INDIVIDUAL SOLUTIONS FROM A SINGLE SOURCE

Unique intralogistics solutions, designed, delivered and supported by a global innovator of materials handling and storage systems.

ssi-schaefer.com







THE COMPANY

Since its inception in 1937, SSI SCHÄFER has been an owner-operated, family company. With more than 70 subsidiaries worldwide, we have become the leading supplier of market specific intralogistic solutions. The wide range of solutions from SSI SCHÄFER consists of simple, manuel and semiautomatic system to realization of complex, fully automated intralogistic projects as general contractor.

SSI SCHÄFER is one of the world's largest total solution providers and components manufacturers of logistics systems, storage and handling solutions and logistics software. Our highly diverse portfolio ranges from plastic containers through to automated high bay warehousing systems, which are customised to client needs. Our complete and integrated solutions are based upon quality products manufactured within the SSI SCHÄFER group and are fully supported by a robust and reliable customer support and maintenance team.

Having developed our own warehouse management and warehouse control systems (WAMAS®), we are at the forefront of automation IT provision and continue to develop and refine our systems within this arena.

SSI SCHÄFER 'S SOLUTION

- Warehouse and distribution centre design
- Pallet racking, shelving and plastic containers
- Automated storage and retrieval systems
- Paperless, semi-automated and automated picking systems
- Handling solutions
- WMS WAMAS®
- Waste management

SSI SCHÄFER NORDIC

The main office for SSI SCHÄFER Nordic is based in Hadsund, Denmark. The Nordic team has grown continuously in the last year and the office in Hadsund is now home for Sales, Solutions Design Engineering Group, Project Management, Customer Service and Support, IT department and Administrative Support.

Among our competencies in Nordic we have design engineers, who works with the customer to create individual warehouse solutions that help maximise our client's operational efficiency. An experienced project realization team is always on site together with the SSI SCHÄFER 's assembly group to allow projects to seamlessly flow throughout the installation process and ensure that the installation of all systems is completed on time, and in line with recognised Environmental and Health and Safety standards.

Our local team of IT specialists are responsible for providing full IT support of projects and service - from PLC programming to integration of WMS (WAMAS). The local customer and service support teams can take care of all logistics needs of the customer, from 24/7 technical support to everyday enquiries.

Having all departments and competencies under one local roof enables SSI SCHÄFER to quickly react and implement changes from the client. With the local presence, full inhouse competences, rich diversity of skills and 80 years industry experience we can provide systems and products specifically to meet the needs of all our customers - from manual, semi- and fully-automated systems, to logistics software.

Do you want to know more about our projects in Nordic? You will find the latest news from SSI SCHÄFER Nordic together with detailed product information, brochures and catalogues, the company magazine update and information on recent reference projects, on our website:

ssi-schaefer.com



HOW OUR LOCAL PRESENCE BENEFITS YOU

- Ability to quickly react and implement changes from the customer
- Knowledge of local market trends, law and regulations
- Communication in local language
- 24/7 technical support to everyday enquiries



PLASTIC CONTAINERS

Specialists for plastic containers, providing variety without limitations.

The extensive range of SSI SCHÄFER storage, order picking and transport containers started with the invention of the revolutionary open front container in 1953 and now includes more than 2000 different types, models and sizes. All of our developments draw on experience gained from innumerable practical applications and usage under genuine operational conditions. This offers the most robust form of testing and is better than any simultated trials, ensuring that we consistently offer our customers products of exceptional quality.

SSI SCHÄFER containers are designed in such a way that they can be easily integrated into all shelving systems. The complementary sizes enable them to be used in any combination within shelf units, independent of the application. From sturdy stackable boxes to container concepts for use with static storage, miniload and shuttle systems, we can provide you with a tailored solution for your business operation.

Regardless of whether the installation is high-bay, multitier or fully automated small parts storage, SSI SCHÄFER containers provide the perfect storage solution.

SSI SCHÄFER PLASTICS SOLUTIONS

- Container systems
- Returnable shipping containers
- Small parts storage
- Customised inserts
- Engineered packaging
- Open front containers
- Stackable containers
- Nested containers

Within the SSI SCHÄFER portfolio you will find the correct container type for your needs, covering electrical parts, automotive accessories, food, books, pharamaceuticals and a host of miscellaneous small products.









Static Shelving

SSI SCHÄFER's static racks efficiently handle your storage requirements for boxes, containers, cartons, or clothing. Enjoy the benefits of easy and rapid assembly, future scalability together with comprehensive expert advice and support.

