этом ответственность практически полностью лежит на перевозчике, т.к. именно он ответственен за расположение груза каждого отдельного отправителя в кузове. Мелко- и среднетоннажные контейнеры практически исключают порчу или недостачу груза в процессе перевозки (исключение составляют случаи, когда грузоотправители не расположили груз соответствующим образом внутри контейнера). Владельцу груза необходимо только заказать контейнер и дату загрузки. При наличии глобальной или локальной сети возможно организовать электронный «стол заказов», куда будут поступать заявки и при их обработке оператор будет уведомлять заказчика о возможностях предоставления контейнеров для перевозки грузов и сроках доставки. При этом необходимо установить лимит времени для того, чтобы в случае отказа или подтверждения принятия заявки у клиента оставалось время для оформления необходимых документов (договора с контейнерным пунктом, уточнения мест загрузки и выгрузки и т.п. в официальном бланке заявки, счета-фактуры в случае возможной предоплаты и т.д.). Таким образом, контейнерные перевозки при оптимальной организации системы работы могут занимать достойное место на рынке транспортных услуг и составлять достойную конкуренцию автомобильным перевозкам грузов.

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IMPROVING WAREHOUSE MANAGEMENT SYSTEM BY APPLYING VOICE SYSTEM

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One of the most progressive order picking technology, that is applied in modern companies, is Voice system. Advantages and disadvantages of this system are observed and analyzed.

There were 3 steps in developing warehouse management system (WMS) concerning order picking:

- Using paper system;
- Using barcode scanning system;
- Using voice system (now).

Warehouse professionals in particular are constantly challenged to reduce labor costs, improve productivity and increase order accuracy while streamlining overall operational costs. As one of the warehouse's most labor-intensive functions, order picking is a key area that companies focus on for automating processes with new technologies.

The more an area is identified as key to a company's success, the more technology emerges in that area. Order picking is no exception. A range of screen-based devices that employ a laser scanning beam have been deployed in warehouses. In a scanning scenario, a host system generates a "pick list" of items to be pulled from the warehouse shelves. That list is displayed on the screen of a handheld or truck-mounted terminal with location information and directions for picking.

To pick a product from the shelf or slot location, an operator is directed to a designated location by viewing the prompt on the handheld device. Next, the operator points the handheld device at the correct target, product bar code, attached case ID bar code, or a location bar code as confirmation that the selector is picking the correct product from the correct location. The operator then picks the listed item(s), and confirms the number of items being picked by entering the quantity into the keypad of the handheld device. Once this is completed, the operator places the items onto a pallet or into a carton.

Bar code scanning often produces data accuracy rates of up to 99%. This technology is far superior to manual data entry and recording, which, on the warehouse floor, can cause problems further down the supply chain, negatively affecting inventory accuracy and overall customer satisfaction.

However, scanning is not the ultimate solution. Bar code read rates can be affected by environmental conditions, lighting, dirt/smudges and print quality. For scanning to be effective, all labels must have bar codes that comply with standard size and format specifications, and the label must be in a good, readable condition.

Often, as an operation grows, the number of users connecting through a single access point can cause response delays to users and degrade productivity. As with any RF equipment, dead zones can be found within an operation either through poor access point design or blockage.

Voice systems allow operators to communicate directly with the WMS, labor management system (LMS) or proprietary host system to pick orders quickly and efficiently without using any handheld devices or paper to record picks. Because operators need only wear a lightweight headset with a microphone and a small, battery powered voice computer on a waist belt, the technology leaves both hands and eyes free for warehouse operators to actually pick product and move easily from location to location.

The Voice system uses individually recorded voice templates to tear down the language barriers typical in this diverse working environment of a warehouse. Ensuring accurate recognition, each person's voice templates are recorded once and then stored as a file. The operator then loads his or her voice template to the wearable terminal for each shift. The voice template establishes the operator's unique manner in which they will talk to the system. The recognition system is completely "language independent and can be combined with the spoken commands from speech synthesis engines in a number of languages per the preference of the user. Voice system has text-to-speech engines that allow the system to communicate with the operator in up to at least 11 different languages. The Talkman system even allows operators to hear one language and communicate back in another. Once the operators have acclimated themselves to being directed by the voice system, they are even able to increase the speed at which they are able to work.

Voice systems are easily integrated into a company's WMS, LMS or host system.

Once in place, voice technology order picking solutions offer many advantages over traditional methods:

• Active, real-time labor direction. Voice raises productivity levels by establishing the pace for the operator. As part of daily operations, the workload assigned to an operator is downloaded into voice technology terminals from the WMS, LMS or other host system via the facility's RF wireless network. WMS systems provide the capability to prioritize the order picking process by grouping orders into waves for efficient picking. Wave management allows warehouse supervisors to dynamically manage large groups of orders to be picked efficiently.

• Precision accuracy and faster picking.

• Real-time inventory feedback. The voice technology system permits the operator to request detailed information about each product or location, including product description and UPC in the event that operators need to verify items at a location.

Before implantation of a new technology managers calculate efficiency of each system concerning their production. And nowadays it is common knowledge that it is more productive to use Voice technology in large warehouses with huge amount of order picks, while in small warehouses companies should use bar code scanning system.

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THE CONCEPT, STRUCTURES IN MANAGEMENT AND IMPORTANCE OF INTEGRATED LOGISTIC

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З'яўленне інтэграцыйнай лагістыкі мае вынікам прынцыпова новыя паводле формы дзейнасці фірмы (forth – party logistics provider