

EXPERTISE FOR EVERY SECTOR

The expertise of SSI SCHAEFER: specialist know-how and many years of experience in producing customized solutions.

ssi-schaefer.com





SSI SCHAEFER – YOUR STRONG LOGISTICS PARTNER

Future-proof logistics solutions should integrate seamlessly into your individual processes, be modular and upgradeable, and adapt flexibly to new conditions. For this, you need specialists who think in terms of systems rather than individual services.

Our wide range of products and solutions form the basis for specific solutions that we precisely tailor to your requirements. All components are manufactured in-house by the SSI SCHAEFER Group, for which it is our customers who reap the rewards. With more than 70 subsidiaries around the globe and over 10,500 employees, we are a strong and reliable partner.

Complete solutions from a single source

At SSI SCHAEFER, thinking about the bigger picture has been the foundation of our success for many decades. As a general contractor operating at a global level, we implement complete logistic systems, from comprehensive system planning and consultancy, through IPMA-certified project management to a turn-key system with customized service and maintenance packages. If required, our internal construction department will also manage the planning and construction for your project.

Commitment and duty of care

Once you have experienced working with SSI SCHAEFER, you will know that the customer and their solution are at the center of what we do. We feel a duty of care towards our customers that goes way beyond standard customer service.

This means:

- ✓ A duty always to supply the very best solution
- ✓ A duty always to be on hand for the customer
- ✓ A duty always to stick to our word

You can therefore expect absolute commitment to your wishes and requirements on our part. Whether it's having staff on standby, developing new technological solutions or an all-round service for the entire service life of your system. We are at your side wherever you are in the world – not just today, but tomorrow and beyond.

A SOLUTION FOR EVERY INDUSTRY

Same-day delivery and shop-friendly delivery, e-commerce, omni-channelling, efficient production line provisioning – the increased requirements on modern intralogistics can only be tackled with efficient processes, an individually tailored degree of automation as well as specific industry know-how.

Intelligent, interconnected intralogistics with high-performance information technology play a key role in the future viability of your company. Also of critical importance is the industry-specific experience of your intralogistics partner. Our specialists work on this basis to analyze your intralogistics processes and then automate, optimize your processes using our software solutions.

While the challenges for internal material flows may be identical across sectors, the solution strategies will vary widely and will come down to specifics.

For this reason, SSI SCHAEFER has specialized in six market sectors, in which we bring together specific expertise:



Food Retail

Manual, semi-automatic and fully automatic storage solutions for customers who store and distribute foodstuffs. Delivering to wholesalers, businesses or via e-commerce channels. Warehouses usually have different cold zones.



Food & Beverage

Storage and picking solutions for drinks, foodstuffs/confectionery, frozen foods, dairy products.



Retail & Wholesale

Solutions for companies whose business is the temporary storage and resale of mainly non-food products to retailers or end customers. Depending on the sub-market sector in question, the full range of SSI SCHAEFER products may be deployed.



Healthcare & Cosmetics

Warehouse solutions for the healthcare and cosmetics industry. Delivering primarily to pharmacies, cosmetics companies and e-commerce customers.



Fashion

All customers who trade in or produce fashion articles. Goods may be transported and stored flat, hanging or packed.



Industry

Automated warehouse and transport solutions in the industrial sector. Target customers are manufacturers in the fields of machine, plant, and automotive engineering. Solutions extend from warehouse logistics in a production environment and spare parts logistics to the use of robots and automated guided vehicles.

Experienced teams with comprehensive industry knowledge speak the language of your industry; they understand the challenges and use this know-how to develop customized solutions. As a result, you can be sure you are benefiting from the very latest intralogistics and application know-how for your project. The solution we deliver will be targeted precisely at increasing your productivity and efficiency.



SOLUTIONS TO SUIT YOUR TASTE

The food retail trade comes up with some demanding requirements for intralogistics specialists. Technical developments are advancing all the time, with new challenges for large chains from the rapidly growing online grocery trade. SSI SCHAEFER provides flexible, scalable, modular solutions that have proven themselves time and again in practice.

The food retail trade has been subject to evolutionary development for some time now, with a key focus on continuous optimization of logistics networks. SSI SCHAEFER set the benchmark for manual, semi-automated and fully automated intralogistics solutions for the restocking of branches at early stage. The growth of the online grocery trade brings new

logistics challenges for food retailers. SSI SCHAEFER is able to provide scalable solutions here too, which enable both established retail chains and aspiring start-ups to efficiently serve this new market – from incoming goods and on to the customer's front door.