Saving space and time are the key criteria for effective storage. Whether single or multi-level facilities, SSI SCHÄFER offers you sophisticated, flexible static shelving systems that guarantee the highest quality solutions for a diverse range of uses. The two rack systems can handle almost any logistics challenge: The shelves in the racks can be adjusted in 53 mm steps, improving ergonomics.

There are a diverse range of accessories for the static shelving. This includes diverse drawers, boxes, partitions as well as side and rear walls.



MODULAR SHELVING SYSTEMS FOR EVERY APPLICATION

Optimising time and space is the key to efficient store management. SSI SCHÄFER provides complete, flexible single or multi-tier modular shelving systems of the highest quality for diverse applications.

Rapid assembly, comprehensive technical advice and free project drawings form the basis of a price/performance ratio which speaks for itself. The evidence: thousands of successful storage solutions operating throughout the world.

Flexible modular shelving systems, either static or mobile, are quick and easy to assemble and form the basis of cost effective and efficient storage solutions.

Even with the use of electronic media, all organisations still need to store both documents and materials they sell or use. A broad range of shelving can be used to store anything from files, archives and small parts through to bulky items. Our modular shelving systems can be expanded to single and multiple platforms, even after installation. They are robust and future-proof.



Mobile Shelving ELX

For increased space utilisation, shelves can be mounted on mobile bases driven by fully geared hand cranks, allowing loads to be moved with minimal effort by the user. In heavier applications or where there is a user preference, bases can be electrically driven.

The mobile bases can be mounted in different ways, including traditional track-mounted systems on the floor with an infill floor for access or a trackless system which removes the need for many tracks and an infill.

Mobile shelving has a diverse range of applications from document archiving, through to small parts storage and pharmaceuticals.

STORAGE FOR TIRES

Fixed tire storage - 1- or 2-tire depth

In a fixed tire rack for storing wheels in 1-tire depth, four wheels are stored next to each other on a shelf that is made for the depth of one tire. For a more efficient solution, you can choose a tire rack that is 2-tires deep, where tires are stored in pairs of two behind each other on a shelf that is made for the depth of two tires.





Dynamic tire racks - 4-tire depth depth

In a dynamic tire rack an entire set of tires is placed in one tire channel, where the 4 tires of the set are stored behind each other. Through the combination of rolling technology and a standard solution, this solution saves space and makes it possible to pick the tires in a very ergonomic way: when the front tire is pulled out of the rack, the tire behind it will automatically roll to the front.



Mobile tire racking is an efficient and space saving solution. This solution only requires that one aisle is open at a time. The tire racks stand on mobile bases. Through this system you can open and access certain aisles by moving the bases. A solution with mobile tire racs can increase your capacity up to 85 % for single-level installations and more than 100 % for mezzanines.





TIRE STORAGE WITH THE EMX MOBILE RACK

SSI SCHÄFER mobile racks for wheels and tires comprise typical tire or cantilever racking that is fitted to carriages and moved in parallel with the aid of a motorised drive. The rack travels on rails and only the required aisle is opened.



KEY ADVANTAGES OF EMX MOBILE RACK

- Storage capacity to almost twice the height as a static storage solution with the same area
- All tire sizes up to a diameter of 800 mm can be stored
- Carriage loads up to 50 t, carriage length up to 50 m
- Modular design options
- Diverse range of combinations
- Storage of wheels with spikes is possible
- Reduced operating and real estate costs thanks to the system's outstanding space utilization





PALLET RACKING

Modular systems, designed to maximise storage capacity.

The latest pallet racking systems from SSI SCHÄFER can be customised to meet your needs and are designed to be compatible with Euro and conventional pallet dimensions. Using flat pallets, mesh box-pallets or other loading units, pallet racking for single and multi-location storage systems permit considerable flexibility for rapid goods handling.

Adjustable Pallet Racking (APR) is in universal use in all sectors across the globe.

APR systems can be configured to maximise storage capacity in a number of different ways. Aisle widths can be varied from wide through narrow, to very narrow aisle and storage location depth can be increased to include the integration of rollers as pallet live storage. A dense storage medium can also be achieved through the provision of drive-in racking systems, which are the ideal storage solution if very large quantities of the same product are being stored.

SSI SCHÄFER works closely together with its clients during the design phase to ensure the racking design is compatible with the building requirements and optimises full utilisation of the space available.

