

Edition 2/2012

update

Company magazine

Cover story

Ostermann: Automation for edges and fittings **4**

Automotive

Porsche: Vertical transport made easy **10**

Pharmaceuticals

Pharmapool: Delivery within one day **16**





Klaus Tersteegen
SSI Schaefer Managing Director,
Neunkirchen, Germany

Dear readers,

Automation for medium-sized companies? SSI Schaefer offers this as well.

The Automated Turnkey Systems department is concentrating its focus specifically on medium-sized companies consulting with them on the topic of automation and assisting them in implementing projects as a general contractor.

We address the special requirements and needs of medium-sized companies and find the optimum solution in a cooperative partnership. This is regardless of whether the resultant solution consists of manually operated, semi-automated or fully automated systems. Naturally the wide range of products and services from the SSI Schaefer Group, which cover the entire spectrum of in-plant storage and logistics systems, comes into play here.

In this Update we are presenting a number of projects that offer insights into the work of the Automated Turnkey Systems department. Find out more about the reference projects Ostermann, Bührig-Adam and Porsche Logistik. We demonstrate the kind of increases in efficiency that are possible with the appropriate level of automation.

We hope you enjoy reading the magazine.

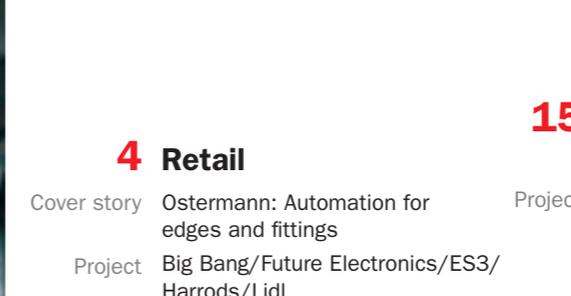
SSI SCHAEFER 2.0

In a time of social networks, SSI Schaefer continuously tracks the progress of these exciting communication platforms. Simply visit us on Facebook or Twitter. Or read the SSI Schaefer blog on our website covering a variety of issues relating to intralogistics.

With over 40 films on our YouTube channel (www.youtube.com/user/warehouselogistics), we illustrate different sector-specific solutions and provide interesting insights into technologies employed by SSI Schaefer.

We hope you enjoy visiting us online and we look forward to your feedback!

Your SSI Schaefer team



4 Retail

Cover story Ostermann: Automation for edges and fittings
Project Big Bang/Future Electronics/ES3/Harrods/Lidl

15 Pharmaceuticals/medicines

Project Natura/Pharmapool/Health World/Greiner Bio-One

9 Food

Project Gerolsteiner/Jollibee

18 Compact projects

Project AudiOptic/Carlsberg/Creativ Company/Public Authority for Agricultural Affairs and Fish Resources (Kuwait)/Gudang Garam

10 Automotive

Project Porsche Logistik/VW Centre Ingolstadt/Suvima

21 SSI Schaefer Inside

News Anniversary 75 years of SSI Schaefer/Partner of Volkswagen Motorsport/Training initiative from SSI Schaefer
Product Exyz storage and retrieval machine

12 Industry

Project Bührig-Adam/Waldner/Staalmarkt/Graco/PEI-Genesis



Update 2/2012 on the internet

Automation for edges and fittings

Steel construction, conveyor technology and SAP integration all from one source for targeted, time and route-optimised control of the manual warehouse processes, transparent real-time inventory control and resource-efficient, faster and more accurate order processing in a standardised SAP system environment.

Bocholt, Germany. Solutions tailored to the application, and an IT infrastructure with fewer interfaces form the basis for intelligent process control and a consistent flow of information in the warehouse. In this context, Rudolf Ostermann GmbH, Bocholt, supplier of a full range of joinery and interior fittings, as well as Europe's leading mail order supplier of edges and fittings, planned a comprehensive re-structuring of its European distribution centre. In light of the company's continued growth, the plan was first to optimise what were previously manual processes with an SAP wireless solution. A second project phase was aimed at automating the goods flows between inward and outward goods using a comprehensive material flow concept, setting up a new high bay racking system and conveyor technology, as well as controlling the facility directly with SAP WM/TRM. SSI Schaefer, Neunkirchen was awarded the contract for managing this project as general contractor.

Around 12,000 different edges (trims) and 15,000 other products such as furniture handles, grip strips and recesses, wardrobe hooks, work surfaces, sliding doors, lights and roller shutters, are ready for dispatch in the distribution centre in Bocholt. The trims are sold primarily by the metre. The range is aimed mainly at carpentry shops, shopfitters and interior fitting firms, carpenters and joiners. A key feature of Ostermann here is the supply of small quantities and the delivery to customers within 24 hours. "Every order the company receives before 4 pm will be fulfilled the same day", proudly explains Johannes Deckers, Logistics Manager at Ostermann. The material flow concept of SSI Schaefer with wireless data transfer, process automation and control from the existing SAP system is designed to make the distribution warehouse future-proof and competitive.

In the implementation phase, the first stage was the conversion of the ware-

house processes for small parts, shelving and pallet storage to wireless data transmission using online material flow control. The integration and control of the processes from SAP WM/TRM permits online processing and route-optimised coordination of inward storage, order picking, replenishment and forklift guidance. "The activation of the standard SAP TRM component enables the processing of transport orders from SAP WM as individual tasks in the warehouse", is how Martin Fröschl, SAP Project Manager at SSI Schaefer, explains the benefits. "With the TRM component, its tailoring to the physical properties of the distribution centre and the configuration of the resource control, the principles for integrating further automatic subsystems and process control are provided directly from the existing SAP WM"

The conveyor technology and the new high bay racking system were created and set up in the second project phase. Following an eight-month construction period, the new warehouse was put into operation for the German edging specialist in May 2012. With over 10,000 additional pallet storage locations, Ostermann has thus almost doubled its storage capacity at the site with a total of 22,000 pallet storage spaces. The two-aisle, double-deep high bay racking system implemented by SSI Schaefer

in a clad rack design is controlled entirely by SAP WM/TRM. "A complete and seamless integration into our existing SAP system – with no intermediate components that always tend to be susceptible to interface conflicts. I'm impressed by the clear concept and the detailed, structured and on-time processing of this challenging integration project. The entire system and the system control from SAP are running without a hitch.", according to Johannes Teriete, IT Manager at Ostermann. "The SAP team from SSI Schaefer did an excellent job."

