

CUSTOM FIT: SOLUTIONS FOR THE APPAREL INDUSTRY

Reinventing apparel logistics for faster delivery of the latest trends—all from an experienced single source provider.



THE APPROPRIATE COLLECTION FOR APPAREL LOGISTICS



Thanks to continuous inventory availability, e-commerce, and fast delivery, the apparel industry has experienced rapid growth in recent years. Trying on clothes at home, easy returns, and low prices due to hard competition have significantly increased requirements for material handling for both manufacturers and retailers.

Especially when dealing with multiple sales channels, the complexity of logistics processes increase within the apparel industry. Customers expect both—low prices and great service.

Challenges and requirements for apparel intralogistics

SSI SCHAEFER has an array of apparel solutions:

- Storage to handle a wide product range
- Fast delivery after receipt of order
- Efficient completion of daily and seasonal peaks
- Optimized return handling
- Efficient execution for smaller or one-off orders
- Minimizing product touches
- Shop friendly delivery
- Accurate IT systems



“We proactively advanced our initial concept and made it even better. The implemented solution increased our productivity by 15%! The slim conveying system occupies 15 to 20% less storage space than similar solutions from other providers. Plus, SSI SCHAEFER implemented the system faster than expected—all within a flagship project.”

Danilo Georg,
managing board spokesman,
Baur Fulfillment Solutions

BAUR



To meet these complex requirements, we developed a modular intralogistics system for the apparel industry. By choosing SSI SCHAEFER, you'll overcome the

intralogistics challenges of today and be in position to scale for tomorrow.

SOLUTIONS

- Overhead conveyor technology with RFID enabled carriers
- Handling of individual items
- Automatic buffering and sequencing
- Innovative storage system
- Automated guided vehicles
- Intelligent conveying system
- Automated and manual picking systems
- WAMAS® and SAP Software solutions

SSI SCHAEFER—BECAUSE QUALITY NEVER GOES OUT OF STYLE

When looking for a logistics solution, choose one that fits smoothly into your individual processes. SSI SCHAEFER works with current processes but offers a complete system approach that easily adapts to new conditions as business grows.

At SSI SCHAEFER, this complete system approach has been the basis of decades of engineering work and numerous clients. With a wide selection of product solutions and services, SSI SCHAEFER provides a holistic approach to your operational needs.

A complete solution from a single-source

All components are manufactured within the SSI SCHAEFER group, from rack systems to fully automated systems, everything is precise. SSI SCHAEFER manufactures products and systems worldwide from 16 production sites using state-of-the-art technology. With more than 50 subsidiaries and over 10,000 employees worldwide, SSI SCHAEFER is a strong and reliable partner.

Our competitive advantage is dedication and commitment

Gerhard Schäfer had a famous quote, **“Take care of the customer.”** Today, SSI SCHAEFER continues this legacy and builds upon this simple principle. Our clients know that SSI SCHAEFER is committed to our customer beyond common market standards.

This includes:

- ✓ Commitment to provide the best solution,
- ✓ Commitment to be there for our customers,
- ✓ Commitment to keep our word at all times.

Therefore, you can expect more than a just a market-approach for your requirements. No matter whether it's our employees' commitment to meet deadlines, the development of new technology for a specific solution, or a full service for your system durability, SSI SCHAEFER is committed to be by your side worldwide. SSI SCHAEFER will be there for you in the future as well. Because we are a family business, our vision and planning efforts are long-term.

Experts for the apparel industry



Changes in consumer behavior lead to an ever increasing individualization of intralogistics solutions, as well as complex requirements regarding technologies and the need for efficient processes. SSI SCHAEFER succeeds in meeting these specific challenges thanks to its specialization within the apparel industry.

Our apparel experts have years of international experience with leading apparel manufacturers and have consulted with some of the largest fashion designers in the industry.

The results are customized solutions for industry-specific challenges. SSI SCHAEFER innovates and implements modular and scalable intralogistics solutions regardless of size. You'll find solutions that perfectly pair with your processes—thanks to SSI SCHAEFER experience.