Challenges for intralogistics

Chain stores:

- The "perfect" pallet – store-friendly, volume-optimized or maximum stability, depending on the transport route requirements and branch requirements
- Efficient warehousing and picking from a large assortment, distributed across different temperature zones
- A multiplicity of different packaging units
- Reliable tracking of best before date and batches
- Efficient handling of large volume flows

e-Grocery:

- Efficient and ergonomic picking of numerous small jobs
- Short order lead times
- Short delivery time slots
- Intense outbound delivery peaks
- Scheduling for an efficient "last mile"
- High degree of flexibility and scalability to operate in a rapidly growing business area

SOLUTIONS FROM SSI SCHAEFER

- Individually tailored, modular warehouse, picking and transport systems, from the high bay warehouse to automated guided vehicles
- Automatic handling of different article units such as cartons, bins, PET and glass bottles as well as shrink-wrapped items
- Efficient shipping buffer
- Web-based visualization and dashboards with standard and customer-specific KPIs
- Ergonomic work stations
- WAMAS® and SAP software solutions for manual, semi-automated or fully automated warehouses

SSI SCHAEFER supports you with its modular, individually extendable and scalable system solutions for the food retail trade, to design your logistics processes more efficiently and sustainably.

ES3 ES3 LLC: New standards for intelligent intralogistics

SSI SCHAEFER deployed state-of-the-art technology in the form of the Schaefer Case Picking (SCP) system to modernize the intralogistics for ES3 in conjunction with C&S Wholesale Grocers, one of the biggest food retailers in the USA. In addition to the automation of the warehouse processes, further key factors in the success of this project were the integrated automation of order-specific case pickings and readying consignments for dispatch.

Result: A fully automated distribution center offers close to 90,000 tray storage locations in the high bay warehouse. With separated material flows and picking locations over three levels, it enables the throughput of more than 100,000 cartons per day.





REFRESHINGLY EFFICIENT

The productivity demands on the food and drinks industry have grown significantly over recent years. An increasing diversity of products and continuous innovation in packagings make handling in conventional block warehouses uneconomic. This increases the need for efficient warehouse and picking solutions.



Challenges for intralogistics:

- Compact, highly dynamic storage of raw materials and supplies as well as finished goods
- Tour-specific staging of full pallets and picked pallets in the right sequence for rapid dispatch by HGV
- Shift from "full pallet handling" towards mixed pallets made up of cases and individual products
- Traceability and secure processes
- More outbound deliveries due to smaller, more frequent customer orders
- Price pressure and time to deliver
- Green Logistics
- Work station ergonomics for picking

SSI SCHAEFER offers flexible and scalable solutions, from the first idea to turnkey overall systems, to considerably increase efficiency and productivity. Any temperature range can be covered.

The software we deliver will grow with your manual, semi-automated or fully automated warehouse.



SOLUTIONS FROM SSI SCHAEFER

- Mobile racks, channel storage and standard rack systems
- Storage systems with storage and retrieval machines and shuttles
- Pallet conveying system, rail-guided vehicle and electric monorail systems, as well as automated guided vehicles
- Picking systems from manual to fully automatic
- Container handling with robots
- Automatic picking with articulated or gantry robots
- Static or dynamic pallet layers
- Empties detection
- WAMAS® and SAP software solutions

RheinfelsQuellen: Start of a new era of logistics



By establishing a leading-edge logistics system at the production location in Duisburg-Walsum, SSI SCHAEFER has elevated the intralogistics processes as well as the entire empties management to a new level for the beverage manufacturer.

A fully automated high-bay warehouse, an intelligent and forward-looking material flow control, the use of state-of-the-art algorithms for empties supply, and the use of a range of different warehouse and transport technologies have resulted in a significant increase in efficiency, ensuring maximum cost effectiveness even during seasonal peak periods.



ACTING IN YOUR BEST INTERESTS

The traditional distinction between in-store and mail-order sales channels is increasingly disappearing. In many sectors, this has since morphed into an omni-channel model.

Customers can now buy at any time and from anywhere, whether by going to a shop as in the past or shopping online. Customers expect fast, correct delivery of their goods, whether it's to their home or a pick-up point.

