CASE STUDY

A Leading North American Retail Pharmacy Picks SSI SCHAEFER to Implement an Error Free Automated Picking Solution with Track and Trace Capabilities.

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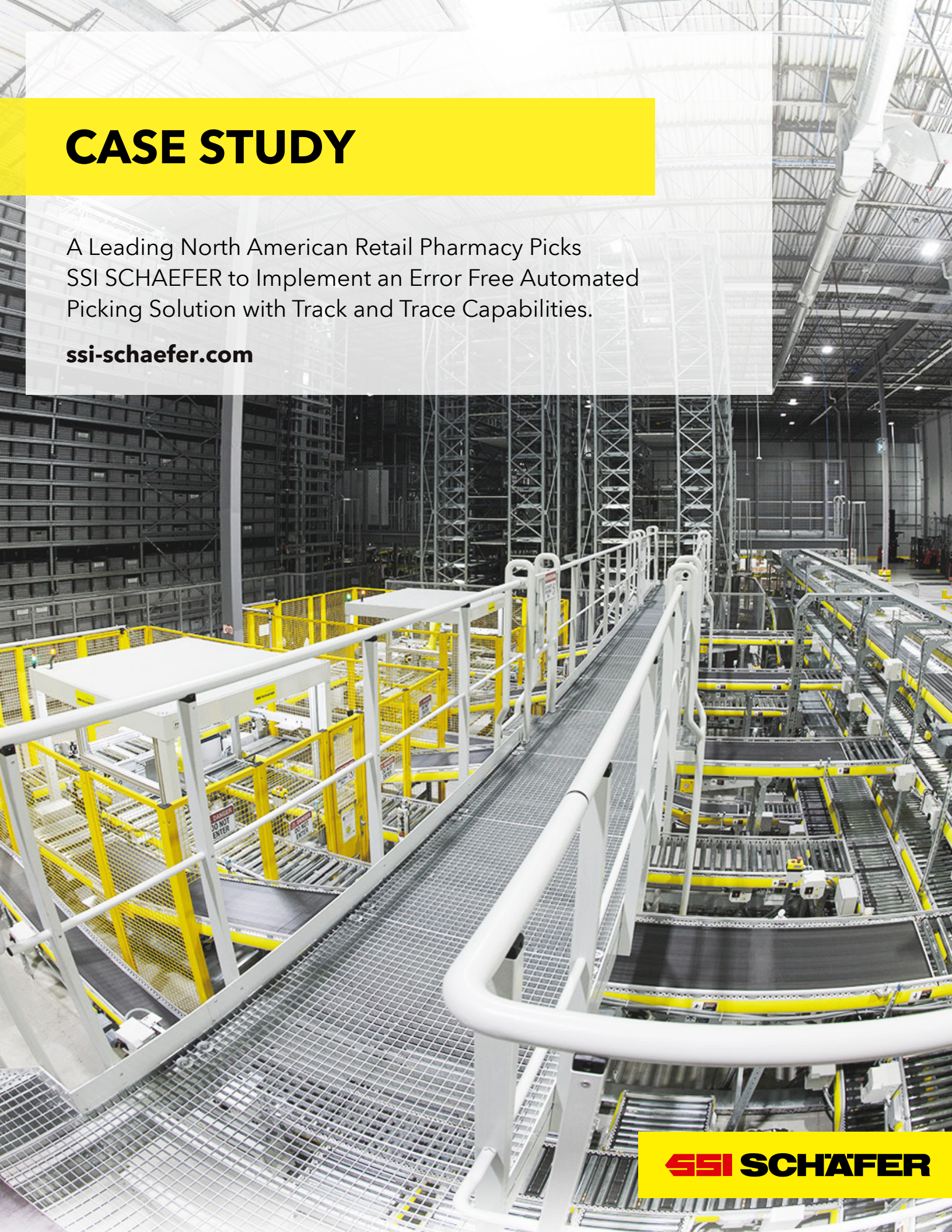

SSI SCHÄFER

INTEGRATED TRACK AND TRACE TECHNOLOGY FOR 100% ORDER VERIFICATION REQUIREMENTS

The Challenge

When it comes to prescription medication, order accuracy is of the utmost importance. Even the slightest of errors are not tolerable. This was the case with leading North American pharmacy that selected SSI SCHAEFER to implement a solution to ensure 100% accuracy prescription and order fulfillment. Not only did the retail pharmacy need an error free picking solution, but the company also needed an automated process to perform even during peak volumes with limited labor.

