A BEHIND-THE-SCENES LOOK AT

ROSCOE'S NEW SORTER

A team effort by staff and vendors has enhanced this Chicago operator's competitiveness

By Jack Morgan

For nearly two decades, company President Jim Buik and his team at the Roscoe Co. have leveraged technology to improve quality, enhance efficiency, expand throughput and save labor, while improving customer service in the processing of garments, mats and related textiles in his industrial plant on Chicago's near West Side.

Buik, a third-generation owner/operator and vice chair of TRSA's Board of Directors, told us he wanted to update his garment sorting system to match improvements he's made elsewhere. "I wanted to be able to scale our operation to match the output of the wash floor that we put in 10 years ago," says Buik, who spoke during a recent visit we made to see the new sorter from Kannegiesser ETECH. "I wanted that (sorting) system to be able to scale without additional labor, provide faster throughput and most importantly—improved tracking & quality. This fully automated system delivered on all counts, while saving three full-time equivalents (i.e., employees), just like we did 10 years ago with the plant upgrade."

While Buik's team is focused on boosting efficiency, he's also committed to implementing improvements without laying off any of the 65 staff members he currently employs in his plant in Lawndale, a neighborhood facing a variety of urban challenges. Instead, Buik emphasizes flexibility and cross-training in his ISO 9001:2015 certified plant. Employees understand that they may have to change positions. However, job cuts are made through attrition, he says. "As people retire, as people transition, as people leave Roscoe, we would backfill some of those spots with temporary labor, and so once again, we eliminated three positions, but no Roscoe team members lost their position to automation."

Given that Roscoe is located in a 100-year-old two-story structure, we asked Buik if he'd considered closing the building early on and moving to an industrial park-type setting where installing a new sorting system would be simpler. Buik responded by touting the advantages of his current location, where Roscoe has operated since 1923, two years after it was founded. These benefits include access to customers, city water and skilled staff. "We're centrally located," he says. "We've got incredible water resources in Chicago. Better yet, we've got dedicated and skilled people. We also make a pretty significant contribution to this area by providing stability and good-paying jobs." When asked if he views helping the neighborhood as part of his mission, Buik responds that, "While Teresa and I personally, as well as through Roscoe, contribute time and treasure to a number of charitable organizations throughout the Chicago area, my key obligation is to the 65 families that depend on the fair pay and benefits," he says. "That's my moral imperative, to make sure that we're doing right by them. They always do right by me."

The formula seems to be working for Roscoe with its experienced senior team of employees. "It's kind of the 'feng shui' of employment relations," Buik quips, likening his approach to the Chinese

system of orienting energy forces to harmonize with individuals and their environment. As an example of how the system works, Buik mentions senior managers such as Miriam Avila, the operations team leader who's risen through the ranks over two decades. Avila and Buik's daughter, Julia, who joined the company as a business analyst 18 months ago, later would lead *Textile Services* on a tour of the new sorting system. The team Buik has built at Roscoe since he bought the family-owned company in 2000 came in handy last fall when he relied on an in-house crew to dismantle the old semi-automated sorting system so that Kannegiesser ETECH could install the new sorter. That process ran roughly from mid-October through the week of Thanksgiving.

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Eighteen months before the system was scheduled to go "live," Roscoe began the process of replacing high-frequency RF chips with ultra-high frequency RF chips to facilitate soil scanning using a Positek RFID Tornado Scanner. The Tornado allows a cart reader to count up to 1,000 pieces at a time in five seconds with 99.9% accuracy. Missing inventory is a fading memory. "Soil scanning provides our customers and service team members with critical information about garment usage and allowed Kannegiesser ETECH to install a more efficient system" according to Buik.

With the 100 year old, multilevel building, there were many design challenges for a garment sortation system of this size. It would require several on-site meetings led by Newly Caudle, designer of Kannegiesser ETECH, to pull together several of the specialists from the factory in Germany along with the U.S.-based technical installation and project-management team. These collaborative sessions were very beneficial as Buik and his team were willing to remove any existing building obstructions to make it the best overall layout-system solution. In the end, the design called for a phased-in approach in order to allow Roscoe to continue their customer production during the installation. After the phasing diagram was finalized from Kannegiesser ETECH, the Roscoe team was able to plan each step to assure both the physical spaces would be ready for construction and the business would continue production each day throughout the process.