Challenges for intralogistics:

- Ever shorter delivery times (same-day/next-day delivery)
- Smaller delivered quantities and fewer units
- Increasing number of items
- Increasing returns rate
- Seasonal variations
- Sales promotions like Black Friday, Cyber Week, Singles Day, etc.
- Omni-channelling with different order types in one distribution center

SSI SCHAEFER deploys a comprehensive product and solution portfolio and a high level of IT expertise to produce customized and efficient solutions that meet the multiplicity of requirements in the Retail & Wholesale market sector.

Solutions that are tailored to the particular sub-market sector, from furniture, electrical and electronic goods or office supplies through do-it-yourself, hardware and every kind of spare parts retailer to online retailers.



SOLUTIONS FROM SSI SCHAEFER

- Manual, semi-automated or fully automated picking systems
- Ergonomic work station systems
- Bins, containers, trays
- Efficient returns handling
- Waveless picking - every incoming order can be instantly triggered in the picking process
- Single and multi-stage picking
- Picking different packaging units, e.g. cartons and pallets for B2B, individual pieces for B2C
- Robots and automated guided vehicles
- Process and IT solutions, including for temporary work stations during peak periods
- WAMAS® and SAP software solutions for manual, semi-automated or fully automated warehouses

KNV • LOGISTIK

KNV: Ultra-modern, automated media logistics center

Media wholesaler Koch, Neff & Volckmar GmbH (KNV) leads the market in the German-speaking area with an assortment encompassing 540,000 books, DVDs, sound storage media, games and other items for the book trade. KNV works with more than 4,700 suppliers and uses its own transport logistics to resupply around 5,500 media sales outlets in Germany, Austria and Switzerland every day.

For automatic storage and retrieval of slow-movers and the best possible use of the available space, SSI SCHAEFER installed a miniload with 38 aisles. A particular highlight is the high-performance pre-zone that connects the miniload to the Schaefer Carousel System (SCS). Further solution modules: 21 km carton and bin conveying system, pallet conveying system, picking systems: ten goods-to-person stations, 80 RF picking stations, 44 Pick by Voice picking stations, 108 Pick by Light picking stations, two sorting loops, handling systems, WAMAS® logistics software.



THE RECIPE FOR ULTIMATE EFFICIENCY

Sensitive products, end-to-end documentation and complex framework conditions set extremely demanding requirements on the intralogistics of manufacturers and distributors in the healthcare & cosmetics industry. Contracting warehouse inventories mean more frequent deliveries, including of smaller quantities. Customer expectations and wishes, for example for faster delivery, including for late incoming orders, increase the demands within the logistics chain.

Careful handling of products often plays a significant role in the cosmetics industry. No scratches or damage may be apparent on the packaging. Seasonal peaks also need to be covered as does the growing degree of omni-channelling. By contrast, extremely high picking performance at peak periods and a very high degree of reliability are requirements in the healthcare sector.

Challenges for intralogistics:

- High quality requirements and low error tolerance on the part of end customers
- Multiple deliveries per day lead to order peaks
- A multiplicity of product shapes places demanding requirements on handling
- Differentiation between OTC and RX pharmaceutical products
- End-to-end traceability for quality assurance
- Validation and certification of software solutions (GDP, GMP)
- Integration of value added services
- Batch picking and sorting for mail-order pharmacies

SSI SCHAEFER brings in-depth know-how and innovative technologies for the pharmaceutical and cosmetics supply chain. This includes manual, semi-automated or fully automated solutions.



Slawex: Healthcare logistics re-enacted

In order to provide long-term solutions for the strict legal requirements for tracking and tracing of pharmaceuticals, SSI SCHAEFER implemented at Slawex a state-of-the-art picking system including a Schaefer Scan Machine.

The logistics software WAMAS® controls the entire system; all components are connected with one another considering serial number, batch number and best before date. Thanks to the implemented solution of the fully automatic single product picking and gathering, the pharmaceutical wholesaler now leads the way in the Polish market.

SOLUTIONS FROM SSI SCHAEFER

- Manual, semi-automated or fully automated picking systems
- Bins, containers, trays
- Broad product range for goods-to-person systems
- Product and order verification using Schaefer Scan Machine
- Handling systems for rapid and efficient material flow
- Automated guided vehicles and robots both for picking and pallet formation
- Serial number tracking using automatic data capture for individual items
- Expiry date checking by means of continuous warehouse stock verification and automatic early identification of when expiry date is approaching
- WAMAS® and SAP software solutions for manual, semi-automated or fully automated warehouses





THE RIGHT COLLECTION FOR THE FASHION INDUSTRY

Permanent availability of goods and fast delivery have helped to drive the rapid growth in the fashion trade in recent years. The convenience of trying something on in front of your own mirror, free returns and low prices brought about by ruthless competition have placed demanding requirements on internal material flows for producers and manufacturers.