A MULTIFUNCTIONAL, MODULAR, INTELLIGENT, AND HIGHLY DYNAMIC SHUTTLE WAREHOUSE WITH AUTOMATED BUFFERING AND SEQUENCING

Goods on hangers, flat goods, and other items converging within a single warehouse while supplying multiple sales channels—this scenario prevails much more in the apparel sector. SSI SCHAEFER has developed a modular system meeting these types of requirements for both warehouses and distribution centers. Fully automated and multifunctional distribution center solutions have been successfully implemented for clients worldwide including: beeline GmbH, Stockmann, and many more.



The focus is on the patented 3D-MATRIX Solution® consisting of automated storage modules, which work together as a highly dynamic whole.

The intelligent combination of the system components provides high flexibility and efficiency without interventions and set-up times—for example, seasonal changes in the product line.

Stockmann: 3D-MATRIX Solution® for flat goods

For the Finnish department store chain Stockmann, SSI SCHAEFER developed an overall solution which is designed for performance. The Stockmann solution has a performance range of 55,000 order lines with 180,000 individual items per day. A pin conveyor automatically transports individual items from the goods-in area to one of three static warehouse areas with capacities of more than 350,000 garments. Picking is carried out in batches using radio frequency terminals.

ADVANTAGES FOR STOCKMANN

- Efficiency handling of different order types in one warehouse.
- Reduced costs by automating manual processes.
- A flexible system designed to handle changing quantities and different order types.
- Universal handling of a wide product range. From large items to cosmetics and hanging garments, SSI SCHAEFER engineered one system to handle it all.

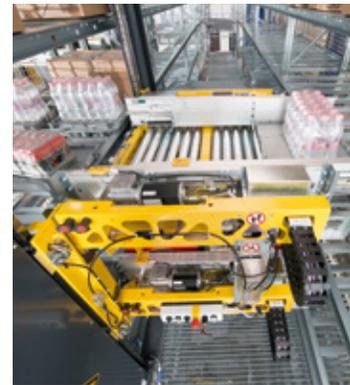
Shuttle systems

We offer custom shuttle systems that optimize distribution centers. SSI SCHAEFER provides fast material transport and short access times.

- Flexible capacity
- High performance
- Guaranteed quality with SSI SCHAEFER OEM production
- Reliable uptime
- A secure investment with a financially and well established company



One-level shuttle Cuby



Multi-level shuttle Navette

"The completely scalable system concept offers us a high degree of flexibility for our variable range of items and leeway for further growth. The SSI SCHAEFER solution has thoroughly impressed us."

Elina Laine,
Logistics Manager Stockmann



"The quality of delivery, speed, and sustainability were reasons to change from a former static inventory-keeping system to an order processing solution with both dynamic and resource-efficient components. With the SSI SCHAEFER concept, we currently process 10 million items per month. And with the new logistics center, we are well prepared for the future—both technically and ecologically."

Ulrich Beckmann,
founder and managing director of beeline



"The collaboration with SSI SCHAEFER was held in great trust in an atmosphere of full cooperation and mutual support."

Albin De Macedo,
logistics manager at Segré,
Longchamp

LONGCHAMP
P A R I S



WEASEL®: transport of bins



WEASEL®: transport of hanging goods



Transport of pallets

EFFICIENT MATERIAL FLOW WITH AUTOMATED GUIDED VEHICLES

Need to know how to achieve an intelligent material flow from a finished goods warehouse to picking without a static conveying system? This question is especially important when talking about small areas or ensuring high flexibility. SSI SCHAEFER developed an answer for the special handling of leather goods manufacturer Longchamp. The Longchamp distribution center is a complete armada centerpiece of automated guided vehicles (AGVs).

The project included a new rack system installation, integration of new technology into the bin conveying system, as well as delivery and start-up of a new vertical conveyor and pallet conveying system.

Four goods to person picking areas are replenished by automated guided vehicles. The AGVs transport pallets

approximately 300 meters from the pallet warehouse to the picking area. Once the AGVs arrive at the destination, they automatically place pallets in a two-level rack storage system.

While fast movers are replenished directly by AGVs, SSI SCHAEFER also installed a pallet conveying system



equipped with a vertical conveyor for slow movers. This too is replenished by AGVs and allows access to higher levels of the picking platforms. Replenishment by AGVs allows the number of short picks to be reduced and ensures pallets containing the required items are quickly transported to the correct position once an order is received.

