CleanCare Stays Competitive with Rail Advances

New material-handling system modernizes saves labor and maximizes productivity

By Tony Schult

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In 2012, CleanCare in Pittsburgh set out to build a state-of-the-art laundry to accommodate its ever-growing customer base in the hospitality and healthcare markets. With over 75 years of industry experience, CleanCare knows what it takes to provide value and quality product for their customers. The production goal was 20 million lbs. per year in a 5-day work week, 10-hour-a-day shift with laborsaving technology. With a diverse and high-volume product mix, CleanCare required a flexible laundry-handling system that could efficiently sort, organize and track product from beginning to end. "Putting together a 'once-in-a-generation project' was a methodical process, and I wanted to get it right," says CleanCare President and CEO Woody Ostrow.

With more than 60 years of combined industry experience, E-Tech Inc.'s sales engineering team designed a rail system that integrated CleanCare's workflow. Key elements of this system include:

INCOMING CUSTOMER BAG SYSTEM

CleanCare was looking for a way to store and deliver incoming customer bags by rail directly to operators at sorting and counting tables. It wanted to reduce handling and save time unloading customer bags from trucks and vans, and store them out of the way until they were ready to be sorted and counted. E-Tech designed an eRail Incoming Customer Bag System to meet this challenge. Customer bags are loaded directly from trucks to seven storage rails holding 40,000+ lbs. Bags deliver directly to 10 sorting and counting tables. Unique features include tilting load spurs for free passage of staff and bulk carts, and an auto debagging device.

LOAD-ON-RAIL SORTING SYSTEM

CleanCare needed a sorting, counting and soil-input design to handle high-volume healthcare and hospitality items efficiently and with minimal labor. Approximately 10 items (70% of the product volume) are delivered from sort and count tables by an Automation Dynamics LLC vacuum system directly into E-Tech slings. Once the slings reach a count limit, they automatically depart to classified storage. This "Load-On-Rail" style system provides CleanCare with an efficient method of sorting, counting and separating higher-volume items. This is a "hands off" system, as linen is only handled once from

The storage area shown above is part of a system that moves slings automatically to a tunnel washer for processing. Goods bound for washer/extractors move as needed via a semi-automated system with ergonomically friendly loading for operators.

the time it's at the sort and count station to the time it delivers by sling to clean finishing.

TRIPLE WINDOW CART SORT

Slower moving, low-volume items are typically a thorn in the side of production managers. To sort, count, track and organize these items efficiently, CleanCare chose a vacuum system that delivers slow-moving lower-volume items from sort and count tables to a long sweeper belt, with 16 triple window sort stations (48 sorts total). When full, a floor operator will input slings onto the monorail system via a nearby "weighing" input lift. Here the operator verifies the weight, identifies the type of goods and customer and releases them into the monorail system where the control system tracks and delivers them to the appropriate storage rail. "Processing the lower-volume items was the biggest design challenge for

us," says Ostrow, "The flexibility of the 48-cart sorting stations completely separates out these slow-moving items. This allows us to deal with them at our own pace, and it doesn't slow down production of the higher volume items. We are able to staff only one operator at the sweeper belt to manage all 48 sorts."

MANUAL INPUT LIFT

CleanCare asked for an efficient and ergonomic way to input and track bulk linen that does not require sorting or counting, such as mats, new linen and rewash. This system solution includes a cart dumper, a feed-assist table, and a manual weighing input lift. This is a low-cost, efficient and ergonomically friendly option for manually inputting, tracking and organizing bulk linen into the rail system.

Below (at top) are two views of the 16 triple window cart sort system (48 sorts total). The sling carts shown at top/right fill up with soiled goods for operators to weigh and input into the system. Below left are two images of the tilting load spurs for incoming customer bags. At lower/right are two-tier storage rails.

CLASSIFIED STORAGE

With such a complex and high-volume product mix, Clean-Care needed a carefully thought out classified storage design. The storage configuration needed to be flexible enough to efficiently route and stage 70+ sort classifications. Strategically designed, this classified storage configuration holds approximately 44,000 lbs. on 24 storage rails with a recirculation rail included. Based on the footprint of the building and available space, storage was designed as a two-tier storage system, with customer bag storage on the first level and soil classified storage on the second level. Even with two levels of overhead storage, the floor space below is wide open for production. Automatic route configurations are essential for hands-off delivery into classified storage rails. "Strategic design of classified storage, plus the recirculation provides the flexibility required for a complex mix and changes in production scheduling," says Ostrow.

WASHER LOADING SYSTEM

Loading your washers can seem complicated when you have both tunnels and washer/extractors on the same system. E-Tech designed a system to auto load the tunnel washer and semi-auto load the washer/extractors. While the tunnel loading is completely "hands off," they applied a creative approach with the washer/extractor loading. Slings automatically get called to the washer/extractor area, where an operator dumps goods into a washer loading sling on the rail. This process is an ergonomically friendly solution compared to hand loading. Automatically delivering and loading tunnels is highly efficient. "It's hard to believe anyone would have a tunnel and not a washer-loading rail system; they definitely go hand in hand," says Ostrow.

CLEAN DELIVERY SYSTEM

CleanCare wanted a system to efficiently deliver clean linen to finishing stations with laborsaving technology. The eRail Clean Delivery System automatically transfers linen from dryers to a sling on the rail. Auto-opening slings route to finishing stations, where operators release goods via pendant control into a cart or table. There is a future expansion design for the clean system as well. Auto loading slings on the clean side reduces cart traffic, opens up floor space and provides an ergonomic solution compared to hand loading carts.

MAINTENANCE RAIL SYSTEM

Preventative maintenance of slings and trolleys on a monorail system is critical for providing a safe workplace for employees and ensuring a productive, long-lasting system. CleanCare decided to implement an eRail Maintenance Rail System to efficiently inspect, repair and maintain each sling and trolley without affecting production. Slings and trolleys are tracked throughout the system and automatically divert to the maintenance rail when they are due for inspection. Operators also have the option to manually tag slings to the maintenance rail before their recommended inspection due date. This is a proactive and preventative-maintenance solution, which ultimately saves on replacement parts and minimizes risks.

SOFTWARE PACKAGE

To operate, manage and track product through a high-volume automated laundry, CleanCare needed a powerful software package backed by a support channel on which they could depend. E-Tech provided eVue (formerly RailPro 2) to intuitively control the monorail system and provide real-time and historical metrics. eVue control ensures that CleanCare is operating at prime capacity and the metrics allow management to manage the laundry. With a diverse and high-volume product mix, CleanCare depends on the software to intelligently route, organize and track its linen through the system. "E-Tech was on the ball with their support channels during and after start-up," says Ostrow. The program offers 24/7 support and monthly remote system health checks.

CleanCare is now producing over 17.5 million lbs. per year in a 50-hour work week. When the future second tunnel and clean-side expansions come online, they'll achieve their goal of 20 million lbs. per year. Ostrow says that implementing E-Tech automated systems has helped his company attain its production goals through flexible and high-capacity sorting solutions and automatic tunnel loading. By incorporating custom-engineered automated solutions, CleanCare has reduced labor and production costs, while maximizing efficiencies. TS

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