Especially when several sales channels are being operated, the complexity of logistics processes can only grow, since customers expect not only low prices, but also top service.

Challenges for intralogistics:

What is needed are solutions that fulfill a whole series of requirements:

- Storage of a broad product range
- Rapid dispatch on receipt of order
- Efficient handling of daily and seasonal peaks
- Optimized returns handling

- Efficient execution of very small jobs
- Minimization of product touches
- Shop-friendly delivery
- Customized IT systems

In order to fulfill these complex requirements, SSI SCHAEFER developed a system module with intralogistics solutions for the fashion industry.



SOLUTIONS FROM SSI SCHAEFER

- Overhead conveying system with RFID-compatible carriers
- Handling of individual items instead of entire cartons
- Automatic buffering and sequencing
- Innovative storage systems
- Automated guided vehicles
- Intelligent conveying system
- Automated and manual picking systems
- WAMAS® and SAP software solutions for manual, semi-automated or fully automated warehouses



Stockmann: 3D-MATRIX Solution® for flat goods

For Finnish department

store chain Stockmann, SSI SCHAEFER developed a complete solution designed for a throughput of 55,000 order lines with 180,000 individual parts per day. The shuttle warehouse

with 130,500 bin storage locations for double-deep storage represents the central element of the system concept at Stockmann. The design that applies a 3D-MATRIX Solution® gives Stockmann maximum flexibility and efficiency in its processes with storage, buffering and sequencing in a single system.





KEEPING YOUR PRODUCTION LINE MOVING



The material flow in warehouses supplying production lines increasingly demands integrated solutions, from manual and semi-automated to fully automated processes.

Raw materials and production materials are accepted into incoming goods, buffered, prepared and delivered to the production location or assembly work station just-in-time or just-in-sequence. Finished products often have to be sequenced and sent to outgoing goods, where they are readied for dispatch. Moreover, all products must be traceable across the entire supply chain.

Challenges for intralogistics:

- Automotive: Special solutions for the automation of just-in-time and just-in-sequence production and assembly provisioning
- Chemical Industry: Storage of hazardous substances on pallets and transport across different temperature ranges, such that specifications and requirements are complied with

- Pulp & Paper: Heavy-duty loads, large volumes
- Mechanical Engineering: Complex processes and demanding work station design

IT plays a central role. SSI SCHAEFER develops solutions that cater to your needs based on our WAMAS® software or SAP. We offer the full range, from warehouse management to material flow control. Visualizing your KPIs in dashboards makes the optimization of your system more efficient and transparent.



SOLUTIONS FROM SSI SCHAEFER

- Rack systems and bins
- Pallet warehouse and automated small-parts warehouse
- Storage and retrieval machines and shuttle systems
- Picking systems
- Sequencing systems
- Automatic palletising and depalletising using robotics
- Conveying systems and automated guided vehicles
- Individual work station systems
- Mobile racks and storage lifts
- WAMAS® and SAP software solutions for manual, semi-automated or fully automated warehouses