Months before the installation began, Roscoe's staff had to get ready to sort garments by hand during a transition period prior to the new sorting system coming online. Wednesdays became "hand sorting day" at Roscoe so that staff could rehearse what was once a common practice in the industry. Buik credits Avila and Israel Cartagena, service team leader, with managing this effort to complete the upgrade with no interruption in service. "Miriam and Israel were really the ones spearheading those preparation efforts," he says. "That took place in the summer of 2017 and was implemented early in November when we had no mechanical sorting capability."

The initial phase of the sorter installation called for refurbishing the space that had been vacant since staff relocated garment presses during the last capital-improvement project in 2009. This included creating openings in brick walls, refinishing the floor, applying an epoxy finish on the ceiling and walls and installing new electrical and LED lighting. When Kannegiesser ETECH arrived, their staff and a small group of subcontractors, led by William Andrejewski and Lars Westenfeld, began installing the new sorting system, first in the open space and then in phases, while Roscoe staff worked around them. During our visit, Buik showed us where the roughly 15-by-five-foot long crates of parts had arrived at the start of the construction effort. Heavy-duty fork lifts were needed to move machinery parts to the second floor. A special opening in the first-floor ceiling was broken out to do this. The

ABOVE: A view of the new garment sorter with its RF chipped red carrier hangers that enable the system's antennae to read both the carrier and the garment chips and provide that information to the sorting system. Julia and Jim Buik stand beside the new sorter in a refurbished area of the 100-year-old plant.

Kannegiesser ETECH team of four people and another four subcontractors from Europe began assembling the system as quickly as possible. "There was a core group of eight guys that would work like hell and finish as much as they could," Buik says, noting that the team worked days, nights and weekends to keep the job on schedule.

The second phase involved dismantling the old semi-automatic sorting system, which had performed well for 20 years, but was beginning to have operational problems. The system also had outdated software that couldn't be updated without incurring significant costs. Buik and several colleagues, including Sales Team Leader Mark Stedman, CFO Terry Trimble, Cartagena and a host of others, including the Kannegiesser ETECH team, used metal-cutting saws to take down the old sorter. It was a hands-on job. "We cut it into sections and stacked it in a corner of the room," Buik says. "It created 12,000 lbs. of metal that was all carried down three flights of stairs. Junk King, a salvage firm that's one of several tenants in a nearby building that once served as a second Roscoe plant, came in and removed the metal at no cost. "They brought in four trucks and on that Friday, they moved six tons of metal down three flights of stairs and took it to a scrapyard," Buik says. "Essentially, that was free because the value of the metal paid for their services. It wasn't free to our backs or our arms."

After that effort came an even tougher job—removing a ceiling area above where the sorting system would operate in order to enhance the work environment. This wasn't a "have to" job related to safety or structural concerns. Rather, it was a decision by Buik and his team to improve the workspace. Buik explains that the roof on the second floor where the new sorter would go had a "false ceiling" below a barrel-style roof with metal trusses. Over the years, dirt and dust from the asphalt-covered roof had seeped down and covered a series of 2-by-6-inch-16-foot boards fitted together in a tongue-and-groove arrangement. Buik asked a painting contractor if it was worth it to dismantle the false ceiling. "He shook his head and said, 'I wouldn't do it. Let's put a 'skin' over it, let's do anything but take this thing down." Buik shared this assessment with his team, including Julia. She told him. "'Dad, this is your one chance to do this. You're going to kick yourself if you don't knock this out.'" Buik went to his team and said, "Look, Kevin (the painting contractor) said don't do it. Julia said do it. I think we should do it, but I wonder what you guys think. And they're all like 'Let's go at it; we can do this!'"

As with the removal of the old sorter, the same in-house crew did the work on the ceiling. After donning goggles, gloves and other personal protective equipment (PPE), they climbed 15-25 feet up on ladders and scaffolding to begin the project. They started at 6 a.m., Saturday, and worked through 5 p.m. They worked all day Sunday too. "Once we took the skin off, we were pulling these 2-by-6-inch-16-foot boards down and handing them down," Buik says. "Sometimes they dropped and shook the building." No one was injured in this job, but again, there were plenty of sore muscles at the end of a process that produced 14 dump-truck loads of wood for Junk King to recycle. Next, contractors put a fresh coat of white paint on the ceiling, and the

way was clear for the third stage of the sorter installation.