"We have become considerably quicker, not least in processing incoming goods, due to the automation and new IT.", summarises Ostermann Head of Logistics, Decker, with satisfaction. "The high level of space utilisation and the automated processes offered by the high bay racking system have increased availability and ability to deliver considerably and offer a performance level that leaves us well-equipped for further growth and the expansion of our service levels."



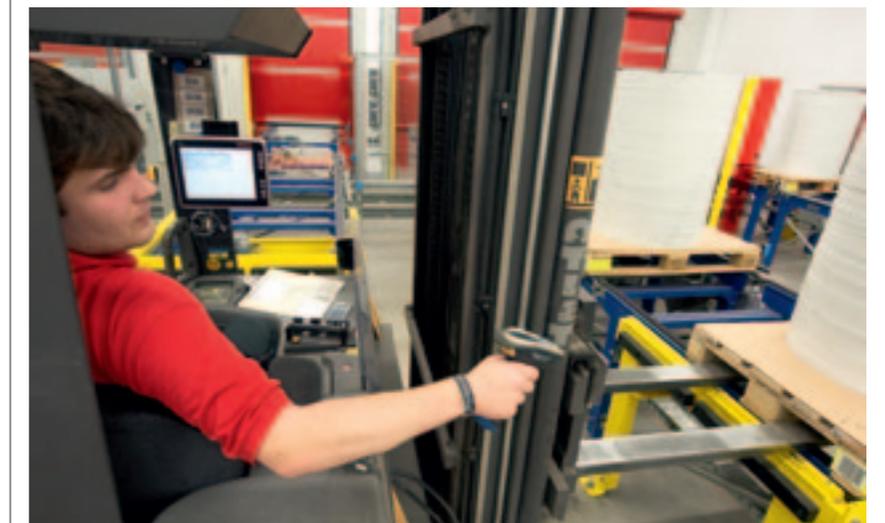
Data and facts

Objectives of the Project:

- ▶ Integrating the material flow processes into the existing SAP environment, without adding interfaces
- ▶ Connecting the storage processes of small parts, shelving and pallet storage to SAP by wireless data transmission
- ▶ Implementing SAP material flow control for the newly-built, automated high bay warehouse

Our Range of Products and Services:

- ▶ SAP TRM material flow control for manual and automated storage areas
- ▶ Integration and control of processes through SAP WM/TRM
- ▶ 2-aisle, double-deep high bay warehouse (L 120 m x W 15 m x H 24 m)
- ▶ 2 storage and retrieval machines
- ▶ Pallet conveyor technology
- ▶ Roof and wall construction



Automatic replenishments: Once the pallets reach the outward goods section, the forklift driver scans them and assigns the target storage position via his monitor.

Around 3,000 orders are now picked daily by the employees in the new distribution centre at Ostermann.

Paper was then ...

Modernisation of the logistics centre in Celje

Celje, Slovenia. As the Slovenian market leader in the field of audio, video and computer products, the company Big Bang d.o.o. decided to implement Schaefer's WAMAS warehouse management software. Together with Salomon Automation, Big Bang began the modernisation work on the Celje logistics centre in Spring 2012, which supplies the 19 retail and wholesale outlets in Slovenia. In an area of more than 6,600 m², the 4,000 SKUs are stored – distributed over 4,500 pallet storage locations. Over 41,000 items are shipped each month.

All processes from goods receipt to order picking through to outgoing goods are controlled via the WAMAS 4.9 warehouse management system. Pick-by-voice, pick-by-light and wireless order picking have been fully integrated into this process.

In the end, Big Bang opted for WAMAS for the following reasons: Paper-free business processes, easy operation of the system, greater warehouse utilisation of more than 50%, increases in order picking efficiency and a reduction in the error rate.



1,700 orders, amounting to roughly 6,800 picks, are processed each day in the Singapore distribution centre and sent to dispatch

20% greater throughput via system expansion

Singapore, Republic of Singapore. Future Electronics is an internationally operating distribution and marketing partner for manufacturers of semiconductors and electronic components headquartered in Canada. In recent years, the company has set up three central distribution centres for the regions of America, EMEA and Asia. From there, the customers receive their orders within 3 days at the latest. "Logistics is one of the most important competitive factors for us", emphasises Martin Bates, responsible for the East Asia region as Senior Director Operations at Future Electronics.

In 2008, Future Electronics awarded the contract to design and set up the intralogistics in the new distribution centre in Singapore to SSI Schaefer. Basis of the material flows: A container conveyor system, 4 fully automated Universal Buffer Systems (UBS) as a buffer and consolidation warehouse, 14 processing stations for quality control as well as a manual order picking warehouse. In 2010, the contract and distribution logistics company decided to proceed with the expansion options to the system originally planned. "With the setup of 8 further processing stations, the order throughput could be increased and the volume of contain-

ers circulating on the conveyor system could be considerably reduced. For the intermediate storage of the increased number of orders processed simultaneously, we also increased the buffer capacity with the installation of an additional UBS", according to Dieter Gelowicz, Project Manager at SSI Schaefer. An order can include up to 100 different containers. "These types of large orders in particular have increased considerably in recent months. With the system expansion we have been able to increase efficiency once again by 20%", summarises Bates.