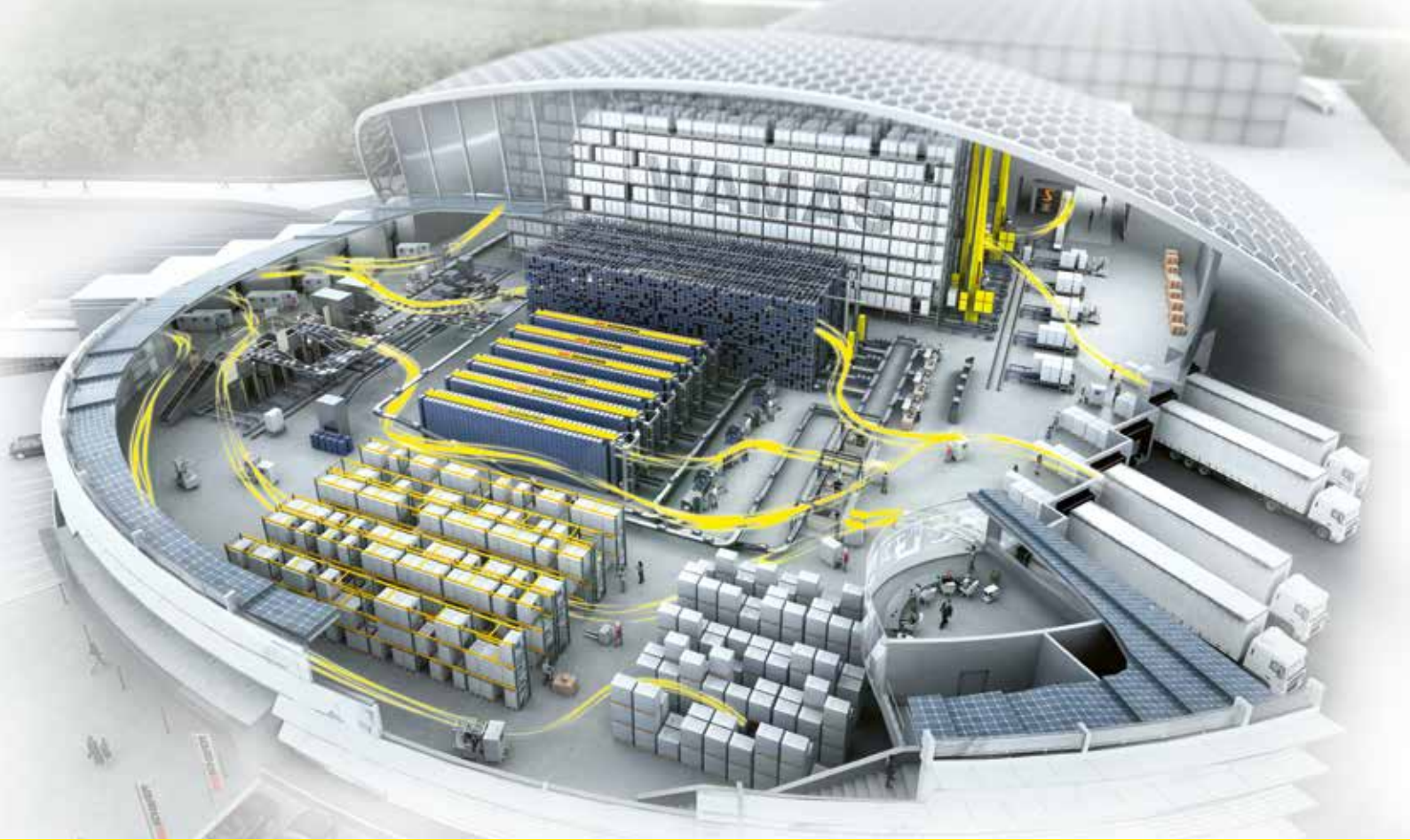
brose
Excellence in Mechatronics

Brose: Tugger train solution for a forklift-free facility

On behalf of Brose Group – the world's fifth largest family-owned automotive supplier – SSI SCHAEFER created an innovative material flow concept for highly dynamic and sequenced production line provisioning, supported by a precisely tailored SAP EWM system, for the Group's new logistics centre in the Czech city of Ostrava.

Further solution modules:

- ✓ High bay warehouse
- ✓ Automated small-parts warehouse
- ✓ Conveying system
- ✓ Robots
- ✓ Tugger train system



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

The prerequisite for effective intralogistics today is more than ever about a close meshing of IT with conventional and modern intralogistics technologies. Modular software systems are required that can be added to and adapted as necessary to increase your competitiveness. At the same time, you need to be able to analyze material flows in real time to identify and remedy any problems at an early stage.

At SSI SCHAEFER, you will find specialists with comprehensive IT expertise that complements their logistics know-how, enabling us to understand your business processes and focus in on areas for improvement. What makes our software solutions different is that they grow to keep pace with your needs and are easily scalable, from stand-alone solutions to complex solutions across several sites.

From the initial consultation to the go-live - we offer a comprehensive product portfolio and a global service network.

Integration of Industry 4.0

The networking of end devices that communicate with one another is becoming a reality in logistics as elsewhere. Our software means you are ideally prepared for these new advances. We already provide a platform for the solutions of tomorrow and make them user-ready for you.

