At Your Service

These unique solutions for linen management help customers get the linens they need, when and how they want.

BY DERI ROSS PRYOR

AS THE WORLD AROUND US becomes a more complex and fast-paced environment, keeping up with the flow often requires some creative thinking. One of the hallmarks of the laundry and linen industry is innovation in problem solving. It can be as simple as reworking delivery methods or using cutting edge technology to automate the process.

Just in Time (JIT) delivery is a business strategy in which goods are produced or delivered on an as-needed basis as opposed to the traditional method of creating a backstock of inventory to pull from. JIT cuts down on waste both in terms of storage costs and overproduction of goods that may never be used and have to ultimately be reprocessed. It also allows for an easier switch between different products being produced. However, there are no perfect solutions and the disadvantage of JIT is that one breakdown along the supply chain can disrupt or shut down the entire end process.

Notable companies employing this model include Hewlett-Packard, Motorola, Black and Decker, and Toyota.

On-demand Supplies

In terms of the laundry industry, JIT delivery means that the end user would communicate to the laundry processor on a daily basis how much linen they have used and how much will be needed to restock their par levels for the next day.

Dick Felger of Par Excellence Systems explains that hospitals who use JIT delivery do not keep a large safety stock of linens on hand for supply shortages. They keep as accurate a usage figure as possible for each item, then use that for their par levels for each bin or shelf within the hospital. PAR Excellence's PAR Bins utilize weighted sensors to detect textile supply usage and can be configured to communicate inventory levels directly to laundries or distribution personnel. When the system is used, linen can be delivered directly to the supply room.

The challenge is that daily usage values can be hard to determine in a setting where patient numbers constantly fluctuate. An item may be rarely used one day, then depleted the next.

If a facility is considering switching to JIT delivery, there are many factors to consider. Distance between the laundry provider and the facility is one. Because the JIT method requires more deliveries, if the distance is significant it may not be an advantageous switch.

Before utilizing JIT, Felger says that accurate data is imperative in terms of realistic demands and usage, since there will no longer be a safety stock for the staff to draw from. Strictly followed order and delivery times must be maintained since timing is everything, but with the right protocols in place, JIT delivery works well.

Fully Automated

Another innovation within the hospital environment is uniform and linen distribution machines. Such machines are being used in places such as hotels and casinos with great success, and now with success for hospital scrubs can cut down on costly waste.

(IPA), the worldwide leader in healthcare and surgical scrubs automation, based in Suwanee, Georgia, offers an entire platform of linen management technologies including the alEx Linen Center. This innovative technology features a secure cart which eliminates unauthorized users, improving nurse satisfaction while driving down replacement and processing costs by

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25 percent. alEx weighs the linen removed and provides users real feedback including the associated dollar amount, providing linen awareness. Restocking alerts are automatically sent via text or email to linen staff personnel as inventory reaches critical par levels, helping the linen staff deliver proactive service. Further, the hospital's linen is always covered, enhancing infection prevention.

The alEx Linen Center's impact on linen management has proven effective in reducing linen replacements and pounds per adjusted patient day, delivering sustainable results to the bottom line.

Another vending system, Autovalet Systems' CabiNet Scrub Dispenser, for instance, is a compact, self-contained closet which stores scrubs or linen fitted with radio-frequency identification (RFID) chips. Designed for smaller properties, multiple dispensers can be placed throughout a hospital.

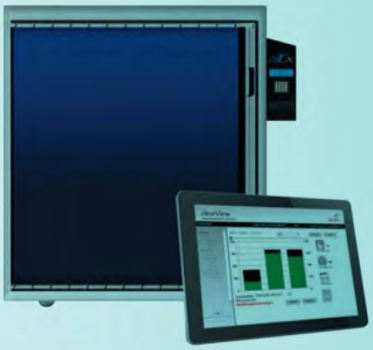
"The RFID chips are washable and identify each article by its type and size just like a bar code, and are read by automated scanners inside of the unit," says John Varley, sales director, Autovalet Systems. "Authorized hospital employees swipe their ID card and – provided they are 'in credit' – can open the door corresponding to their size and remove the scrubs they need. Once they close the door, the unit re-scans the contents and detects what has been taken." He explains that the same items must be dropped off in a companion unit when soiled, where they are automatically scanned and a "credit" is sent to the issuing unit.

"That is how CabiNet makes users accountable for what they use," says Varley. The entire system is managed by Autovalet's widely-used Dress Code software which allows the hospital to add or delete users, tracks usage and prompts attendants to refill the unit if stock levels fall.

While many current dispensers tell users that they must return soiled items in order to collect clean scrubs, there is no automated check that the item being returning is actually a scrub rather than a towel or lunch wrapper. The CabiNet is intelligent and uses RFID tracking to ensure that the user returns the exact same scrub being picked up – not a towel or even a scrub found in the locker room. RFID is much less costly than vending machines and requires less labor to support it. It can also track details about the scrubs themselves such as the age of each item and the number of washes, allowing hospitals to retire older scrubs as they lose their protective properties.

Using such a system cuts down on exorbitant costs associated with lost or stolen scrubs. The CabiNet is easy to use and easy to load since scrubs don't have to be paired. It has a small footprint, four feet wide by two feet deep, and sliding doors, which allows it to be placed in narrow hallways or smaller areas. It can also accommodate other items, such as linen packs, blankets, and mop heads, making it a versatile investment.

When considering a such a scrub dispensing system, the main consideration is obtaining scrubs with RFID tags or having existing scrubs retrofitted with them. Varley says that most scrub manufacturers will install the chips on new order if requested and most major rental companies already do. The savings that comes from using the system and lowering scrub losses easily covers the cost of fitting RFID to existing inventory. He also adds that many rental companies will supply the unit as part of their service.