Roscoe was able to continue to utilize a 30-line dispatching conveyor for three weeks until 15 rails were cut out, making way for the installation of additional components of the new system. Finally, the last 15 rails and the loading station was removed to make way for the last elements of the Kannegiesser ETECH Full Auto-Sort. Once assembled, they had to test the system before Roscoe staff could begin using it.

The installation was planned for completion around Thanksgiving in order to give the installers time to finish the job during a slow week. "Our downtime was really from mid-October until the week after Thanksgiving, but it was phased downtime," Buik says. Having dismantled the old sorting system, Buik notes that, "We 'burned the boats' the Wednesday before Thanksgiving, and Kannegiesser ETECH came in and made the critical connections they needed to make." By the Monday after Thanksgiving, the installers had set up the new sorter and were testing it. Within a week, staff began using it on a regular basis.

Knowing that some of the installers would leave once their work was finished, on the Monday before Thanksgiving, Buik invited the crew and members of his staff who'd worked on the project out for a celebration. "We had a dinner with everybody from Roscoe who had gone through the 'war' and all the folks from Kannegiesser ETECH, so we had about 25 people," he says. "We had a private room and just had an amazing meal. The lead guy from the contractors said 'You know, we really appreciate being included.' But we were at that point 'brothers in arms.'"

FINE-TUNING THE NEW SORTER

When Miriam and Julia showed us the new system, we watched as hangers zipped by, moving shirts and pants with a clickety-clack over a network of overhead rails. The sorting process for clean goods begins at a "marrying station." There, a special red carrier equipped with an RF chip picks up a hanger and two antennae simultaneously read the carrier's chip and the garment's chip, providing information to the sorting system about the garment through software provided by Alliant Systems. A computer algorithm runs the garments through a series of sorts, arranging them by route, customer and individual wearer. At the "divorcing station," the red hanger is removed and returned to the sorter, while the garment on its regular hanger is bundle verified and put on a route-specific storage rail ready for delivery to customers.

While the installation of the new sorter was hard work, the execution went smoothly, Buik says. He credits Chip Malboeuf, president of Turn-Key Industrial Engineering, with reviewing specifications and assisting in the preliminary design work prior to the installation. Tony Jackson and Kannegiesser ETECH's design team carried the ball from there, making adjustments throughout the final design phase. This included two adjustments related to the fact that the system sorts goods on one-way hangers, rather than folded garments, which is the common practice in Europe. Automated sorting systems that ultimately pass through high-speed folding machines typically are equipped with a "bundle verifier" that confirms all of the garments in that bundle belong to the same wearer. Kannegiesser ETECH adapted to the U.S. service model by engineering a solution that produced perfect bundles for Roscoe's customers. "Since we were one the first one-way hanger installations, they didn't include a secondary bundle verifier integrated into the system," Buik says. "But the team quickly saw that there was a requirement for that, and Kannegiesser ETECH stepped up and took care of that for us after the final sort and again prior to loading onto our delivery trucks."

A similar issue came up with one-way hangers that weren't the right weight/size for the system. Kannegiesser ETECH worked with supplier Indy Hanger to obtain the correct goods. This eliminated the problem of garments "jumping the gap," while hangers were moving on portions of the rails prior to placement on the red carrier hangers.

The final remaining piece of this puzzle is the installation sometime next year of a "smart trolley" system, Buik says. The Kannegiesser ETECH smart trolley will save additional time and labor. Currently, sorted goods go on static storage rails and are moved by hand to a conveyor that takes them downstairs to the loading dock. The smart trolley system will automate this process. "The system is going to track a route's garment bundles by delivery day, allowing a route service rep to call up their load when they arrive at the dock," Buik says. "We hope to continue our trajectory of improved quality and efficiency with our next capital project."

POSITIONED FOR GROWTH

As for the company's most recent upgrade, the new sorter is helping the Roscoe Co. improve quality & accuracy, control costs and enhance productivity. "It allows us to double our throughput without additional labor and provide perfect bundles with each delivery," Buik says. "We had a one-time reduction in labor. Now we can literally double what we're putting through the plant with the same amount of people and leverage technology to provide incredible tracking." As noted earlier, the finishing side of the plant now can match the productive capabilities of the wash aisle that was installed a decade ago. That means the measurable improvements that the Roscoe Co. initiated last fall will help it compete in the Windy City's industrial and food-manufacturing markets for years to come. "It positions us for the future," Buik says. "And it's lowered our cost to produce. It allows us to be competitive and continue to be aggressive with growing our market share." TS

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