SSI SCHAEFER AGVs are virtually autonomous and move throughout the warehouse. The AGV fleet controller serves as a communication partner for superordinate systems (MFS or WMS, WAMAS®/SAP) by assigning orders and controlling smooth, high-performance processes. This method allows SSI SCHAEFER to integrate an AGV fleet seamlessly into very large systems, but can easily accommodate existing ones too.

The WEASEL®: nimble but always on track

Whether bins, cartons, trays, or goods on hangers, the conveying vehicle, the WEASEL®, masters almost any task. Gently and safely, the WEASEL delivers goods to each destination point.

- Transports products up to 77 lbs. max.
- Standardized controller software
- Speeds up to 2.2 mph.
- Climbing ability up to a 20% grade.
- Temperature ranges are between 35.6 and 122°F.
- A simple connection to the in-house material flow system.

INNOVATIVE AND PATENTED: FAST AND FRIENDLY DELIVERY FOR SHOPPERS SUPPLIED BY A SINGLE WAREHOUSE

At apparel manufacturer Desigual, items from production tend to arrive over several weeks. For a cost-effective process and to make on-time deliveries, Desigual starts order picking while storing the first shipment from production.

At the same time, continuous repeat orders are carried out for replenishing inventory for brick and mortar storefronts. Desigual characteristics are one of a small delivery volume per order, but requires a minimum cycle-time.

SSI SCHAEFER developed a unique solution: The decoupling of picking and shipping cartons controlled by the in-house logistics software WAMAS®. The vital difference of this patented procedure is the design of the sorter end positions combined with a split tray sorter process. The end positions are designed as channels and installed directly underneath the sorter. Customer cartons are supplied dynamically beneath the channels in the correct sequence for order completion. Thus, Desigual achieves 4,000 orders with only 54 physical positions.

THE ADVANTAGES FOR DESIGUAL

- An **efficient** increase of picking performance to more than 22 million deliveries per year.
- Order picking **flexibility** that starts while storing the first incoming production shipment.
- Maximum **performance** in a small footprint.
- An **innovative** smart solution concept with WAMAS® logistics software.

“The decision to partner with SSI SCHAEFER opened up new and unexpected possibilities. The innovative solution concept was successful. We can now supply 100,000 garments per day, thanks to our automated warehouse. We can stock up to 3,000,000 pieces and process 5,000 orders at the same time. We deliver efficiently around the clock. Plus, we have everything within reach and ensure our customers great service.”

Site Management Desigual

Desigual®



WAMAS®-the software that meets your requirements

WAMAS®

Modern logistics is no longer conceivable without a software-based optimization process and visualization of key indicators. For this reason, SSI SCHAEFER developed WAMAS®, a software that is as modular as our solution. With WAMAS, SSI SCHAEFER combines automation components with an intelligent intralogistics cycle.

The functionalities of WAMAS logistics software are not limited to storage or the administration of goods. WAMAS controls and checks all intralogistics processes—from goods-in to picking and goods-out.

In addition to highly developed logistics processes, WAMAS perfectly meets all requirements for warehouse automation, all comprehensive portfolio functions from warehouse management to transparent monitoring, and checks function status as well as interfaces to different ERP systems.

WAMAS® manages complex processes for both manual or fully automated warehouses regardless of conveyed material (carton, bin, pallet).

DYNAMIC, FLEXIBLE, FAST PICKING SOLUTIONS FOR SMALL ITEMS AND RETURN HANDLING

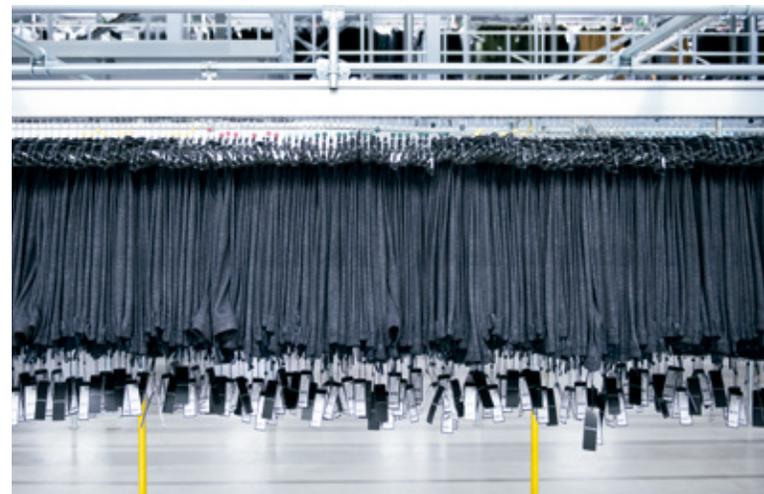
Picking small e-commerce orders can be expensive in traditional distribution systems. The same goes for returns handling. To meet these challenges, SSI SCHAEFER has developed a modular system enabling solution with the same efficiency for both small and large orders.