As a long-term partner, SSI SCHAEFER was able to engineer a system that could implement a fully automated solution with track and trace validation to meet the FDA Drug Supply Chain Safety Act and order verification.

The Solution

Intelligent Software Generates Item Master for Product Validation

With a new greenfield distribution center, SSI SCHAEFER was able to create a solution that starts with an inbound teach-in process that creates a master copy of product attributes from the ERP and for new products that have been ordered from manufacturers. Once inventory is received, depalletizing robots break down pallets to send to one of six goods-in stations, which four are code date verification workstations. These stations utilize WAMAS® software to capture SKU number, weight, dimensions, expiration date, lot, and batch number. This information is stored for validation processes later during the picking phase.

"The automated design is the most efficient solution for the prescriptions and narcotics areas with the highest possible automation technology. This solution utilizes labor resources efficiently while ensuring 100% verification."

Christian Eingang
Director of Sales Canada
SSI SCHAEFER

Storage Zones Based on Product Characteristics
Once product information is documented, each product is assigned to a specific storage area. And due to the nature of the pharmaceutical business, there are various zones designed for both fast and slow movers along with high security areas for narcotics. The distribution center was constructed with four aisles of storage that is serviced by an SSI Miniload. There are also four aisles of storage serviced by the SSI Cuby. Two within the main storage zones, one in the shipping area, and one within the narcotics area. Given the volume of business for this national retail pharmacy, SSI SCHAEFER designed five dynamic storage towers that are also connected to an SSI Cuby.

These towers serve as additional storage for slow movers but ensure enough inventory stock when an item is needed.

PRECISION PICKING FOR ERROR-FREE FULFILLMENT

As with any pharmaceutical fulfillment process, the utmost care must be designed into each system. However, when there is zero-error tolerance to ensure patient safety, a fully automated solution must be designed to meet these needs.

With labor in short supply and automation eliminating human prone errors, the new facility was designed with several fail proof picking processes too.

"Based on a long-standing partnership, SSI SCHAEFER collaborated to develop a highly innovative material handling solution that complies with strict quality requirements as well as legal standards. The stringent logistics requirements were optimized and implemented with a combination of proven storage and picking systems with futuristic robotics and data capture technology. This holistic solution meets the requirements regarding a zero-error rate, a high degree of efficiency, as well as a suitable degree of automation considering the omnipresent staff shortage."

Herbert Schorrer, Director Technology and Solutions Healthcare & Cosmetics, SSI SCHAEFER

TRACK AND TRACE CAPABILITIES PROVIDE VALIDATION

Six fast moving A-Frames set the speed for this highly automated fulfillment center. The A-Frames are replenished on demand using RF (radio-frequency) devices. Four A-Frame lines are connected to Product Verifiers, which enable efficient and automatic identification of single products to meet the zero-error requirements. Expiration dates and batch numbers are tracked throughout the system. If items are not able to follow this process due to characteristics, they are transported to two other A-Frame lines for automatic picking. In this case, the verification is carried out semi-automatically after the picking process using Order Verifiers. However, to minimize labor and to provide additional security, seven piece picking robots were incorporated into the solution. These piece picking robots are located within the security and handle the slow to medium moving products.

After retrieving bins from the SSI Cuby, the first portion of the customer order is picked and verified using two-level Advanced Pick Stations. This is followed by the robotics-based picking process. The piece picking robots are equipped with cameras for product verification. Items are taken from two source bins and picked into three target bins, with a performance rate of up to 800 picks per hour and robot. Also, both Advanced Pick Stations are equipped with scanners. They are used for products that cannot be processed by robots and for handling order peaks.

