

Custom Fit: Solutions for the Fashion Industry

Maximum logistics expertise and
high readiness for delivery with
system solutions from a single source

ssi-schaefer.com



SSI SCHÄFER

The Appropriate Collection for Fashion Logistics



The traditional differentiation between the sales channels “retail business” and “mail order business” has predominantly merged into one omni-channel model. In addition, the fashion industry has enjoyed rapid growth thanks to continuous stock availability and fast deliveries.

The complexity of the logistic processes increases, especially when dealing with multiple sales channels because customers not only expect low prices, but also the best service – online as well as in the store. It is therefore imperative, that multi-channel shopping experiences, such as shopping online and picking up the items in the store (“click & collect”) function smoothly.

Intralogistics challenges in the fashion industry:

- Efficient operation of single channel and omnichannel distribution
- Fast processing of e-commerce orders (same-day/next-day delivery)
- Pre-sorting of goods for shipment to stores (shop-friendly delivery)
- Permanent availability of goods and a growing product portfolio with frequent collection changes
- Optimized storage and handling of a wide range of products (goods on hangers, flat goods)
- Flexible management of seasonal and daily peaks
- Efficient and fast handling of returns



"SSI SCHAEFER proactively advanced our basic concept according to our spirit. The implemented solution increased our productivity by 15 %! The slim conveying system occupies 15 to 20 % less storage space than similar solutions by other providers. SSI SCHAEFER implemented the system faster than expected. All in all a flagship project".

Danilo Georg

Spokesman of the Managing Board at Baur Fulfillment Solutions

Trying on clothes in front of your mirror, returns at no charge, and low prices due to hard competition have significantly increased the requirements for the internal material flow for producers and retailers.

To meet these challenges, SSI SCHAEFER has developed a modular system of intralogistics solutions for the fashion industry. Innovative products and technologies enable the efficient storage and handling of goods on hangers and flat goods, as well as high efficiency despite

