

CASE STUDY

A streamlined solution for packing healthcare linens and achieving essential storage.

ssi-schaefer.com

The SSI SCHAEFER logo is located in the bottom right corner. It features the letters 'SSI' in a stylized red font, followed by 'SCHAEFER' in a bold black font, all set against a yellow rectangular background.

SSI SCHAEFER

ABOUT HANDCRAFT SERVICES

Since the late 1960s, HandCraft Services has been supplying the medical industry with high-quality linen, apparel products, and providing commercial laundry services. As the market leader, HandCraft Services has a unique service offering that operates quietly fulfilling a major necessity.

Imagine a medical linen supplier distributing and servicing all types of linens such as towels, scrubs, mop-heads, and hospital gowns that come into contact with medical applications and procedures—that's HandCraft Services. HandCraft provides specialized linen products that meet or exceed OSHA, CDC, HLAC, and EPA standards.

Operating from multiple facilities, the Richmond, VA location is a 120,000 square foot high-tech commercial laundry facility. HandCraft distributes and services over 900 clients with 35 million pounds of linen annually and is a family owned business, which is rapidly growing throughout the mid-Atlantic region.



THE CHALLENGE

With over 900 clients, keeping up with inventory can be quite difficult. Plus, providing and servicing an array of products like blankets and towels to various organizations can lend itself to dealing with large amounts of paperwork. Having employees walk to gather items for each client can wreak havoc on even the best pair of walking shoes. In order to save some steps, employees were sometimes substituting products and accuracy rates weren't as high as HandCraft wanted. Making certain everyone was pulling product correctly was simply taking too much time. In addition, reconciling lost articles from previous pick-ups had the company trying to recoup those costs—and not always successful. With the HandCraft client base growing rapidly, more product was coming on-line for servicing clients. Additional SKUs were only adding to the frustration. Increased inventory

was becoming difficult to manage and pack-out got worse as orders multiplied. HandCraft needed a solution for storage space, inventory management, and help during fulfillment.

Along with speed, the company needed to maintain a clean environment for storage. The solution had to accommodate placing clean product into storage while picking almost simultaneously. Being a market leader and innovator within the industry, Handcraft begins each project with innovation at the forefront. This challenge would warrant a unique solution process but an innovative one, and so Jeff Diehl, General Manager of the Retail Division for HandCraft Services, sought help. There had to be a better way to provide faster speeds for servicing clients, gain more storage, and track inventory within a clean environment.

Picking a Supplier

HandCraft wanted to work with a local vendor who had experience integrating systems and evaluating automation equipment suppliers. PeakLogix, also located in Virginia, was chosen as the third party logistics supplier to navigate the needs of HandCraft and work alongside to manage the installation. The PeakLogix team knew immediately that this application would be challenging. As a systems integrator, PeakLogix reached out to SSI SCHAEFER, a leading expert in automation and storage solutions.

"Teaming up with SSI SCHAEFER on this particular project was very exciting," acknowledged Darren Saxton, a project manager from PeakLogix. "This was a unique application as it was the first automatic storage and retrieval system within the commercial laundry industry."

PEAKLOGIXTM
Think Efficiency.SM

A Sparkling Clean High-Tech Process:

HandCraft delivery drivers perform weekly transport of clean linens, a fresh supply of scrubs, and patient gowns. During drop off, soiled linens get picked up and placed into a large bin and sent back to the Richmond facility for washing and sorting. The entire wash process takes about an hour to complete. To get started, the bin is scanned inside using a large RFID scanner. This provides a quick check of items inventoried for processing. The linens are then sent through a verification system on a conveyor, which provides a 99 percent validation check by the new RFID system.

After the conveyor, the laundry is sorted between linens and scrubs. Each load is automatically placed into a giant sling that hangs from the ceiling on a carousel. The slings hold

approximately 168 pounds of soiled linens and garments, and each sling is given a priority number and washed accordingly by using one of 16 preset wash cycles. There are two unique washers for special loads, but most slings drop linen contents into one of five washers. Although it may look similar to a regular sorted laundry bag with its contents being tossed into the wash, don't equate this process to a standard residential wash, rinse, and spin cycle. This process is on a much larger scale and each wash warrants piping hot water with temps reaching upwards of 160°F, which is drained using a hydraulic press. After excess water is squeezed from each load, the process moves forward to dry. There are six dryers reaching temperatures as hot as 250°F.



Once dried, RFID chips are either inserted into new linens or repaired if needed. Each tag goes through an identification process and is paired with client inventory.