Consistently automated processes – from goods receipt through to outgoing goods

ES3 LLC partnered with SSI Schaefer to further automate their distribution centre in York, PA, in cooperation with C&S Wholesale grocers, the leading grocery distributor in the USA.

York, PA, USA. In recent years, the ES3 logistics centre has grown to become one of the largest automated food warehouses in the USA. Around 20,000 different articles – food and household goods – are stored in the roughly 140,000 m² large complex. The goods are supplied by the manufacturers, picked according to store and transferred to the transport service providers for dispatch to the retailers.

Dennis Senovich, Managing Director of ES3, explains the greatest challenge: "The industry trend is going in the direction of a higher number of SKUs, but with a lower rate of turnover." ES3 was looking for a compact, holistic solution that in addition to automation of the warehouse processes also facilitated the automation of order-based case pickings and the dispatch of the shipments.

The optimum solution for the planned building expansion was offered by the innovative Schaefer Case Picking (SCP) concept combined with the Schaefer Tray System (STS). "The SCP is a technically advanced automation system that solves the complex problems of order

picking processes and stable, pallet formation", according to Senovich.

The solution from SSI Schaefer offers almost 90,000 tray storage spaces with variable height classes in its SCP high bay racking system. Material flows and picking stations are located on different storey levels which facilitates a throughput of more than 100,000 goods cartons per day. ES3 thus has one of the largest, most modern and most efficient fully automated case pick systems in the US. "The SCP is a system solution with a holistic and modular design that can be expanded as required", explains Christoph Schenk, Project Manager at SSI Schaefer. "This means that we have been able to design an automation solution for ES3 that covers the entire process from incoming goods to storage through to volume-optimised pallet building for each store. Physically demanding warehouse work is no longer required of the employees."

To achieve this, SSI Schaefer has installed three Schaefer Case Picking systems with a modular design, the ant warehouse management system as well as an intelligent control system with



At goods inward, a teach-in process for IT master data acquisition was carried out initially.



The SCP system is designed for a throughput of up to 74 pallets per hour with 5,350 cases



The filled pallets are lowered onto the outgoing goods level and processed automatically by an integrated foil stretcher

the Schaefer Pack Pattern Generator (SPPG). In combination with the data from the WMS, the SPPG calculates the optimum pallet layout plan for the dispatch pallets within the shortest space of time. With this information, the WMS then controls the operative processes for the automated pallet building.

The success of the solution was recently confirmed by the renowned Research Strategies Committee (RSC) of the US Council of Supply Chain Management Professionals, Illinois. The association of supply chain managers awarded ES3 with the "Supply Chain Innovation Award 2011" not least for the York expansion project as the "best and most innovative logistics solution".



3 conveyor belts feed 3 palletizing robots per SCP module, i.e. a total of 9 palletizing robots consolidate the cartons order related in the SCP system

Thatcham, Great Britain. Harrods, the department store for luxury goods, has opened its brand new distribution centre in Thatcham, Newbury.

SSI Schaefer equipped the approximately 32,000 m² distribution centre with the latest technology. The warehouse is now fully functional and handles the entire goods distribution for the Knightsbridge store and other Harrods outlets in the UK.

During the implementation phase, SSI Schaefer made sure that it was possible to commission the plant within 15 months. In addition, the logistics centre has received an excellent rating from BREEAM, a British certification system for sustainability. The outstanding energy efficiency and waste sorting facilities were highlighted in particular. The new warehouse equipment allows for faster throughput of goods, with increased accuracy and frequency of replenishment, and a greater storage capacity.

SSI Schaefer supplied a narrow aisle pallet warehouse that meets the requirements for future sales and growth of the company. In addition, the logistics provider installed an automated warehouse and picking system with the following components: A 4-aisle automated small parts warehouse, picking conveyor technology with automatic labelling, goods-to-person workstations with pick-to-tote technology, forklift control system, racks for medium-sized items, a special high rack for large items that is operated manually by a special man-up vehicle, workstations for processing incoming items as well as those that are dispatched to the stores, 10,000 store shipping con-



The special high rack for large items can be operated by a special man-up vehicle

Optimised logistics for luxury goods

SSI Schaefer equips Harrods with an automatic storage and order-picking system as well as SAP EWM

tainers and other equipment. With SAP EWM MFS, SSI Schaefer has delivered a warehouse management and material flow control system, which ensures greater transparency and efficient warehouse processes at Harrods – both for the manual and the automatic ones.

“At the beginning of this project, we were looking for a supplier of turnkey systems who was able to implement

the project and organise the entire warehouse system. We found that partner in SSI Schaefer. The expertise in systems integration, planning, installation, delivery, continuous service and maintenance support proved to be the winning formula for a relocation of this magnitude”, summarises Simon Finch, Deputy Director, Distribution, Harrods.

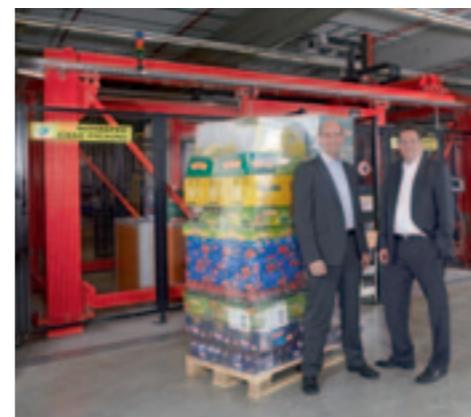
Store-specific deliveries

Lidl uses the Schaefer Case Picking System for order picking

Kirchheim/Teck, Germany.