The focus is on an overhead conveying system with RFID enabled carriers. The design saves space and ensures an excellent performance. Plus, it's the highest process reliability using RFID technology. The system can process all items precisely—buffer and sequence exactly according to requirements. The items are handled individually and not in cartons.

The picked items are automatically sequenced in order for packaging and shipping optimization. Thus, all items required for a particular order can be transported to the end-user customer in great condition. The SSI SCHAEFER modular overhead conveying system is complemented by both SSI Single and SSI Trolley.

“With SSI SCHAEFER, we found exactly what we were looking for: a loyal and trustful partner, a flawless implementation within a short time period, a significant reduction in running costs, and finally an excellent price/performance ratio.”

Site Management LOXXESS



SSI Carrier: The overhead conveying system for a new generation

The SSI Carrier is a modular pocket conveyor used for hanging transport of different items from shoes to garments. The centerpiece is a primary load carrier, an internal roller adapter where different secondary load carriers can be

hung manually or automatically. These can be hangers, pockets, or non-deforming boxes. Accumulating, buffering, distributing, and sorting are all facilitated with one single-load carrier type.

ADVANTAGES OF THE SSI CARRIER

- High performance with up to 10,000 pieces per hour on one conveyor.
- Extremely high sorting accuracy and safety process.
- Optimum packing density defined by loading.
- Permanently controlled handling of load carriers.
- One single drive system with five different functions: conveying, accumulating, distributing, buffering, and sorting.

SSI Trolley

The SSI Trolley is the SSI SCHAEFER modular conveying system that enables both manual, semi-automated, and fully automated overhead conveying processes. The components are extremely durable and can convey a range of items weighing up to 231 lbs. if needed.

- Easy and low-cost installation
- Standardized guides and mounting components
- Fully adjustable to customer requirements
- Possibility of step-by-step automation
- Easy to maintain
- Easy access to spare parts and service

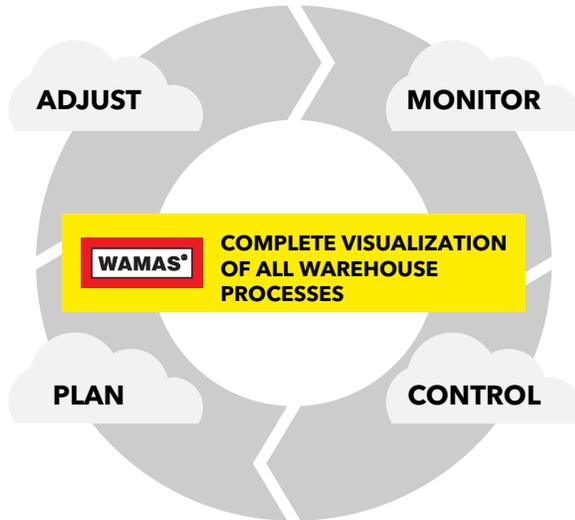
SSI Single

For transporting garments on hangers, SSI SCHAEFER offers a multi-functional standard solution—the SSI Single. Using different conveying systems, SSI SCHAEFER is able to implement virtually any warehouse layout. The system is compatible with other applications too—like packing machines.

- Transports items weighing up to 11 lbs. per hanger
- Transport of single garment hangers or special adapters
- Single item identification or formation of trains
- No empty carrier storage or buffer conveyor required
- High performance system



INTEGRATED PLANNING, CONTROLLING, COMMUNICATION AND INSIGHTS: COMPLETE IT SOLUTIONS FOR YOUR INTRALOGISTICS



For effective intralogistics, it's essential to close the IT link between conventional and modern warehouse technologies. A robust and modular software system that can expand and adapt while performing communications with ERP and other software systems as needed. When choosing intralogistics software look for a complete solution that analyzes material flow in real-time and that can identify issues at an early stage.