SSI SCHÄFER offers a SEMA approved rack inspection and repair service for its products, with most spares being available from stock, which ensures limited operational downtime for its customers.



BENEFITS OF PALLET RACKING

- Solid and robust with a frame loading capacity of up to 30 tonnes and a transverse loading capacity of up to 4.5 tonnes as standard
- Easy assembly with few components
- Single or double-deep storage is possible
- Multi-storey applications are possible (multi-floor warehouse)
- Diverse colours and frame finishes
- Optional rack safety training
- Upon request, officially certified rack inspectors can carry out mandatory safety inspections



ORBITER CHANNEL STORAGE SHUTTLE SYSTEM

High density storage with channels in excess of 20 pallets in depth can be provided using the SSI SCHÄFER Orbiter System.

Designed to meet all European Safety Standards, the Orbiter system increases capacity more than traditional drive-in storage systems, using an electrical driven shuttle which runs on rails underneath the pallets. This solutions offers high density pallet storage in a safe environment and it can be operated in either FILO (First In Last Out) or FIFO (First In First Out) modes. Using handheld Radio Frequency-controlled orbiters provides a far more efficient and cost-effective solution over other channel storage systems.

SYSTEM FEATURES INCLUDE:

- "State of the Art" operative protection and safety
- High density, low SKU depth storage
- High-speed storage and retrieval
- Innovative power supply and docking station
- Suitable for cold store environments

Orbiter Channel Storage

This leading system provides safe, fast and intelligent controllable shuttle system technology for channels storing pallets up to 40 deep. Providing a dense storage medium, the system allows rapid storage and retrieval and can be operated on a first-in-last-out or first-in-first-out basis.

Automated Orbiter Channel Storage

The integration of a pallet crane into the Orbiter deep channel system brings the added dimensions of increased speed and efficiency to the storage and retrieval process. Reducing the number of fork lift drivers makes this system ideal for dense, high throughput operations and cold store environments.

HIGH DENSITY MOBILE RACKING

Mobile Racking Systems

To address the ever-pressing challenge of optimising your space, SSI SCHÄFER has developed a range of mobile racking, which can effectively provide up to 85% better space utilisation.

With a mobile system there is 100% selectivity and immediate access to all pallet positions, while cost effectiveness is maximised particularly for cold stores but also for ambient warehouses.

Mobile systems provide a safe working environment with built-in optical and acoustic warnings and they are available with a host of options and features. These include fully automated selectivity and use with automated guided vehicles (AGVs), remote control using radio frequency, access lighting control and an interface to your Warehouse Management System.





SYSTEM FEATURES INCLUDE:

- Maximises space utilisation with up to 85% increase in capacity
- 60% decrease in building volume for new buildings
- Allows dense storage for cantilever systems
- Full warehouse control system
- Optional use with fully automated guided vehicles



PAPERLESS PICKING SYSTEMS

Pick by Light systems

The SSI SCHÄFER Pick by Light (PBL) systems are semiautomated, paperless picking systems, which can be easily integrated with existing or future picking processes and strategies. Simple in operation, they offer flexible, real-time sales order and inventory management as well as significantly increasing both picking speed and accuracy over and above paper-based systems.

They are ideal for use with shelving and carton live storage and they can also be used with pallet racking. All of these storage media can be retro-fitted with PBL to improve the efficiency of existing operations.

The PBL software can be tailored to meet specific operational requirements and can be intergrated with an existing Warehouse Management System.

SSI SCHÄFER has also developed a unique and simple PBL system designed to be installed and configured by customers. E-pick is a low cost, entry level solution which can increase the performance of your warehouse output by up to 30% and can deliver a tenfold reduction in picking error rate. It can be installed as a standalone system or interfaced with existing warehouse management or commercial software.





As an alternative to PBL systems SSI SCHÄFER is also able to offer voice-guided picking as an integrated part of a wider materials handling solution.

Pick by Voice

Pick by Voice is a picking solution that enables your employees to control the picking process using spoken commands. Verbal feedback confirms the correct picking and enables the picked quantity to be corrected, if necessary. As a result, employees only need to use their hands for the picking itself. This enhances both the accuracy and the speed of the picking process.

Radio Frequency (RF) systems

RF-based picking systems work well in warehouses with considerable product variety. Fast and accurate, hand-held RF terminals provide clear and simple instructions to operators while allowing real-time stock system updates. In addition to picking, applications for wider use also include data acquisition at goods receipt, inventory checking/stocktaking and goods despatch load control. The terminals can also be mounted on trolleys and on fork lift trucks.