SSI Schaefer has expanded the logistics centre of food retailer Lidl in Kirchheim/Teck with an automated picking warehouse. In addition to a Schaefer Case Picking (SCP) System, the scope of equipment and services supplied includes a high bay racking system with five aisles and around 15,000 pallet storage spaces, plus a Schaefer Tray System (STS) with 16,000 storage positions on five storage levels. The greatest challenges in implementing this were the

very high requirements on pallet composition and the handling of packages. The system now guarantees optimally packed pallets for transporting and then unloading goods at the store. The project was completed successfully this year. In addition to the implementation of this modular, scalable total solution that can be extended virtually without limit, Lidl particularly valued the partnership and solution-oriented collaboration with SSI Schaefer.



Harrie Swinkels, Managing Director of SSI Schaefer Noell GmbH (l.); Sebastian Stegeman, Head of the Intralogistics Division, Lidl Stiftung & Co. KG (r.)



Let the Water Flow!

Gerolsteiner Brunnen GmbH & Co. KG launches new compact warehouse

Gerolstein, Germany. In addition to a state-of-the-art conveyor system, a fully automated channel warehouse based on the Schaefer Lift & Run system was included in the scope of supply and services. Currently, there are about 9,400 pallet storage spaces for mineral water and mineral water-based drinks. These are managed and controlled by material flow and warehouse management software especially adapted for the needs of Gerolsteiner “The option to load up to

10 HGVs simultaneously signifies above all an enormous increase in efficiency in the logistics processes at our company,” explains Ulrich Rust, Technical Director at Gerolsteiner. Since September 2012, there are almost 20,000 pallet storage spaces available.

The company Gerolsteiner Brunnen consciously invests in returnable and non-returnable packaging, and they meet their customer requests with a broad product

range. “This product variety means that we have to sync filling and storage”, explains Rust. “With the spatial concentration and thanks to state-of-the-art technology we offer our customers faster and more flexible handling of their orders.”

With this project, SSI Schaefer is once again highlighting its leading position for complex system solutions in the beverage industry.

Four in one

The largest fast food company in the Philippines is combining four of its brands in one logistics centre

Parañaque City, Philippines. Jollibee Foods Corporation (JFC), with more than 750 stores nationwide, is the largest fast food company in the Philippines. Recently they opened a new distribution centre, which unites four brands and prepares the company for future growth. To achieve this goal, they sought out SSI Schaefer as a partner to modernise its distribution operations with an efficient picking system and an automatic sorting system.

The 7,450 square metre dry store in Parañaque City now has picking and sorting systems that were planned and

constructed in SSI Schaefer production sites in Malaysia and Austria.

The project consists of a 3-storey system with 862 picking stations for pallets and 1,032 picking locations for cartons in the live storage system. Items are picked, tagged with a barcode, labelled and then transferred to the conveyor system. Here, they are scanned and automatically sorted by store, then shipped to one of the many JFC restaurants.

The warehouse, forming part of the 20,000 m² JFC plant, was put into operation in May 2012 and since has been



supplying the company's chain of restaurants: From flagship Jollibee to Chinese fast food chain Chowking and the Italian chain, Greenwich. The logistics centre will facilitate faster picking and distribution for the company.



Vertical transport made easy

The Schaefer Vertical System can be used for storage and retrieval operations simultaneously.

Flexible automation solution for the static small parts store of “Parts Logistics Development” at Porsche Logistik GmbH

Sachsenheim, Germany. In February 2011, SSI Schaefer was awarded the contract by Porsche Logistik GmbH to outfit a section of their new central spare parts warehouse, destined to supply parts to Porsche's development engineers. In the 10,000 m² warehouse complex for “Parts Logistics Development”, there are 350 inward and 2,000 outward goods movements each day.

Between February and August 2011, SSI Schaefer set up three static pallet warehouses for medium and large parts. There is a 12-aisle, narrow-aisle pallet store, with 5,740 pallet storage spaces as well as a 7-aisle pallet warehouse with 1,438 additional storage locations. To store large parts there is a single-aisle pallet warehouse with 140 pallet spaces.

The company also set up a two-storey modular shelving system on a self-supporting platform to store the small parts. The advantage of this configuration is

that it uses the full height of the building while leaving the space underneath free for the processing of incoming and outgoing goods. The two platforms, measuring 2,000 m² each, provide close to 9,000 metres of shelf space for storing small parts containers weighing up to 15 kg – in total there are 42,000 containers in circulation. “The small parts warehouse needs to deal with peak periods and allow for future increases in throughput,” says Sascha Drechsler, planner at Porsche. “This means fluctuations of at least +/- 20%. Two conventional lifts would have been incapable of handling this. And three would have made the system too big.”

During the implementation phase, the intralogistics specialists at SSI Schaefer and the planning team at Porsche Logistik developed a new and innovative conveyor solution. Inward and outward processes are kept completely separate and generally follow the person-to-goods principle. Items for the small parts ware-

house are repacked into containers and stacked on picking carts. The Schaefer Vertical System (SVS) serves both platform levels. It can be used for inward and outward movements simultaneously. A special feature is that unlike basic lifts, the transport processes are completely automated. Warehouse personnel move the carts to a transfer station and press the button for the desired platform level. The process then runs automatically from that point on.

“For us, the efficiency of material flows was the focal point. From the intelligent combination of traditional technology and additional automation components, a compelling system concept has emerged”, summarises Drechsler. “A process-optimised design that we can use to develop throughput volume and growth potential.”

A centre undergoing change

More space for mobile equipment and a new wheel store after restructuring

Ingolstadt, Germany. “Using a clearly structured analysis of stock levels and functions, methods were demonstrated to us that we did not think were possible and which highlighted significant potential for optimisation. This has won us over”, says Lorenz Büchl, Service Manager at VW Ingolstadt. SSI Schaefer was therefore awarded the contract to create a project study.