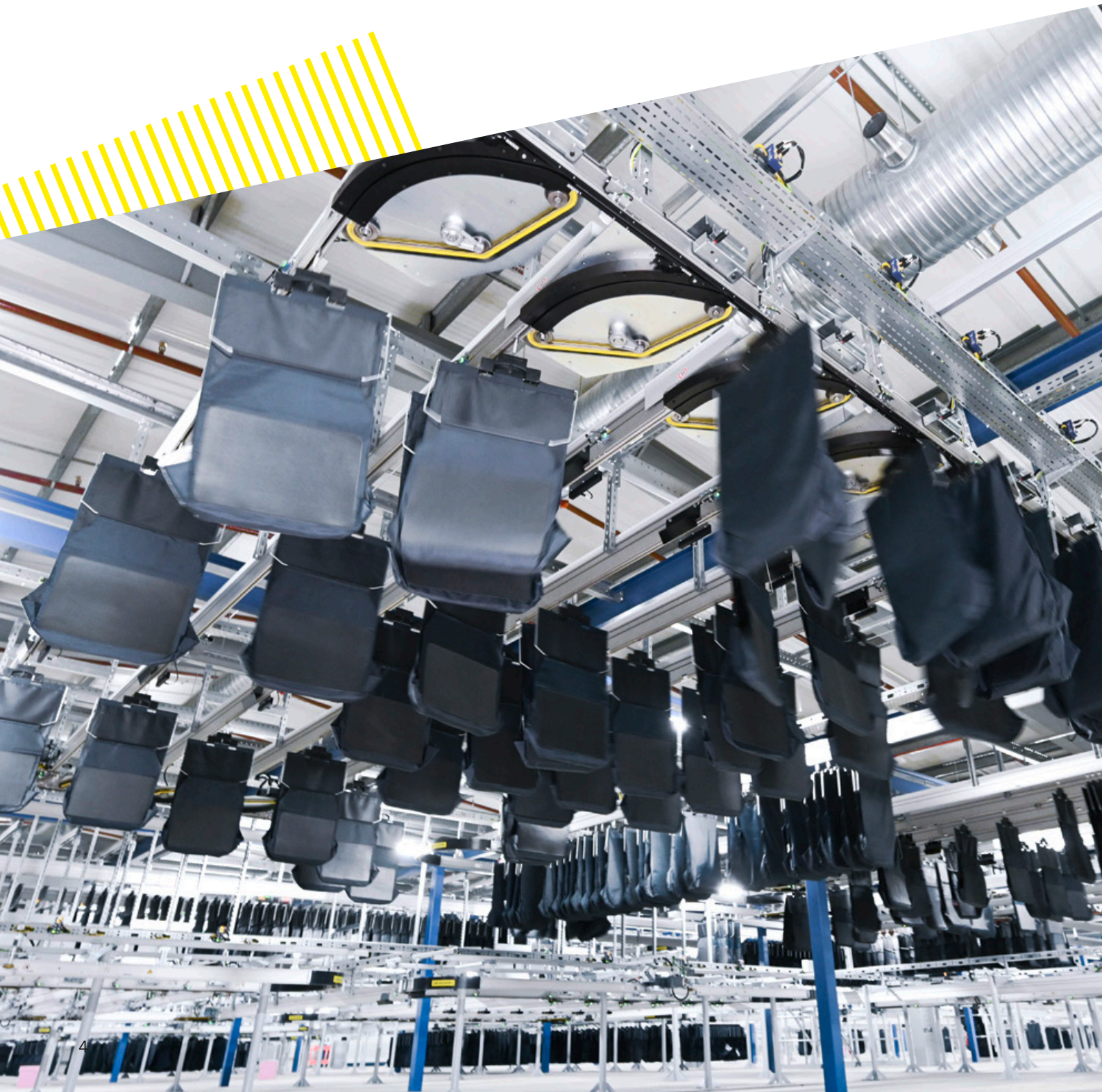
daily and seasonal order fluctuations. Additionally, they provide rapid processing of e-commerce orders and returns as well as optimal preparation of the goods for shipment to the stores (shop-friendly delivery).

Solutions from SSI SCHAEFER

- Overhead conveying technology for transporting a wide variety of items
- SSI Carrier pouch sorter for conveying, sorting, and sequencing flat and hanging goods as well as efficient returns handling
- Conveying technology and automated guided vehicles (AGVs) for internal transport
- Storage systems for small and large load carriers
- Bins and trays
- Manual, semi-automated, and fully automated picking systems for fast order processing
- Ergonomic workstation systems for high picking performance
- Automatic handling systems for efficient processes
- WAMAS and SAP software solutions for manual, semi-automated, or fully automated storage
- KPI- and dashboard tool WAMAS Control Center for full transparency

SSI SCHAEFER – Because Quality Never Goes Out of Fashion

Future-proof logistics solutions need to seamlessly blend in with your individual processes. They must be infinitely variable and able to flexibly adapt to new framework conditions. To achieve this, you need specialists who think in terms of holistic systems.



All-in-one solutions from a single source

Our wide range of products and services forms the basis of industry-specific solutions that we can tailor to your needs. With such a portfolio, our experts can provide bespoke solutions that cover all areas of your internal material flow. Our customers benefit from the fact that we make all of the SSI SCHAEFER Group's components ourselves. Having more than 10,000 employees globally makes us a strong and reliable partner.

At SSI SCHAEFER, holistic thinking has been the key to our success for many decades. As a global general contractor, we implement complete logistics systems. Our team of consultants provide comprehensive system planning and project management services, which are certified by the International Project Management Association (IPMA). This approach enables us to provide turn-key systems with tailored service and maintenance packages. Upon request, we can also plan and build your project with our in-house construction department.

Dedication and commitment

If you know anything about SSI SCHAEFER, you will be aware that we put our customers at the center of everything we do.