LOGIMAT®

Your storage and picking solution in one.

SSI SCHÄFER's LOGIMAT® is a vertical storage lift, which utilises the goods-to-person principle and sets standards in performance and ergonomic operating comfort.

Making the most economic use of building height and occupying only a small footprint, LOGIMAT®, our automated vertical storage and order picking system, is the ideal space-saving solution for storing and picking a high volume of small parts. It can be installed and used as a standalone unit or integrated as a component of a broader picking solution within your distribution centre.

The system is modular and therefore can be varied in height to fit into almost any warehouse environment. It works on the 'goods-to-man' principle, delivering trays of required product to the picking operators, which considerably reduces walk time and allows operators to increase their picking productivity and performance.

Items are stored in trays, which can be compartmentalised to accommodate a wide range of different product types. A choice of control options ensures maximum flexibility and versatility whatever the application.

KEY ADVANTAGES OF THE LOGIMAT®

- Unlike a belt or chain, the LOGIMAT's rack and pinion drive will not stretch, ensuring the system is stable and reliable, which gives higher positioning accuracy
- The system uses standard components, which means that universal parts such as SICK Sensors or B&R PLC are readily available
- Through the use of SSI SCHÄFER's LMB boxes and dividers, the LogiMat increases shelf storage capacity and flexibility for different SKUs
- Reduced walking
- Reduce picking time
- Up to 90% space saving

CONVEYING AND TRANSPORTING

SSI SCHÄFER offers a broad spectrum of modular transport solutions capable of handling the most diverse range of commercial goods flows with maximum efficiency and economy.

Carton & tote conveyor

Conveyors form the arterial system which links all areas of the distribution centre operation. High throughput and diversion rates (up to 6,000 items/hour) for cartons and totes contribute significantly to efficient order processing. All conveyors are directly belt-driven (not lineshaft) and take the form of roller, powered roller, belt or recycled carton conveyor.

Pallet conveyor

Heavy duty pallet conveyor and integrated system components, such as shuttle cars, vertical transfer units, turntables and chain transfers, can be used for general pallet transport throughout the warehouse and distribution centre. They are also an integral part of automated pallet storage and retrieval systems.

SSI Carrier

The SSI Carrier is a modularly designed pouch conveyor used for hanging transport of different items like shoes, electrical devices, toys, household appliances, cosmetics and garments. One of the most unique features of our SSI Carrier system is its flexibility. One load carrier enables accumulation, buffering, distributing, and sorting of goods.





AGV WEASEL®

The WEASEL® auto-guided transport vehicle that follows an optical guiding line, guarantees the safe transport of containers, cartons, and even hanging goods up to 35 kg. The transport vehicles can be equipped for manual, semi-automated, or fully automated operation, depending on the requirements. The WEASEL can be connected to existing conveying systems using automated transfer units. This allows the system to bridge gaps, for example between picking stations and existing conveying systems.





AUTOMATED PICKING SYSTEMS

SSI SCHÄFER 's automated picking systems are designed to handle high volume, high throughput and complex order structures within the shortest possible time.

From straightforward, conveyor-fed zone picking to 100% goods-to-man based solutions, the fundamental system deliverables are reduction or elimination of operator walk time. Picking time is therefore reduced and higher levels of accuracy and order integrity are guaranteed.

To achieve maximum efficiency in this area, SSI SCHÄFER has combined its key technology products of high density automated storage and retrieval with innovative, flexible conveyor systems and ergonomic workstation design. This combination of products has resulted in operator pick rates of up to 1000 lines per hour. Beyond this, our robotic picking system, Robopick, can achieve in excess of 2000 picks per hour.

BENEFITS AT A GLANCE

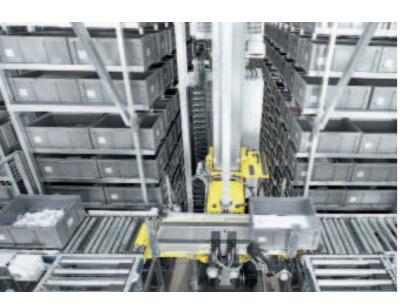
- High productivity, even at peak times
- Increased efficiency due to elimination of time-consuming manual picking activities
- Consistent high quality and reliability, even under maximum loads
- Efficient space usage due to high product density
- Easy maintenance as a result of flexible product channels
- Easy integration into existing systems
- Modular system, which is ideal for expansion



AUTOMATED STORAGE AND RETRIEVAL SYSTEMS

Pallet cranes, miniload cranes, shuttles and carousel-based technology form the basis of automated storage and retrieval systems, which are designed to optimise vertical space utilisation and time.