As part of this study, the available space was divided into three areas: a) a new, 2-storey parts store in line with the Locator principle, b) a space for mobile equip-

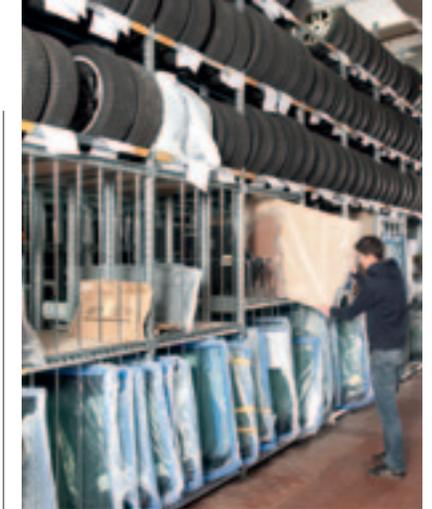


More than 80 % of the tools are in modular boxes and standard drawers to save space.

ment with an adjoining special tools area, and c) custom-made wheel store for customers. The result is that the new warehouse offers considerably more space, using only around 40% of the available space. The project study also provides clear statements on costs, the project schedule, which was divided into 7 sequences, and contractual information on the required manpower.

SSI Schaefer was therefore awarded the contract for further planning work and installation of the spare parts, special tools and wheel store warehouse, and for services including relocation planning, organisation and support. The entire project was estimated to take 12 weeks. Everything took place during ongoing operation. Every step was pre-planned in precise detail, with the aim of disrupting operations as little as possible.

The biggest surprise was the special tools warehouse in line with the Locator principle. It was possible to reduce the



The custom-made wheel store provides space for large parts in the lower section

space required for the special tools by around 50%. More than 80% of the tools are now located in space-saving and secure modular bins and standard drawers in the R 3000 shelving system. The remaining tools are housed in the same system within easy reach on shelves or at perforated panels/mesh panels. Each storage location is now defined precisely and in three ways: with storage location number, barcode and symbol. In the warehouse, the modular boxes, together with the storage location number and the corresponding barcode, are inherent components of the system. This means that VW is well prepared for the future.

Short distances and optimal access in the spare parts store

Quart de Poblet, Spain. With a custom-designed warehouse concept from SSI Schaefer, Suvima S.A. has expanded its logistics site in a future-oriented way.

Suvima has been a leader in the distribution of spare parts for the automotive sector, commercial vehicles and agricultural vehicles since 1960. Based in Valencia, the company has been a member of the Association of Car Grupo Unión España (GAUE) since 2010 and stores

over 80,000 SKUs at 13 locations in the regions of Valencia and Castilla La Mancha. To increase the effectiveness in a sustainable way, the main warehouse in Quart de Poblet was redesigned.

The warehouse is divided into two areas. The 3-storey R 3000 custom shelving system offers over 2,400 m² of space for modern storage and picking of the supply parts. The 615 storage spaces in the PR 600 pallet racking serve as buffer

storage for large, bulky items. In addition to the installation of these modern racking systems, the equipment supplied by SSI Schaefer also includes conical reusable containers.

The intelligent system concept ensures a smooth flow of goods and provides Suvima with sufficient capacity for the future.



The 3-storey modular shelving system offers over 2,400 m² of space for modern storage and picking of supply parts

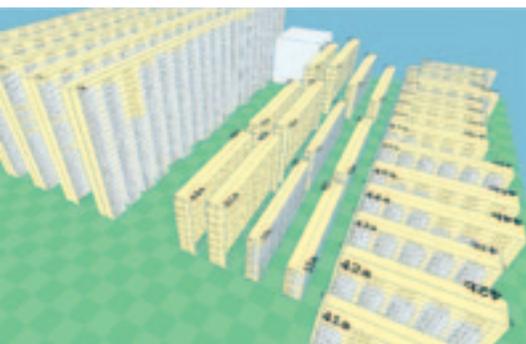
It's that easy: Set up the software and done!

The new WAMAS GO! warehouse management system provides Bührig-Adam GmbH with efficient processes in their central warehouse at the Barleben site near Magdeburg

Barleben, Germany. Bührig Adam is a regional wholesale and service company in the field of bearings, power transmission, sealing technology and hydraulics. In the central warehouse there are various racking installations from SSI Schaefer, originating from orders over the last few years. With their expert technical advice and solutions, SSI Schaefer was able to score full marks at Bührig Adam.

The warehouse complex in Barleben houses a high bay storage system based on the R 7000 modular shelving system with a total of 3,600 compartments served manually by a man-up forklift. The warehouse equipment also includes a modular shelving system with 2,500 compartments and heavy duty racking for 60 Euro pallets. It stores a wide variety of products in terms of size and weight: from small individual sealing rings to medium sized ball and roller bearings through to heavy machinery casings on pallets. There is space for around 20,000 items in the central storage area and about 120 orders are picked each day.

For the manually operated warehouse, the intralogistics specialist also installed the warehouse management system (WMS) WAMAS GO! in early 2012. The WMS is based 100% on the successful WAMAS logistics software and fully



3D view of the warehouse structure in Barleben



meets the logistical requirements of medium-sized customers. "With the help of SSI Schaefer, it was possible to integrate the new system quickly and smoothly into the daily routine. WAMAS GO! now allows us to control and optimise the day-to-day warehouse processes better", summarises Dr. Burkhard Bührig, proprietor and partner of Bührig-Adam. "We have also gained increased process security, achieved increased picking performance and created the conditions for simplified and secure inventory." Other results from the WMS include warehouse space compression, route optimisation, inventory accuracy and error reduction. In the event that Bührig-Adam plans a warehouse expansion in the future, WAMAS GO! can adapt quickly and flexibly to the increased requirements due to its modular design.