For the next step, sheets, table cloths, and other linens are sorted and sent through folding machines. Once completed, each product gets placed into special totes made by SSI SCHAEFER. The totes carry an array of linen inventory back to a high bay storage unit where product is quickly turned around and shipped out within a few minutes up to 24 hours. Each product is scanned to read RFID tags just before the tote placement. The totes are then scanned using a barcode scanning machine and paired with the RFID inventory inside. A Schäfer Miniload Crane (SMC) system takes the tote from

the conveyor and places it securely in its proper location. This entire storage process is managed by WAMAS® as a WCS software solution by SSI SCHAEFER. The software keeps track of each piece of linen that is stored using RFID tags and tote barcodes. WAMAS easily integrated with Linen Master providing complete visibility into the entire laundry process.

As orders are needed for clients, WAMAS directs the unit to pull appropriate inventory for packing. The complete order fulfillment cycle takes place as items are shipped to HandCraft clients for their weekly delivery. Once again, the cycle of fulfillment and pickup is complete.



"The next step is to put a second racking system in as well as to continue to challenge both ourselves and SSI SCHAEFER to see what we can do to increase the efficiency of the current system that we have. We're close to maxing out the system that is in place now. We're working with the team to deal with our phenomenal growth that HandCraft has had."

Jeff Diehl,
General Manager
at HandCraft Services.



THE SOLUTION

Needing to address the main goals of tracking inventory and gaining storage, HandCraft researched various options. While working with PeakLogix, the team decided to reach out to SSI SCHAEFER. Efficient storage space was easy to achieve using an SMC. The storage compartments allot 900 totes for additional storage. The unit consists of one aisle with storage on both sides. Each side has 15 columns and 15 rows with double tote capacity. For efficiency gains, the SMC system takes advantage of the available vertical space at HandCraft.



A Different Type of Tote:

The SSI SCHAEFER tote was manufactured using a special process specifically for HandCraft Services. The tote was infused with a copper material that creates an antimicrobial environment for clean sterile linens during storage. The tote manufacturing process was unique too. In general plastic polymers don't have antimicrobial properties.

However, SSI SCHAEFER was up for the challenge and was able to convert an existing EF8320 tote by infusing antimicrobial properties for storage use.

SSI SCHAEFER Accepts the Challenge:

"When we brought SSI SCHAEFER systems in to look at this problem, the two biggest issues to overcome were how to store inventory in a logical way and make it easily accessible. How could we bring inventory to the employee rather than to have the employee hunt and pick for that product," stated Diehl. "The SSI SCHAEFER system has achieved both of those by being able to put our inventory in a logical way and use vertical space by using totes. The system brings the bins down with the use of a crane so that the employee isn't having to walk around."

Once SSI SCHAEFER mapped the requirements and worked through the technical integrations, SSI SCHAEFER brought an innovative approach that meet HandCraft's needs.

With its new "Tower of Power" bin system for packing out accounts, along with its other RFID hardware/software components, HandCraft is reaping the benefits of this technology.



HIGHLIGHTED OUTCOMES

The system is currently operating and efforts to scale up the process are currently underway. The rapid growth that HandCraft is experiencing has both SSI SCHAEFER and PeakLogix working diligently to increase throughputs to address the additional needs of more storage.



TECHNICAL DATA

Facts and Figures

Building Size	120,000 sq. ft.
Pieces / Day	Throughput is currently in the mid-20,000 pieces to the low-30,000 pieces. Although, SSI SCHAEFER is currently working towards increasing storage capacity to reach additional throughput rates to continue the support of the additional growth volume. Schäfer Miniload Crane (SMC) systems can each speeds greater than 5 m/s (11 mph)
Storage System	Schäfer Miniload Crane (SMC)
Operational Shift	HandCraft Services currently operations one shift from 6a.m. to 2p.m.
WMS/WCS	Linen Master integrated with WAMAS® by SSI SCHAEFER as the WCS
Reusable Packaging Solution	SSI SCHAEFER EF8320 specialty copper infused tote



REASONS WHY YOU SHOULD CHOOSE SSI SCHAEFER:

- **Security:**

As a financially independent family business, SSI SCHAEFER is committed to long-term solutions. You can trust that our team of experts will be there for you tomorrow and in years to come.

- **Efficiency:**

SSI SCHAEFER solutions are scalable and grow with your business. You can always upgrade or retrofit to meet your customer demands.

- **Quality:**

As a specialist in automation, SSI SCHAEFER provides a single-source solution. As an original equipment manufacturer, SSI SCHAEFER guarantees quality and the right solution for your needs.

- **Reliability:**

Thanks to our worldwide customer service and support network, SSI SCHAEFER ensures a smooth operation of your system.

- **Know-how:**

SSI SCHAEFER solutions are always up-to-date with the latest technological standards and are easily integrated into an existing IT landscape.

- **Global Network:**

As an international company, SSI SCHAEFER has local offices worldwide. With over 70 locations, our team of experts speak your language.

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