This includes the obligation:

- to always provide the optimum solution
- to always be there for our customers
- to always keep our word

You can expect us to be fully dedicated to your concerns. Whether it be the devotion that our employees give to developing new solutions or the all round service we ensure during the life cycle of your systems, we will always be by your side, no matter where you are in the world. As a family company, we always think of the future and plan for the long term.

Specialists for the fashion industry

The changed market behavior of customers leads to an ever increasing individualization of intralogistics solutions, as well as demand for the best technologies and efficient processes. SSI SCHAEFER has succeeded in adapting to meet these specific challenges thanks to its specialization in the fashion industry.

Whether it is a large or small project or an existing or completely new system, we have the industry expertise to work with you on developing and implementing modular and scalable bespoke solutions that adapt to your current and future requirements.

Our specialist fashion team has vast experience working on projects with leading international fashion companies.





Multifunctional, Modular, Intelligent: Highly Dynamic Shuttle Warehouse With Automated Buffering and Sequencing

Goods on hangers, flat goods and other items in a single warehouse from which all sales channels are supplied – a development which is prevailing more and more in the fashion sector. We have developed our modular system which meets all requirements for such automated, multifunctional distribution centers.

Our 3D-MATRIX Solution® is a highly dynamic solution that provides storage, buffering, and sequencing in one system. Direct integration of lifts in the aisles eliminates bottlenecks in the transfer zones and thus the restrictions of traditional system solutions. This simultaneously enables decoupled processes on three axes.

The matrix consists of three key system components: Shuttle vehicles for storage and retrieval on the x-axis, lifts for connecting different vertical storage levels on the

y-axis, and the conveyor system for sequential transport and supply of goods to the picking stations on the z-axis.

The 3D Matrix design consequently enables parallel operation on all three axes, thus increasing productivity and throughput. As a result, each picking station can be served from all storage locations in the shuttle warehouse. Additionally, the narrow pre-zone saves a lot of space, enabling efficient use of the logistics areas.

Stockmann: 3D-MATRIX Solution for flat goods

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

Benefits for Stockmann

- Efficiency: handling of different order types in one warehouse
- Reducing costs through automation of formerly manual processes
- Flexibility: easy handling of the ever-changing quantities of the different order types
- Universal: handling a large product portfolio, from large items to cosmetics and decorative items to hanging garments

Shuttle systems

We offer customized shuttle systems for optimized warehousing with fast material transport and short access times.

- Flexible capacity
- High performance
- Guaranteed quality by our own production
- High solution reliability
- Highest security of investment



