UDC

MODERN IT SOLUTIONS SUPPORTING WAREHOUSE PROCESSES

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IT systems, new technologies and processes supporting warehouse management are very important elements of logistics. They influence its development, create its appearance, and set market trends. It is almost impossible to eliminate humans from the order picking process. Even in automated warehouses, it is necessary to involve people who supervise the operation of machines and robots, as well as people who audit the quality and quantity of products, as well as programmers.

More efficient and error-free packaging leads to savings time, money (no need to deal with returns later) and customer satisfaction.

Information about the location of the products in the warehouse can be provided to the worker by means of modern picking techniques. The most common online working methods are:

1. radio or batch terminals (stationary or portable), handy scanner (Fig. 1), vehicle mount terminal. These are all types of mobile and portable computers. They are equipped with an operating system and the mobile part of the WMS application Terminals connect to the server, which processes the information received and orders further operations. Using them, operators carry out the order picking process in the warehouse. The mobility effect is achieved by using a secured radio network. Terminals are equipped with barcode readers. Items of merchandise that require picking appear on the device as new orders for the picker. The correctness of picking the right product from the right location is verified by scanning the barcode from the product or location address. [1].

Fig. 1. Handy scanner

2. pick by voice is a way of transmitting orders in a process by voice. The employee in the headphones hears the voice command to take the products generated by the WMS systems. Voice commands accurately inform the employee, what actions it should perform, what the product it should pick up and from what the location. The employee confirms the completion of a given activity with his voice via a microphone e. g. by reading the numbers and letters placed in the location to which it was directed. It is allowed to use function keys located on the terminal, but only in critical situations, as it reduces the employee's effectiveness [2].

Fig. 2. Headphones

pick by light uses a light signal and a display. The device consists of a light indicating the location and a display placed next to each product. While the order is being processed, subsequent lights will come on in the location of the products to be picked. The display can additionally display the number of products that need to be picked. The receipt of product is confirmed by an automatic pickup sensor (pick radar) or by pressing the button located at the point of collection of the products or by scanning the product location code or the barcode. This technology is dedicated warehouses where the storage locations of products are rarely changed due to the need to connect display modules by cable e. g. medicine warehouse [3].

Fig. 3. Pick by light

3. pick by frame uses a self-supporting frame installed on a picking trolley, communicating with the WMS system.

4. pick by point uses point displays indicating the location of the products and headphones that provide information about the number of products to be picked.

References

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