

HEALTHY LOGISTICS

Pick-to-belt systems boost throughput and increase storage capacity at third-party health care warehouses



Larry Riley, branch manager of Livingston's Montreal-area health care distribution centre (left) with the author.

Escalating health care costs are of concern to everyone: government, industry and end-users--us. Now, both the public and private sectors are looking at third-party distribution services as a way to control at least some of these costs.

In hospitals, for example, materials management can account for up to 30 percent of the total budget. Provincial governments across the country are evaluating the benefits of centralized hospital supply purchasing, through a neutral, third-party distribution firm. In the private sector, many health care product manufacturers find Canada's small population base spread over a large geographic area to be a logistics

nightmare. Outsourcing distribution allows these companies to focus on marketing products rather than managing distribution, and frees capital from being tied up in warehouses and handling equipment.

To help meet this third-party need, Livingston Healthcare Services Inc. (a supplier of outsourcing services) revamped its Montreal-area health care distribution centre, and recently built a new health care facility north of Toronto. Livingston worked on these projects with Kom International, a Montreal-based materials handling consulting firm that specializes in the design, implementation and improvement of distribution centres.

QUEBEC RETROFIT

In 1991, Livingston began transforming its 70,000-square-foot Dorval, Quebec, warehouse into a state-of-the-art health care facility. Prior to the transition, the warehouse handled 1,200 SKUs (stock keeping units) from 23 vendors through conventional systems, including split-case picking from shelves located on a second-storey mezzanine, consolidated with full-case picking from racks at ground level.

In April of 1992, all operations were consolidated at ground level, and a mechanized pick-to-belt system, supplied by Moody of Terrebonne, Quebec, was introduced.

By Marc Wulfrat

With this system, split-case product is selected into totes from St-Hubert, Quebec-based Technirack Salaberry Inc.'s shelving/case-flow rack embedded within racks, for transfer via conveyor (also supplied by Moody) to packing modules and shipping. No less than 90 percent of the total order lines are now processed on the picking system. The remainder is full-case selection from pallets stored in racks.

"It was my fourth month on the job and we had painters, electricians, building contractors, rack and sprinkler installers, and office renovators all working on a \$500,000 changeover during operating hours," recalls Larry Riley, branch manager of the Dorval facility. "Fortunately, we didn't miss a beat."

The benefits of the system were immediate and impressive--a 67 percent improvement in throughput productivity, and a 100 percent increase in storage capacity adding 1,000 pallet positions to the facility. The increased capacity resulted from the replacement of floor storage with Technirack racks that make full use of the 26 feet of height available. Elimination of floor storage also significantly reduced product damage, and enhanced the flexibility of the operation.

"The number of SKUs, the types of products to be distributed and their space requirements are truly dynamic, since we service the needs of many suppliers and customers under one roof," explains Riley. "For example, we recently got a Call from a supplier at one in the morning -- its workers had just gone on strike. Starting the next morning, we received 15 truckloads of their product daily, for the next two weeks. The new system gave us the flexibility and dependability to handle this type of situation."

Ontario Start-up

In November of last year, Livingston began operating its newly constructed, 76,000square-foot health care distribution centre in Vaughan, Ontario. The facility is home to more than 40 suppliers, with over 1,700 SKUs comprised of everything from over-the counter drugs to surgical products. The facility processes 11000 orders daily, including warehouse transfers to other Livingston distribution centres. Most orders are small, the average being five lines per order. Similar in design to the Montreal facility, the Vaughan operation uses a



The packing station, at the end of the pick-to-belt system, where shipping cartons are checked prior to weighing, scanning and taping.

pick-to-belt system supplied by D.S.Handling Systems Ltd. of Brampton, Ontario, to process split-case selection, which makes up 80 percent of the order lines. The remaining 20 percent of throughput accounts for the majority of the cubic volume shipped, and is comprised of full-case product picked from pallets in single deep racks.

Pharmaceutical products, held in shelves and flow racks underneath storage racks, all supplied by Redirack Interlake Storage Products Inc. of Mississauga, Ontario, are selected into totes, and transported to eight packing stations containing over 850 feet of conveyor, also supplied by D.S. Handling Systems.

Orders selected on the pick-to-belt system are received by supplier, and tend to be three to four lines per order. Product is grouped by supplier (i.e. each supplier is treated as one zone), reducing congestion and increasing picking productivity as operators can pick multiple orders within a zone.

Completed orders are transferred to packing stations, where checking and packing functions are carried out. Finished shipping cartons are weighed, scanned to determine carrier and mode of shipment, and automatically taped before being transferred via conveyor to the Prior to loading, product from the full-case portion of the order is married to dose the loop.

The pick-to-belt system was designed to handle future item

demand. The conveyor lines can also be expanded to the full length of the building, or to a two-level selection mezzanine, which permits a two-to-threefold increase in SKUs and order line activity.

The Vaughan facility features a vault area for controlled substances, surrounded by floor-to-ceiling cages; a high-tech security system from Wells Fargo Alarm Services of Canada Ltd., Willowdale, Ontario, that includes motion and vibration sensors; an 18-foot high cooler, equipped to handle forklifts, with a temperature-controlled environment between three and seven degrees Celsius; and environment monitors to record temperature.

As well, the new Vaughan warehouse uses MEDILINX*--a software program for hospital inventory control, developed by Livingston. With MEDILINX*, hospital operators use hand-held scanners to manage inventory and generate stock replenishment orders on a just-in-time basis. Scanned information is transmitted by radio frequency to the MEDILINX* system, which resides in the hospital's host computer. New orders are compiled in real-time for electronic data interchange transfer to the health care distribution facilities. Orders are processed and shipped to the hospital within 24 hours or less, depending on the hospital location and requirements. ■

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