Highly standardized single-level shuttle SSI Cuby

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



beeline
group

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

Ulrich Beckmann,

Ulrich Beckmann, Founder and Managing Director at beeline



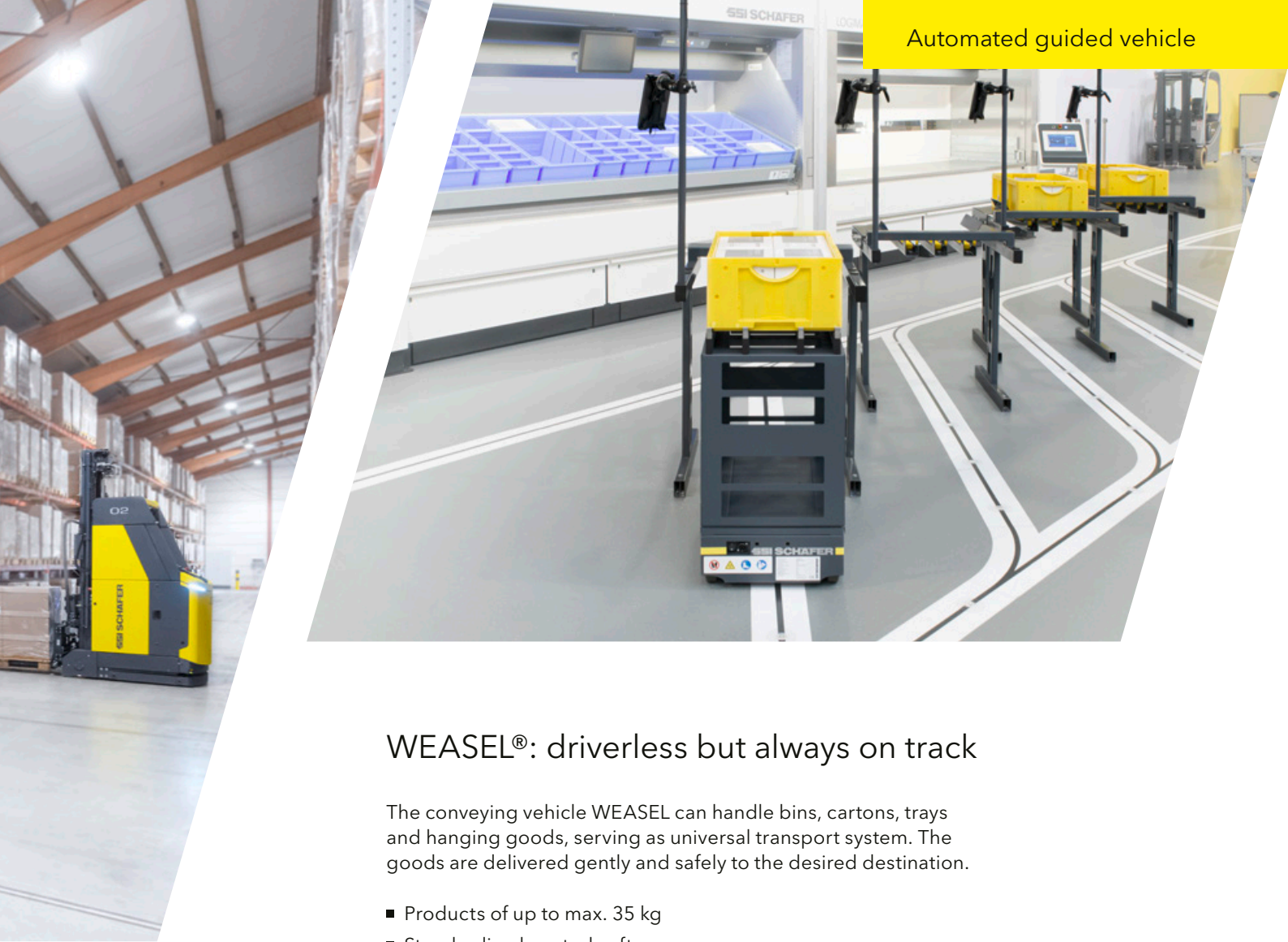
Efficient: Material Flow With Automated Guided Vehicles

How can you guarantee an intelligent material flow from finished goods warehouse to picking without a static conveying system? A question that is especially important when talking about small areas or ensuring highest flexibility. SSI Schaefer developed a special answer for leather goods manufacturer Longchamp. Their centerpiece is an armada of automated guided vehicles (AGVs).

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

Four goods-to-person picking areas are replenished with automated guided vehicles. The AGVs transport pallets over more than 300 m from the pallet warehouse to the picking area. Once the AGVs have arrived at their destination, they automatically place the pallets in a two-level rack storage system.

While the fast movers are replenished directly by the AGVs, SSI SCHAEFER installed a pallet conveying system equipped with a vertical conveyor for the slow movers which is also replenished by AGVs and allows access to the higher levels of the picking platforms.



WEASEL®: driverless but always on track

The conveying vehicle WEASEL can handle bins, cartons, trays and hanging goods, serving as universal transport system. The goods are delivered gently and safely to the desired destination.

