitive
- Poses an added challenge for pickers who already wear glasses

Which solution should you choose?

The suitability of an order picking system depends not only on the system itself, but also on the factors impacting your business such as the amount of orders you receive, your capacity, and the range of products you require to be picked. In this respect, there can be no system that stands out from the others as each system will have its advantages and disadvantages.

It is important to remember that every system has its limits, so the decision of which picking solution to use should only be made after a strategic analysis of the framework conditions and process requirements of your organisation. You should therefore analyse which technology best suits your needs in terms of acquisition costs, maintenance effort, flexibility and picking quality.

Brother solutions

There are several areas where Brother could support your warehouse picking setup, from our extensive range of barcode label printers to our desktop RFID offering.

Mobile, desktop and industrial label printers can assist with printing high quality warehouse location labels, picking labels and product labels - allowing users to utilise barcode labels across the picking process to maintain efficiency and reduce downtime.

Additionally, our desktop RFID label printers offer the usual high-quality label printing, as well as the option of writing and checking RFID tags. In this way, our RFID printers meet all your requirements in terms of security and traceability in the supply chain.

We also have a huge range of desktop laser/inkjet printers that can assist smaller operations with Pick-by-Paper, enabling you to print picking lists quickly and efficiently. So, whatever your picking process is, or the size of your business, Brother will have a solution that could vastly improve your picking set up.

Visit our website to find out more about our transport & logistics offering or contact our experts.

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