Back to Basics … by Bike

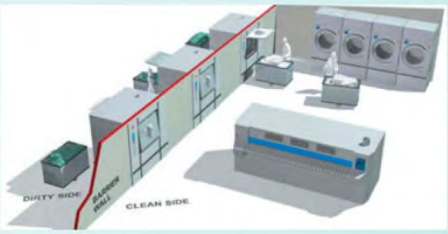
A truly next-level concept, which ironically harkens back to the older days of laundry delivery, comes from Philadelphia-based Wash Cycle Laundry, which currently serves Philadelphia, Austin, Texas, and Washington, D.C.

Founded in 2010 by CEO Gabriel Mandujano, Wash Cycle Laundry picks up and delivers laundry with a fleet of electric assisted cargo bikes, each able to haul 300 pounds at a time, and uses environmentally friendly washers and chemicals.

While it might seem unlikely that using bikes would be effective, since the company's inception, they have hauled more than 4 million pounds of laundry and saved more than 1 million gallons of water. When you add in the savings on fuel and parking costs of a traditional box truck, not to mention the difficulty of negotiating dense city traffic, the idea makes sense.

Wash Cycle has gone from smaller contracts to serving such big name clients as the Philadelphia Eagles, University of Pennsylvania, Veteran's Affairs Hospital and Georgetown University, washing anything from clothes and uniforms, to linens and janitorial supplies. In addition to the commitment to sustainability, the company also serves the community by hiring from the welfare-to-work and prison reentry systems.

Steven Prudente, manager of commercial sales and service for Wash Cycle, says they currently have four electric-assist tricycles and ten bicycles with trailer hookups, and currently employ 50 people, with more than half of those coming from "vulnerable employment backgrounds." Further, they have an 83 percent employee retention rate, which also translates to cost savings on training new hires and the wait for them to get up-to-speed.



"We're currently on pace to process about 1.5 million pounds of laundry this year," Prudente says, "with about 500,000 of that being picked up and delivered on a bicycle. The bulk of our weight comes from two of our on-premise plants inside a hotel and a behavioral health center." The success of such a unique venture speaks for itself; Wash Cycle shows no signs of slowing down and plans to expand their market in 2018.

Robotic Assistant

One of the most impactful innovations to enter the laundry industry is the use of robotics and automation. Landry Guillochon of Electrolux Professional says the technology can be as simple as an automatic folding table, to a complete system in which human operators do not handle a single piece of linen from the sorting process to the shrink-wrapped bundle of clean linens at the end.

"For healthcare workwear, such as patient gowns or scrubs," Guillochon says as an example, "these will be auto-fed onto hangers on an air rail system, which goes through tunnel finishers to be dried and sorted. Using RFID, even personalized uniforms will be put together, folded and packaged. So the system sees Mrs. Smith's pants, then later Mrs. Smith's tops, and will send them to the folding robot together."

Even more sophisticated folding systems recognize sizes and colors of linens, picking the correct folding pattern and stacking like items together. With RFID labels, systems can be set to track how often an item is washed and if healthcare providers are not washing their uniforms or scrubs often enough, it can be addressed. It can also help by giving accurate data of the lifetime of an item. If an item is not lasting as long as the supplier claims, the laundry must either adjust its wash process or find a new supplier. Either way, substantial money can be saved with that kind of data. RFID can also track linen items leaving a facility when they shouldn't, via antennas placed at exits. Since linen loss is such a huge portion of healthcare costs, being able to track and address stolen linens is critical.

Another benefit of shifting to increased automation of the wash process is staff management. Laundries often have a high turnover rate for various reasons, and there are costs and loss of productivity involved with losing a trained employee and having to teach a new one. Automation prevents having to worry about critical portions of the wash process, allowing laundries to produce more consistent results.

European Sorting

Guillochon, who is based in France, says the European method for sorting dirty linens is another improvement on the wash process. There, dirty linens are sorted in accordance with the finishing process so that when the load comes out at the end of the wash and dry cycle it goes to the same finishing equipment. For example, even though bedsheets and pillowcases are made of the same material, they are not ironed or folded using the same pattern, so they would be washed separately. This saves time at the end of the process, but the sorting begins very early on in the cycle.

"There are two stages of the segregation," Guillochon says. "The first happens at bed level. Care staff is trained to use trollies with several color bags that correspond with textile family. When they undo a bed, they sort the dirty linens into those bags."

There are only four bags, so at that point items are sorted by textile family; sheets and pillowcases together in one bag, terry items in another, and so on. He explains how essential this step is to the second stage of sorting when the categories are broken down even more. If laundry operators are looking to sort bedsheets for a load, in the traditional method, they might need to go through 1,000 pounds of soiled linen to find 100 pounds of bedsheets.

"Where does the other 900 pounds go?" Guillochon speculates. "On the floor, in the open air, exposing body fluid and attracting flies, which is not good for cross contamination, for operators' well-being, for space constraints, or work conditions." With the European method, operators know to go to the right colored bag to find enough sheets for a load, and will have to go through much fewer bags to find what they are looking for.

"It takes one to two seconds to presort at bed levels, but saves enormous time, space, and money at the laundry level," Guillochon says. He also explains that this method helps in reducing incidences of finding undesirable items, such as surgical instruments, and patient personal items.

These innovations in laundry processing take technology and advanced thinking to save money, time and precious resources, while consistently providing safe products for the benefit of the end user. While implementing new ways of doing old things may take large adjustments, the subsequent advantages make them well worth the consideration. ●