- Products of up to max. 35 kg
- Standardized control software
- Speed: up to 1 m/s
- Temperature range: between 2 °C and 50 °C
- Simple connection to the in-house material flow system

Replenishment by AGVs also allows the number of short picks to be reduced and ensures that the pallets containing the required items are quickly transported to the correct position shortly after receiving the order.

Our SSI SCHAEFER fleet controller serves as communication partner for superordinate systems (MFS or WMS, WAMAS/SAP) by assigning orders and controlling smooth, high-performance processes. This way we integrate our fleets seamlessly into your system.

LONGCHAMP

PARIS

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

Albin De Macedo

Logistics Manager at Segré, Longchamp



Dynamic, Flexible, Fast: E-Commerce and Omnichannel System Solutions for Returns Handling

Efficient fulfillment of e-commerce and retail orders in traditional distribution systems can be expensive. The same goes for returns handling. We offer innovative solutions for such challenges that significantly increase efficiency.

The focus is on the innovative SSI Carrier pouch sorter from SSI SCHAEFER, a space-saving and versatile overhead conveying system for parallel processing of different sales channels. By using RFID technology and processing individual items, the system can perfectly handle flexible order structures and combine

small e-commerce orders, large retail orders, and orders for pick & collect for a large variety of articles. The automated system reduces product touches, sorts of customer orders in any desired sequence, and ensures effective returns handling, which makes it particularly well suited for e-commerce.



SSI Carrier: Flexible and modular pouch sorter

The SSI Carrier facilitates conveying, buffering, sorting, and sequencing of flat and hanging goods in one system with a single load carrier type. Due to its modular design, individual solutions can be put together variably and cost-efficiently, thus achieving very high sorting performance. The pouch sorter's special feature is its unique matrix sorting algorithm, which brings items picked in batches from different storage zones in sorted customer orders. These can be swiftly removed and dispatched from the packing stations in the desired order.

The SSI Carrier is also essential for quick returns processing. After a quality check, returned goods that are in high demand are stored directly in the dynamic buffer. Goods are thus immediately returned back into the system and become fully available for new orders and shipment.

Benefits SSI Carrier

- Gentle product transport
- Optimized use of space and high storage density
- High scalability and flexible system expansion
- Minimal product touches and efficient staff deployment
- High sorting accuracy and load and process safety
- Everything from one source, including software and service

boohoo

"It was clear from the rapid growth trajectory of "Pretty Little Thing" that the manual operation in Sheffield did not have the capacity required."

Mike Kosciukiewicz
Head of Supply Chain Development for Boohoo

DSV

"The biggest challenge we had to face was dealing with the exponential e-commerce growth of our customers. The pouch sorter SSI Carrier gave us the necessary capacity to deal with this growth and the massive seasonal order peaks."

Rob Chanona
Managing Director at DSV Solutions, Canada

Innovative and Patented: Shop-Friendly Delivery and Supplying Shops With Collections and Single Items From one Warehouse

At the warehouse of fashion manufacturer Desigual, items arrive from production at different times over a period of several weeks rather than all at the same time. To create a cost-effective process with in time deliveries, Desigual has to start order picking while storing the first items.

At the same time, continuous repeat orders are carried out for replenishing the stocks at the shops. Their characteristics are a small delivery volume per order and the request of minimum cycle time.

SSI SCHAEFER developed a – at first sight – quite unusual solution: the decoupling of picking and shipping cartons, controlled by the in-house logistics software WAMAS. The vital difference of this patented procedure to all existing systems is the design of the sorter end positions combined with a split tray sorter. 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 emptying. Thus, Desigual achieves 4,000 orders with 54 physical end positions.