WAMAS® logistics software

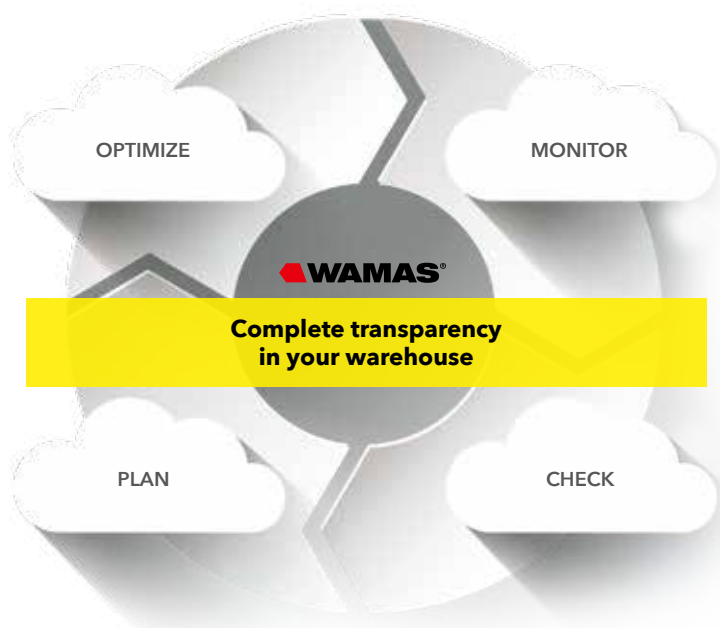
Our proprietary WAMAS® logistics software forms the basis for your intralogistics. WAMAS® is the link between incoming goods, storage, picking and outbound delivery and all intervening stages in the process. WAMAS® lets our customers monitor, manage and optimize the productivity of the entire system and supports them with user-configurable dashboards; you can visualize the logistics cycle and design logistics processes more efficiently by displaying your KPIs.

With more than 1,100 highly qualified IT experts on tap, we work to develop the perfect solution for you, whatever the size of your project. We understand the business processes within your sector and deliver outstanding service when it comes to implementation, optimization and training.

Alongside sophisticated logistics processes, WAMAS® perfectly fulfills all requirements for warehouse automation as well as interfaces to a multiplicity of ERP systems. The system is also flexible enough that it can integrate into your existing IT landscape and so meet your needs.

Worldwide support around the clock

Users are supported by 1,100 IT experts and service teams around the world. This guarantees a round-the-clock service by the support team, ensuring your system keeps running without a glitch. Wherever you are in the world, we speak your language.



Your SAP system integrator for perfect processes

As a certified SAP partner, we support you in the selection, introduction and operation of SAP solutions. Depending on the logistics concept, we provide different solutions to implement your individual requirements and make the project a go. In terms of supply chain management, we rely on the proven SAP solution SAP Extended Warehouse Management (EWM).

With us, you have an experienced and certified SAP implementation partner with state-of-the-art IT competencies by your side.

THE BENEFITS OF WAMAS® AT A GLANCE

- Modular system for all intralogistics requirements
- Security of investment thanks to cutting-edge technology
- Support for system implementation including customer-specific training
- Dashboard solutions for visualization and evaluation of relevant indicators (KPIs) to optimize logistics processes in the warehouse
- Scalable to the company or size of warehouse and customizable to industry-specific processes
- Stability in daily operation
- Real-time evaluation and adjustment at any time
- Integration of third-party systems
- Warehouse management system with integrated material flow management plus visualization and optimization tools
- Ability to manage several sites centrally

OPTIMIZE PROCESSES, SAVE COSTS: INCREASE PERFORMANCE THROUGH MODERNIZATION

Increase the performance of your warehouse with new storage technologies and software releases. Optimize warehouse processes and picking sequences, reduce costs and improve system efficiency.

Earlier investments can be updated and brought up to the latest market requirements. It makes no difference whether your system is from SSI SCHAEFER or another supplier.

Working with you, we will analyze your logistics facility with the aim of permanently improving performance and efficiency. Our services range from demand-oriented optimization concepts with an investment cost calculation and implementation strategy to energy efficiency and IT solutions that are precisely tailored to your requirements.

AFTER SUBMISSION OF A COST-BENEFIT CALCULATION WE OFFER

- ✓ Optimization of organization and warehouse sequences
- ✓ Implementation of new picking methods
- ✓ Addition of new warehouse areas
- ✓ Upgrade/modernization of mechanics, electrical engineering, control systems
- ✓ Upgrading of software and hardware





CUSTOMER SERVICE & SUPPORT: INNOVATIVE SERVICE PORTFOLIO FOR MAXIMUM AVAILABILITY OF ALL SYSTEMS

Even after your installation has been commissioned and is operational, our experienced experts will be on hand to support you with a comprehensive service portfolio, offering a suitable solution for any requirement.

PREVENTIVE SERVICES

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

REACTIVE SERVICES

- 24/7 Technical Support
- Technicians on Call
- 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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