First Implementation

WALDNER Laboreinrichtungen is increasing its performance and improving the production process with the SSI Autocruiser



The SSI Autocruiser offers significant flexibility, ease of use and cost-effective scalability



Wangen, Germany. WALDNER Laboreinrichtungen GmbH & Co. KG is part of the WALDNER Group of Companies. For more than 60 years the southern German company has developed and produced laboratory equipment to meet every need. For decades, WALDNER has been Europe's leading manufacturer of laboratory equipment systems for industry, universities, schools and hospitals.

As part of extensive modernisation plans and process improvements in production, WALDNER was looking for a suitable, cost-effective and flexible transport solution to meet modern production requirements. SSI Schaefer, Graz, implemented for the first time the SSI Autocruiser presented at CeMAT 2011.

For WALDNER it is particularly important that the solution with the SSI Autocruiser can be adjusted and expanded at any time. This is especially interesting in view of the construction of the new production facility in 2013, when the transport system is scheduled for expansion. The SSI Autocruiser is therefore the ideal solution: It offers significant flexibility, ease of use and cost-effective scalability.

Industrial grade support

Culemborg, Netherlands. As part of the BCB International Steel Group, Staalmarkt processes all kinds of metal and plastic and offers related services in the Netherlands. Since recently, the offering has also included the "Workplace Service", i.e. Staalmarkt supplies deburred materials cut to size directly to the customer's workplace. "This process-oriented approach means that our clients can focus on their core business", said Martien Menting, Regional Director at Staalmarkt.

Staalmarkt commissioned SSI Schaefer with the new warehouse for the 10th site in Culemborg. The result: A highly effi-

cient, customised warehouse layout with different shelves and racks, consisting of modular shelving systems, cantilever and pallet racks.

"Thanks to taking stock of our logistics data, with SSI Schaefer we have quickly gained an insight into performance and improvements to our existing stores", says Gert de Graaf, Branch Manager, Culemborg. In order to use the cranes more frequently, but on shorter routes, the new cantilever and pallet racks are rotated 90° to the direction of travel. There is also a clear separation between the storage and processing of steel, stainless steel and aluminium.



In this context, a loading station with roller tracks was implemented for long goods at the incoming and outgoing goods stations.

Increased dynamics for small parts

A goods-to-person system for Graco, the world's leading provider of fluid handling systems and components

Maasmechelen, Belgium. Graco's products are used for conveying, measuring, controlling, dosing and applying a wide variety of fluids and viscous materials. On average, Graco processes 2,200 order lines per day, with peaks of up to 3,500 order lines per day.

To continue supporting the expected growth, a new solution was needed: modification in line with the goods-to-person principle, combined with a compact storage system that guarantees the necessary process dynamics. The new storage equipment from SSI Schaefer includes

several customised standard components: Schaefer Carousel System (SCS), conveyors, plastic trays, ergonomic workstations and the WAMAS C IT solution.

The SCS system comprises 5 carousels, each with 80 carriers. This includes a conveyor circuit which transports the containers to 6 order picking and dispatch workstations. In addition, the conveyor system is connected to the incoming goods section and to the replenishment with empty containers. The system is equipped with 7,280 plastic containers. "The inclusion of the goods in the SCS carousel means that the warehouse is much better utilised", according to Mark Schürmann, Warehouse Manager at Graco.

The goods are retrieved from storage scanned, packaged, labelled and transferred to the workstations for dispatch. An operator can process up to 100 order lines per hour. Up to 36 orders can be processed simultaneously at the workstations.

The facility is controlled by the WAMAS C warehouse management system from SSI Schaefer which is connected to the existing Amlog WMS system (AS400). The future implementation of Oracle ERP / WMS has already been taken into account.



A complex conveyor system transports the items in the distribution centre



The SCS system includes 5 carousels, each with 80 carriers

Vertical, compact, good

SSI Schaefer has installed two vertical storage lifts in the existing PEI-Genesis warehouse

Southampton, Great Britain. PEI-Genesis is the world's leading manufacturer and distributor of plug connectors and power supply units. By means of the world's largest individual parts warehouse, PEI-Genesis develops solutions for military, industrial and medical applications as well as for the fields of energy, logistics, aviation and aerospace technology.

"We have a good, long-standing relationship with SSI Schaefer. We recently worked together to construct one and two-storey modular shelving systems based on the R 3000 at our site", explains Jerry Griffin, Head of Logistics, PEI-Genesis. "As we were researching a vertical storage lift to complement

our existing processes, we first became aware of the new LogiMat from SSI Schaefer, a high performance picking solution for small parts on a small footprint."

A key factor in the purchase decision for the LogiMat was the rack-and-pinion-drive. The advantage is that no chains or belts are used, which in turn makes the storage lift safer in operation and easier to maintain.

PEI-Genesis now has a 6 m high LogiMat to meet the original requirements, as well as an 8.5 m high LogiMat used for a completely separate task. Thanks to its modular design, the storage lift can be easily adapted to the dimen-



sions of an existing lift, while the second system is aimed at maximising the available space.

More space and flexibility

With the new automation solution, Natura has shortened the order delivery time and reduced the error rate

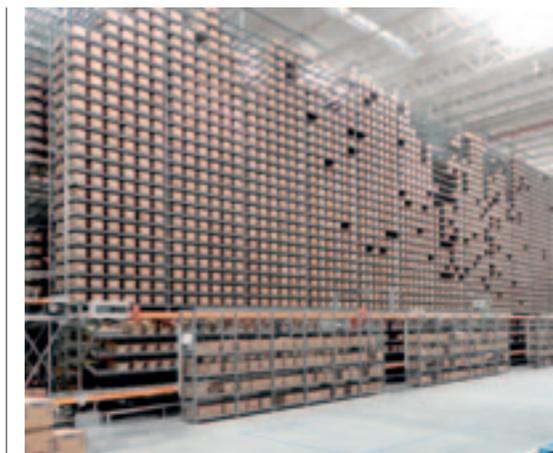
Jaboatão dos Guararapes, PE, Brazil. Almost everyone in Brazil has bought a Natura product at some time. Natura was founded in 1969 and is a Brazilian cosmetics brand. The products are currently sold in 7 Latin American countries as well as in France. In Brazil, Natura is the market leader in the cosmetics, perfumes and personal care market, as well as in direct sales with more than 1.2 million sales consultants.