Benefits for Desigual

- Efficiency: increased picking performance to more than 22 million deliveries per year
- Flexibility: order picking starts while storing the first items
- Performance: maximum performance in a minimum space, quantitatively as well as qualitatively
- Innovation: smart solution concept with logistics software WAMAS

Desigual®

„The decision to go into a partnership with SSI SCHAEFER opened up new, unexpected possibilities. The innovative solution concept was successful. We can 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. We have everything within reach and ensure the same for our customers.“



Software Solutions: The Driving Force for Consistently Synchronized Processes

Automation combined with the right software is the key to optimizing warehouse performance. SSI SCHAEFER is your global partner. We not only supply software and automation, but also have the global expertise to connect it all perfectly.

WAMAS benefits

■ **Stability through standardization**

We offer the highest software standards and seamless adaptation to your warehouse processes thanks to a multitude of configurations.

■ **Seamless vertical integration**

WAMAS can be directly integrated into the customer's existing systems, thus enabling efficient overall logistics control.

■ **Future-proof**

WAMAS grows with your requirements and is fully scalable to meet almost any growth in logistics volume. We protect your software investment through scalability and flexibility.

WAMAS logistics software

Our WAMAS logistics software guarantees intelligent solutions for the challenges of today and tomorrow. WAMAS encompasses around 30 years of expertise in the development and implementation of sustainable and scalable intralogistics solutions.

The logistics software can be seamlessly integrated into ERP systems, creating the perfect prerequisites for efficient control of all the logistics processes - from customer order to the PLC and mobile end devices in manual areas. The software grows with your requirements, supporting your company through any and all expansions.

From the initial consultation to go-live and beyond - with more than 1,000 IT experts, SSI SCHAEFER provides you with comprehensive global intralogistics expertise.

Software for Overhead Conveyors

WAMAS – the booster for the multi-/omnichannel business

A module that was specifically designed for overhead conveyor technology solutions in fashion logistics and integrated into WAMAS, WAMAS Overhead Conveyor, ensures high speeds and proven precision. Its functionality is included in WAMAS' standard configuration and guarantees smooth implementation and fast, accurate order processing.

WAMAS takes both seasonal peaks and high returns rates into account and adapts the material flow to varying demands.

Proven SAP competence

As a system provider, we are your trusted partner for the selection, implementation, ongoing maintenance and further development of SAP logistics solutions. Our broad range of consulting and implementation expertise is reflected in numerous international projects.

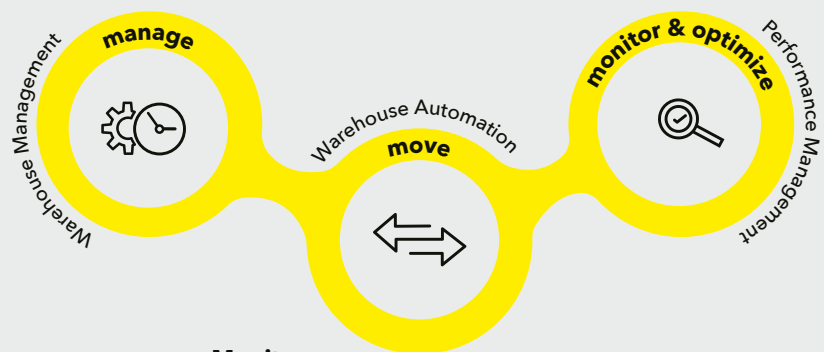
WAMAS® Portfolio

Manage

The state-of-the-art software controls and optimizes manual or highly complex automated processes based on the current daily orders.

Move

Whether forklift transportation, conveyor technology, shuttles or AGVs – WAMAS integrates all components into a high-performance overall system.



Monitor

The central information platform WAMAS Control Center provides insights into warehouse operations in real time and constantly shows potential areas for improvement.

Optimize Processes and Save Costs: More Power Through Modernization

In the same way as some vintage piece of fashion becomes en vogue again thanks to selective improvements, your system performance can also be pushed forward with new warehouse technologies and software releases. Technology updates streamline warehouse and picking processes and reduce costs. This includes also updates to previous investments. It does not matter if you purchased an installation from us or from another provider. We analyze your logistical situation together with you to increase sustainable performance and profitability. With our years of expertise, we advise you on areas for optimization and recommend customized solutions.