High-bay pallet racking systems range from large-volume reserve stores to highly dynamic despatch buffers. These can be installed free-standing in existing distribution centres or by using a silo design where the racking structure includes walls and a roof (rack clad). Both versions are supplied by SSI SCHÄFER using our own steel and plant construction.



Miniload Cranes

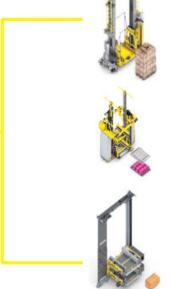
The SSI SCHÄFER Miniload Crane (SMC) provides a flexible system for the buffering or storage of totes, cartons and trays and makes efficient use of vertical space while occupying a relatively small footprint.

A wide range of solutions can be designed to integrate the SMC as part of either manual or automated systems, which require high volume or dense storage to back up both goods-to-person and manual picking operations.

The SMC is also ideal for secure storage of sensitive or valuable goods and it can also be used as a shipping buffer for packed goods prior to despatch. It operates at a travel speed of 5 metres per second and at heights between 6 metres and 24 metres.

OUR SHUTTLE SYSTEM PORTFOLIO

A comprehensive shuttle portfolio for all storage requirements - from large load carriers to pallet layers and trays to bins and cartons.



SCHÄFER LIFT & RUN (SLR)

Multi-level shuttle system Storage system for pallets

SCHÄFER TRAY SYSTEM (STS)

Multi-level shuttle system Storage system for pallet layers



CUBY

Multi-level shuttle system Storage system for small loading units Single or double-deep storage Single or double-deep load handling device

Multi-level shuttle system Storage system for small loading units Double-deep storage Single-deep load handling device



dynamic automated miniload adaptable storage location sizes transport units of up to 50 kg.

SSI FLEXI SHUTTLE

Flexible single-level shuttle system Small load carriers

Horizontal Carousels

the high-performance solution for maximum storage density

and is the ideal solution for fully automated storage of containers

and cartons. The shuttles reliably

The scalable single-level shuttle designed for use in highly

systems with dynamically

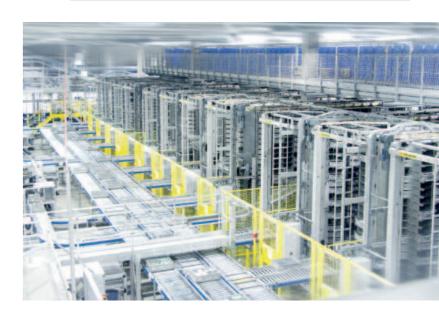
to store a wide variety of

move containers and cartons

weighing up to 35kg.

The SSI SCHÄFER Carousel System is a combined storage and picking system. The totes are retrieved from the carousel system by fully automated storage and retrieval load handling units and passed on to the picking circuit (goods-to-person system). Tote storage and retreival is carried out as a double cycle process, achieving up to 250 double cycles per hour.

The system is modular and compact and can also be used as a shipping despatch buffer.





SOFTWARE SYSTEMS

Intelligent IT solutions designed to resolve your current and future intralogistics challenges.

WAMAS® warehouse management and control systems

WAMAS® is the software with the ability to run your entire logistics operation. It combines all your intralogistics components into one intelligent system. The software manages and controls all intralogistics processes. This encompasses efficient and flexible order processing, goods movement, and resource optimisation, along with the provision and analysis of logistics performance data.

Software solutions from SSI SCHÄFER are designed to simplify automation. They are fully compatible with SSI SCHÄFER components for conveyor technology and shelving. The diverse range of interfaces enables you to effortlessly combine the system with third party components. Use software specifically developed for controlling the functions of high-performance logistics systems to improve your throughput, reduce your costs and safeguard the stability of your installation.

WAMAS® GO! is the ideal solution for mid-sized,

WAMAS® GO! _____

manual storage systems and is the perfect entry-level solution for warehouse management. With integrated standard processes, WAMAS® GO! is perfect for optimising warehouse processes such as incoming goods, storage, transport, picking and outgoing goods. It is the foundation for manual warehouses.