Logistics Software WAMAS®

SSI SCHAEFER developed WAMAS® logistics software to enable complex requirements. WAMAS is the link between goods-in, storage, picking, and delivery, as well as all intermediary process stages. Clear visualization and comprehensive control tools for processes, resources, and inventory ensure an efficient warehouse operation. From the first consultation to after the go-live stage, SSI SCHAEFER offers comprehensive worldwide service competence.

Certified SAP Competence

As a certified SAP provider, SSI SCHAEFER supports you during the selection, introduction, and operation of SAP solutions. Depending on your storage concept, SSI SCHAEFER uses either SAP Extended Warehouse management (EWM) or SAP LES/TRM solution. With us, you have an experienced and certified SAP partner with the most up-to-date IT competencies by your side.

WAMAS® combines all intralogistics components into one intelligent system.

RETROFIT

OPTIMIZING PROCESSES AND SAVING COSTS WHILE INCREASING PERFORMANCE THROUGH MODERNIZATION

Just as some vintage fashion pieces become en vogue again by market trends, your system performance can also be updated with new warehouse technologies and software releases. System and picking processes are optimized and costs are reduced. Prior investments become subject to updates and are brought current for market requirements. SSI SCHAEFER will work with you regardless if your software installation is from us or through another provider.

Our IT experts analyze your logistical needs and will consult with you to increase sustainable performance and profitability. Due to our decades of expertise, SSI SCHAEFER advises optimization capabilities and recommends custom solutions.

CALL TODAY FOR A COST-BENEFIT CALCULATION. YOU'LL FIND SSI SCHAEFER IT SOLUTIONS OFFER YOU MORE.

- Optimization for all warehouse processes
- Implementation of new picking methods
- Expansion capabilities
- Expansion /modernization of equipment, electrical engineering, and controls
- Software and hardware upgrading

TAILORED SERVICE AND SUPPORT PROVIDES HELP WHEN YOU NEED IT

Once your system is launched and in operation, SSI SCHAEFER experts will continue to support your system. With an extensive service portfolio, our service team offers solutions for every need.

FOR PREVENTATIVE MAINTENANCE AND THE CONTINUATION OF PRECISION PERFORMANCE.

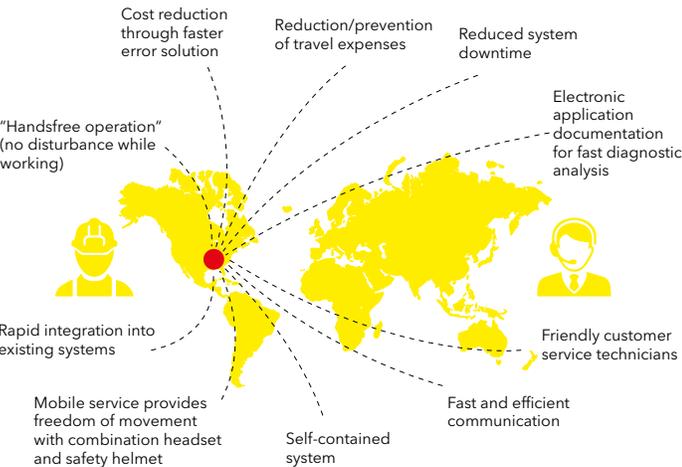
- System monitoring
- Inspection
- Preventive maintenance
- Safety checks

IN CASE THINGS AREN'T GOING AS EXPECTED, WE'RE THERE FOR YOU.

- 24-hour hotline
- Remote diagnosis
- Available on-call technician
- On-site troubleshooting
- Worldwide spare parts service

SSI Resident Maintenance®
 SSI SCHAEFER offers a permanent system service solution complete with on-site personnel management—all for a simple fixed price.

SSI Augmented Support
 The power of real-time mobile video communication that enables live transmission anywhere on earth. Let an SSI SCHAEFER support specialist virtually train your on-site technicians live with video and voice.



Service Portal
 Get easy access to documentation for your complete SSI SCHAEFER system. A Computerized Maintenance Management System (CMMS) with paperless documentation of all activities, working hours, and material use statistics is available for your entire maintenance team. Plus, SSI SCHAEFER offers online ordering for spare parts 24/7.

Training
 Complete on-site training programs. All programs are provided in a certified SSI SCHAEFER test facility.



SIX REASONS WHY YOU SHOULD CHOOSE MCMURRAY STERN:

- **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.