After preparing a return on investment analysis, we offer you:

- Optimization of organizational and warehouse processes
- Implementation of new picking methods
- Expansion to new warehouse areas
- Extension/modernization of mechanics, electrical engineering, control
- Software and hardware upgrading

Innovative Service Portfolio for Maximum Availability of all Systems

Once your system has been successfully commissioned, our experts will continue to support you. Our comprehensive service portfolio offers customized solutions for all requirements.

Preventive Services

- Maintenance
- Inspection
- Safety Inspection
- Rack Inspection
- Training and Certification
- System Monitoring
- System Security

Reactive Services

- 24/7 Technical Support
- Call Out Support
- SSI Augmented Support

Life Cycle Management

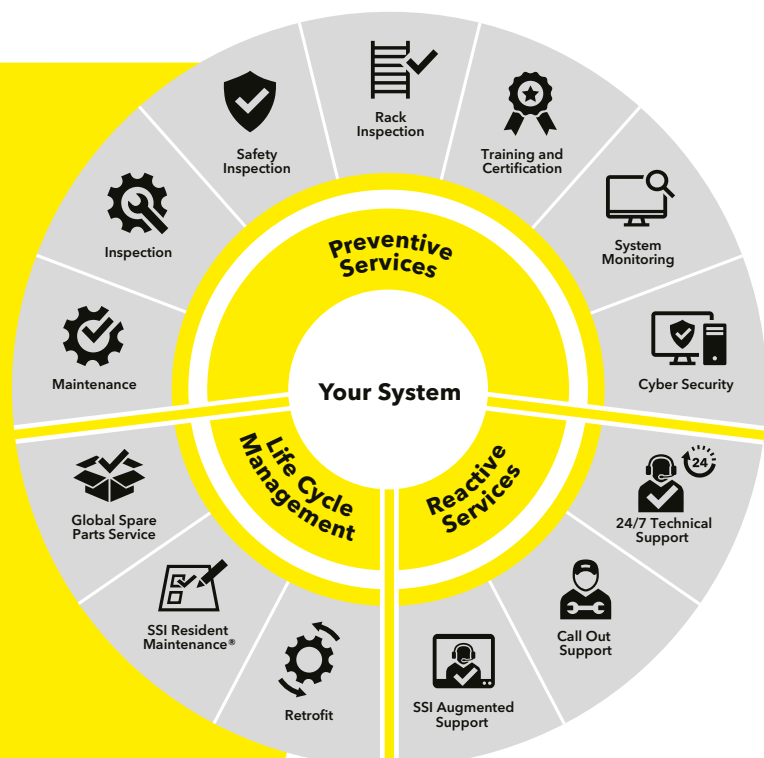
- Retrofit
- SMP
- Global Spare Parts Service

SSI SCHAEFER Maintenance Philosophy (SMP)

With our improved SSI Resident Maintenance® solution, we offer our customers "more than just service".

The SSI SCHAEFER Maintenance Philosophy is based on three core elements:

- Expert employees (SSI Resident Maintenance Team)
- Best-practice processes for technical maintenance and repair work
- Integrated service tools and systems



Six Reasons for Choosing SSI SCHAEFER

■ **Stability**

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 today, tomorrow and in years to come.

■ **Efficiency**

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

■ **Quality**

As a systems specialist and original equipment manufacturer, SSI SCHAEFER provides tailor-made and high-quality solutions from a single source, specifically designed to meet your challenges.

■ **Reliability**

Thanks to our worldwide Customer Service & Support network, SSI SCHAEFER ensures smooth operation of your system, both during and after installation.

■ **Know-how**

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

■ **Internationality**

As a global organization, SSI SCHAEFER has local offices worldwide. With over 70 operative subsidiaries, our team of experts speak your language.

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