KPIs and Dashboards

The WAMAS® Lighthouse Logistics cockpit from SSI SCHÄFER combines classic visualisation capabilities with a display of logistics performance indicators. Using WAMAS® Lighthouse you can view and analyse the heartbeat of your system, allowing you to make effective decisions.

The central information platform not only visualises your system but also the material flow itself. It also provides both key performance indicators and an extensive range of monitoring options. This "single point of information" unites the technical and logistics perspective with operative data in a single dashboard designed for a variety of different user groups.

BENEFITS OF WAMAS

- Modular system
- Seamless integration with SSI SCHÄFER systems and third party software
- Open interfaces for easy communication with your ERP system

WAMAS



Enterprise Solutions

The Enterprise Solution division of SSI SCHÄFER provides and maintains logistics management tools for warehousing transport and enterprise resource management. In other words, the focus is on the integrated and sustainable fulfilment of your customers' requests.

Enterprise solutions from SSI SCHÄFER is the development of the entire supply chain operation, encompassing end to end logistics processes and sales channels. This includes cross-channel planning, scheduling and management of logistics as part of a flexible warehouse management system.

• Enable clearer and more efficient decision-making

HOW IT SOLUTIONS CAN HELP

• Reduce capital costs

• Increase throughput

• Reduce unit costs

CUSTOMER SERVICE & SUPPORT

SSI SCHÄFER is committed to providing the best solutions and services to our customers. We can take care of all your logistics needs, from 24/7 technical support through to everyday enquiries.

At SSI SCHÄFER, our variety of service and maintenance plans are designed to create high availability, safety and stability for our customers.

All services offered are combined in a service agreement, which provides professional follow-up maintenance of your plant, ensuring that potential downtime is reduced to a minimum and that your operation runs smoothly.



SERVICES AT A GLANCE

- Technical support 24/7
- System monitoring
- Inspection
- Preventative maintenance
- Safety inspections
- Spare parts service
- Repairs
- Retrofits/plant modernisation
- Resident maintenance
- Consulting and training





SSI SCHÄFER RESIDENT MAINTENANCE

Protect your investment with our complete system service.

Resident Maintenance® is our complete systems maintenance service. Local SSI Resident Maintenance® technicians provide full service and support assistance to give you peace of mind and enable you to significantly reduce your company's own workload.

We organise and undertake ongoing and sustainable system servicing. Our technicians have both an in-depth knowledge of SSI SCHÄFER systems and the expertise to quickly understand your on-site processes. Through individual selected key performance indicators the resident maintenance team diagnostics errors and continuously improves the plant. The key performance indicators are also used for a weekly continuous improvement program. This enables the team to identify possible problems ahead of time, use the resources optimally and rapidly deal with any upcoming issues. Utilizing state-of-the-art planning software, the agreed service work is carried out in co-ordination with your operating hours. As a result, service work never disrupts your normal operations.

BENEFITS AT A GLANCE

- Continuous optimisation of your systems
- Maximum storage capacity utilisation
- Maintenance of the entire system around the clock, if necessary
- Comprehensive service plans schedule routine inspections for all essential system components
- Preventative and predictive maintenance of all system components
- Early detection of worn parts and preventative replacement
- Use of state-of-the-art maintenance planning tools to carry out maintenance in dynamic cycles



SIX REASONS FOR CHOOSING SSI SCHÄFER:

Stability

As a financially independent family business, SSI SCHÄFER 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 SCHÄFER 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 SCHÄFER provides tailor-made and high-quality solutions from a single source, specifically designed to meet your challenges.

Reliability

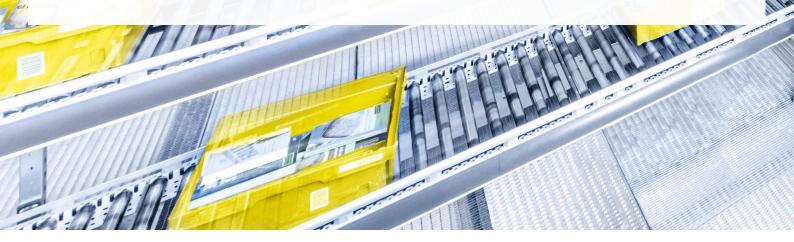
Thanks to our worldwide Customer Service & Support network, SSI SCHÄFER ensures smooth operation of your system, both during and after installation.

Know-how

SSI SCHÄFER 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 SCHÄFER has local offices worldwide. With over 70 operative subsidiaries, our team of experts speak your language.



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