A SMOOTH CONVEYANCE SOLUTION CONTINUES THE PROCESS

Once orders are completed and validated, the bins move along the conveyor. A document drop station prints and inserts the necessary paperwork for each bin. Once the bins have completed the process, the lid is closed automatically as it moves towards the palletizing unit.

Once each bin has been validated, received documentation, and the lid is closed, bins arrive in route sequencing order at the palletizing station. This is where each bin is picked up and placed on a skid with other bins for that order. Once the skid is complete, the system automatically places shrink wrap around the order to protect it. The pallet skids are now ready to ship to their final brick-and-mortar destination.

ORDER VALIDATION AND SYSTEM PROCESS MADE POSSIBLE WITH WAMAS®

With an entire solution built around error free processing, one needs a robust software solution to manage the complexities and to facilitate order validation. WAMAS®, the warehouse management software from SSI SCHAEFER, captured the product information during the goods in process and throughout the verification steps. Once the information was established, a master was created.

The software is able to pull from storage by the best matching lot, batch, expiration date, and the FILO picking principal. Once the product is pulled, the picking validation is matched against the master product database list that was created during the goods-in process. When a product is selected, the transaction is then kept for reporting purposes and to meet the regulatory requirements.

REAL-TIME REPORTING KEEPS PROCESS FLOWS MOVING, WHILE RESIDENCE MAINTENANCE IS THE BEST PRESCRIPTION FOR LONG-TERM USABILTY

WAMAS Lighthouse, a real-time reporting and visualization software module within WAMAS, keeps operation processes running smoothly. Visualization monitors throughout the facility give management and operators real-time updates and set off alerts if bottlenecks or any issues do occur. Key with real-time reporting and status updates, performance indicators are available for executive management. Since 2006, this prominent pharmacy chain has relied on the SSI Schaefer Maintenance Philosophy (SMP), and an all around system service performed by local SSI Resident Maintenance® technicians for maximum system availability. Possible malfunctions or constraints are identified at an early stage and solved immediately by SSI SCHAEFER technicians on site. This kind of predictive service ensures maximum and long-term performance capacity of the system and enables permanent system availability.

FIGURES, DATA, AND FACTS

System Highlights:

Site surface area	200,000 sq. ft./ 18,580 m²
Order-picking principle	A-Frame and robotic piece pick with order validation
Bins per day	235,000 units per day

Scope of supply and services by SSI SCHAEFER

Planning, Implementation and Service	
Design concept	Turn-key preparation of complex error-free picking solution and order validation to meet or exceed FDA DSCSA requirements
Goods-in	
Palletizing/Depalletizing Robot	1
Goods-in Stations	6
Code Date Verification Workstations	4
Storage systems	
Automated Small Parts Warehouse (ASPW)	SSI Miniload, 4aisles, double-deep storage
SSI Cuby	4 aisles, double-deep storage, 85 shuttles,5 connected to SSI Cuby
Dynamic storage towers	
Picking and verification systems	
A-Frames	6 lines, 20 modules per line
Product Verifier	4, directly attached to A-Frames for automated identification of single items
RF Picking	20 terminals
Manual Work Station	1
Order Verifier	2, semi-automated identification for products not meeting certain characteristics for scanning
Piece Picking Robots	7, with integrated scan technology, 800 picks/hour/robot
Advanced Pick Stations: two-level	4, with integrated scan technology
Conveying system	
Pallet conveying system	28 pallets/hour
Carton and bin conveying system	1,200 cartons and bins/hour
System components	
Document Drop Destacking Bin Emptying Lid Cosing	
23,700 Bins	Type ELB 6280
1,600 m² mezzanine	
Software solution	
Logistics software	WAMAS® WCS
Real-time visualization	WAMAS® Lighthouse
Customer Service	
SSI Schäfer Maintenance Philosophy (SMP)	

SIX 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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