

INTEGRATION OF HANDHELD COMPUTERS IN STERILIZATION FACILITIES INCREASES PRODUCTIVITY

Barcode usage has penetrated many aspects of inventory management and product tracking. Inventory management is key for sterilization service providers who receive customer inventory and process it without impacting the visual appearance of the product that is sterilized. Inventory management and proper release becomes critical in order to release product that has been correctly treated.

Traditionally, treated product is physically separated from untreated product. All product is labeled and accompanied by paperwork orders that indicate how to process the product as well as its current processing stage.

Handheld computers offer a number of advantages over tethered barcode scanners. Because they are not attached to a base station, they can be used throughout the warehouse. In most cases, lift truck operators can perform scanning functions directly from lift trucks, saving valuable time. Warehouses in some sterilization sites span a large area. In these cases, it is impractical to use scanners attached to workstations.

konnTRACK Mobile!, an extension of konnTRACK that runs on robust handheld computers, offers various functions that enhance the productivity of a sterilization facility:

1. Receiving of product and staging of pallets for storage
2. Weighing of pallets;
3. Confirmation of pallets at irradiator load and unload stations to ensure they match the production schedule;
4. Confirmation that the product is sterilized at the shipping dock; and
5. Interacting with high bay warehouse systems.

RECEIVING AND STAGING

The receipt of customer inventory can be performed with hand held computers right at the receiving dock. Customer GS1, HIBCC, and other UDI compliant product and lot number barcodes can be scanned directly eliminating the need to select product codes. The accuracy of entries are assured; and the operator verifies the product count and shipping paperwork, reducing receipt and inventory time while improving accuracy. Pallets are labeled with a barcoded receipt label and staged to an available warehouse location.



Figure 1: A sample of an HIBCC label

WEIGHING

Pallets are weighed on scales to ensure that they match validated dose maps which helps to prevent product under dose or overdose. This valuable step is often omitted because it is perceived to take too much time.

This process is significantly streamlined with the use of hand held computers, because after a pallet is placed on a floor weigh scale, a weight is recorded with a simple scan of a command barcode directly from a lift truck. The whole process, from the time the pallet is placed on the scale to the time the weighed pallet data is recorded in the konnTRACK data management system, takes less than five seconds.



Figure 2: Weigh scale

CONFIRMING AT LOAD AND UNLOAD STATIONS

Handheld computers inform an operator of the location of the next pallet to be loaded. The operator picks up the pallet, loads it into the machine, and scans the pallet and the load command barcodes without ever having to step off the lift truck. konnTRACK instantly performs a check of the pallet, valid specifications, and schedule check, thus eliminating any chance of an erroneous load. The processing specifications are transferred from the approved records into the process controller seamlessly.



Figure 3: Irradiator Load confirm action performed from a lift truck

Similarly, pallets are checked at the unload station with a couple of barcode scans ensuring that they have been processed correctly.

CONFIRMING AT SHIPPING

Before a product is shipped, as it is loaded into a trailer, each pallet is scanned to confirm that it has been processed. As the system knows what pallet was loaded and unloaded from the irradiator and what process run has been released by the QA department, shipping, augmented by the handheld computer verification, can be performed with confidence.

INTERACTING WITH HIGH BAY PALLET STORAGE SYSTEMS

konnTRACK product tracking capabilities include tracking of pallets through high bay storage systems, or simply interfacing with them. Pallets can be checked into and out of the storage, where each action is verified that it is performed according to the production schedule. Here, again, many functions can be performed with a handheld computer for better efficiency.

In conclusion, the usage of handheld computers in the sterilization processing of medical devices leads to improved efficiency, more streamlined operation, and improved quality. It enables efficient weigh checks at receiving and sterility check at shipping. It interacts seamlessly with equipment at the load and the unload stations. The wireless functionality offers many advantages over traditional tethered scanners since many functions can be performed anywhere in the warehouse, and operators are not required to step off their lift trucks to perform pallet tracking updates or checks.

Originally from Slovakia, Peter Veselovsky studied electrical engineering at the University of Toronto. An avid skier, Peter quickly fell in love with Canadian winters. While working with Nordion leading their Irradiator Control Systems and Radiation Therapy Control groups, he realized that the level of innovation was lacking. Peter believed it was possible to integrate sterilization control systems with a manufacturer's complex work flow while maintaining highly effective and safe systems that would meet stringent regulatory standards. With this in mind, Peter formed Konnexis in 2000. Today, Konnexis' handpicked team provides control systems and integration services for a variety of sterilization systems across the globe.

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