Due to the growing demand in recent years, Natura reorganised its supply chain, and constructed a number of new distribution centres in Brazil to maintain the high level of service, even in the most remote regions of the country. To establish the new distribution centre in Jaboatão dos Guararapes, in the state of Pernambuco, Natura chose SSI Schaefer as their ideal partner. All orders are prepared for dispatch in Jaboatão dos Guararapes and dispatched to the con-

sultants in the North East of Brazil. In addition, there is a central pallet warehouse here that supplies pallets to the distribution centres in other states.

To meet the stringent requirements of order processing, SSI Schaefer installed an automated small parts warehouse with a throughput of up to 1,500 orders / hour. This automated small parts warehouse is equipped with 6 SMC storage and retrieval machines and a storage capacity of more than 29,000 cartons. The automated small parts store services manual order picking stations equipped with pick-by-light as well as 2 A-Frame picking systems via conveyor technology, also by SSI Schaefer. The new storage facility allows Natura to shorten the order delivery time to consultants and to reduce the error rate.

The pallet store concept already takes into account a future expansion of



The automatic small parts warehouse provides a throughput of up to 1,500 orders / hour

the warehouse in the same building. By converting it to a mobile racking system, Natura can increase storage capacity from 9,000 to up to 20,000 pallet storage spaces.

Natura and SSI Schaefer are already working together on new projects with a high level of automation, so Natura is well prepared for future growth.



Eight picking zones are connected to the 80 m long conveyor line



Deliveries within one day

For the new logistics centre at Pharmapool AG, SSI Schaefer has implemented a semi-automated material flow concept integrating a tote conveyor system and a paperless order picking strategy

Widnau, Switzerland. Pharmapool, a wholesaler founded in 1996 offers its customers in Switzerland a wide range of medications, incl. generic medicines, consumables, doctor's practice and lab equipment, as well as items on the Drugs and Medical Equipment List. In the process, Pharmapool supplies doctors, chemists and consumers reliably within 24 hours with boxes of medicines carefully packed by hand.

All work in the warehouse was previously carried out manually using picking lists. This takes time and costs money. "This is why we have decided to construct a new hall with the latest warehouse technology as well as a new order picking strategy", explains Jörg Binkert, Managing Director of Pharmapool AG. The key objectives for Pharmapool are to optimise and increase performance and quality in the order picking process. The idea was to base the solution on a

carefully orchestrated, custom combination of modular systems.

Since the end of 2011, a harmonious overall concept has been delivering efficient processes and is based on a semi-automatic system which includes conveyor technology and paperless person-to-goods order picking (RF picking) in combination with ergonomic picking stations and suitable warehouse technology. The 1,300 m² of space in the new logistics centre are equipped with R 3000 shelves, providing 12,000 storage locations. A more than 80 m long conveyor system with 8 picking zones was installed in the middle of the modular shelving system. Here, the conveyor technology ensures rapid transport of the order containers between the picking stations and the dispatch area. Within these zones, SSI Schaefer's WAMAS C software guarantees fast and transparent picking pro-

cesses. The conveyor technology provides the foundation for an increase in turnover in the new distribution centre. In Widnau there are now around 10,000 different SKUs ready for use in 200,000 packages. They are stored in 9,000 Euro-Fix containers.

The new system has achieved an increase in picking efficiency of around 30%. "After the initial start-up phase and the training of the staff, the new facility also significantly sped up the material flow. The organisation of the picking zones and new picking strategies has streamlined order processing and compilation. The error rate has also dropped to virtually zero", according to Binkert.



Paperless goods-to-person order picking

Health World implements an integrated pick-by-voice system

Banyo, QLD, Australia. Health World is the market leader and one of the most trusted suppliers of natural medicines in Australia and New Zealand. The product range includes probiotic food supplements, ethical nutrient preparations as well as sports nutrition.

To meet its rapid and ongoing growth, Health World decided to build a new distribution centre in Banyo, not far from Brisbane. The objective of the new site was to facilitate expansion without compromising on the company's remarkable level of fulfilment accuracy and

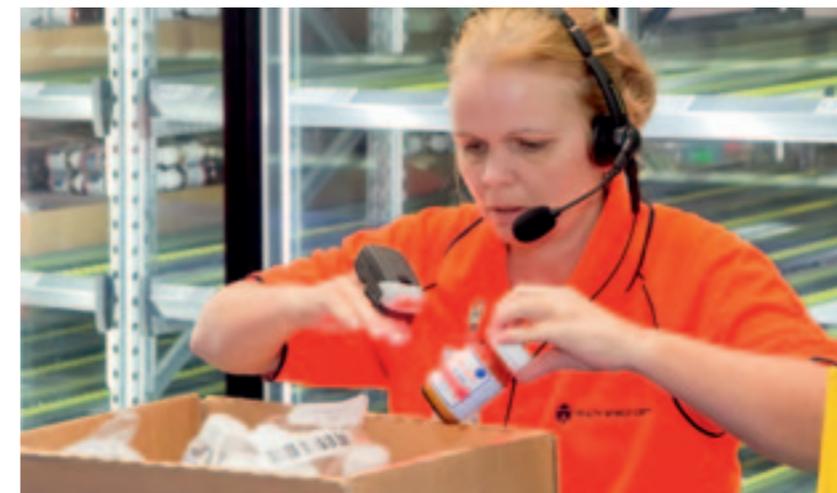
delivery service levels. To meet these objectives, Health World implemented a purpose built conveyor-based, paperless order fulfilment system from SSI Schaefer, utilising ergonomic pick-by-voice and scanning technology.

Every picked item is scanned to ensure accuracy. Nevertheless, the application of zone-routing conveyors, which automatically deliver order totes to the zones where picks are required, in combination with ergonomic voice-directed picking, has meant a significant increase in productivity. "On a peak day,

we typically required more than 10 hours to complete the picking and despatch of orders. With the new system from SSI Schaefer, we need less than 8 hours on average per workstation to process the same volume after only 4 weeks since implementation. We have also improved our existing 0.02% pick error rate to less than 0.015%. The system prepares our company for our next 'wave' of growth", confirms Health World's CIO, David Wallace.

Fast moving items are picked from the cold storage, carton live storage or pallets and slow moving items are picked from static shelving. Completed order totes pass through a QA station before being directed to the repack area where items are securely packed into standard cartons for dispatch.

The picking system is controlled by SSI Schaefer's standard warehouse management software which receives order information from Health World's host and manages the routing of the order totes as well as the voice picking and scanning. The software also provides a graphical user interface including helpful reports and statistics.



Every picked item is scanned to ensure accuracy.

Fully automated logistics centre for medical technology

As general contractor for logistics, Salomon Automation set up a new logistics centre for Greiner Bio-One

Kremsmünster, Austria. The Greiner Group is a global player in the plastics sector. Greiner Bio-One International AG, which emerged in 2001 by splitting the laboratory technology division of Greiner Holding AG focuses on the promising business areas of Pre-analytics and Bio-Science. In both product lines, the company is successful with its production and sales network in more than 100 countries worldwide.

Due to continuous growth, an expansion of the logistics centre in Kremsmünster was necessary. On over 4,000 m², a fully automated logistics system consisting of a high bay pallet warehouse and the associated goods-in and goods-out areas was implemented together with general contractor, Salomon Automation.

The automatic high bay racking system has 4 aisles, each with a storage and retrieval machine and has a total of

5,000 storage locations. Each storage and retrieval machine runs double cycles, in other words, a load unit is placed into storage and another load unit is retrieved on the way back.

In the implementation of this major project, collaboration within the SSI Schaefer Group was an important factor. The high bay racking system and the pallet conveyor technology come from SSI Schaefer in Austria and Giebelstadt.





One of the three picking sections with double-sided live storage shelves

For a good perspective

Making logistics activities dynamic for the market leader of the French optics industry.

Clamart, France. The Optic 2000 Group consists of four groups: Optic 2000, Optic 2000 Switzerland, Audio 2000 and Lissac. The Group also includes AudiOptic Trade Services that supports the various companies and their total of 1,800 stores with products and services.

As part of centralising the organisation, Optic 2000 brought the business activities divided across four locations together in Clamart. A 11,000 m² area was used to create the large support platform for the production of glasses, frames, lenses and advertising for sales outlets as well as a storage space of 4,800 m².

To introduce a more dynamic system and a more powerful service policy that permits the late acceptance of orders where necessary, AudiOptic turned to SSI Schaefer. The main objective was to meet the local requirements of all sales outlets. SSI Schaefer supplied and installed a conveyor system with nine spurs at AudiOptic.

In planning the picking process, SSI Schaefer had to accommodate a variety of requirements. Internal glasses production requires a constant flow of material, while the sales outlets usually face fluctuating demand, with the peak in the late afternoon. For that reason, the materials flow feeds 3 different picking areas: static, dynamic and one reserved only for manufacturing.

A special machine permits the combination of standard order picking of containers for sales outlets and picking on trays in special containers for production, on the same line.

“From a technical perspective, SSI Schaefer was the only company that gave us a guarantee of success for integrating the shelves in the conveyor system. The expertise of SSI Schaefer in the logistics sector in the optical industry was also a plus point, and that allows us to look to the future without stress”, summarises Stéphane Lemaire, Head of Logistics at AudiOptic.



SSI Schaefer installed a conveyor system with nine spurs

Working hard or hardly working?

Effective partnership – Renewal of the SSI Resident Maintenance® service contract for 3 more years

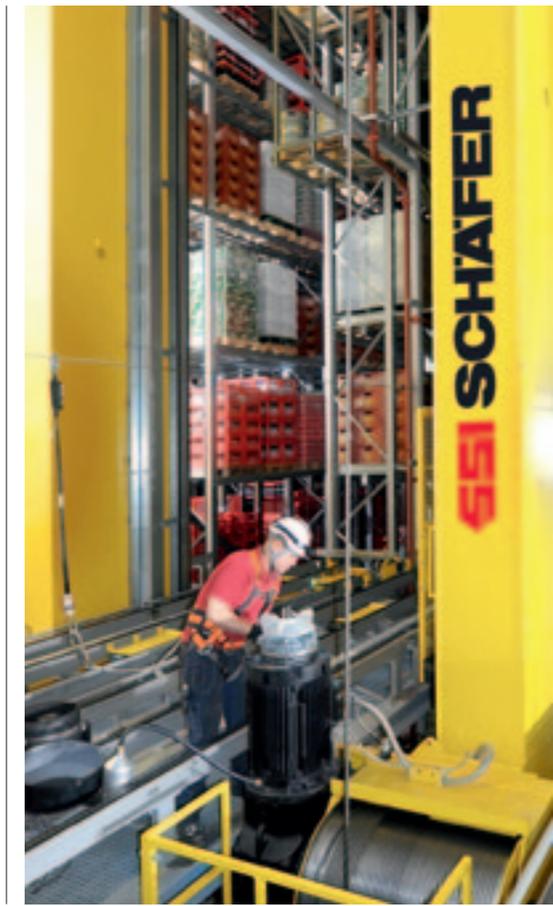
Fredericia, Denmark. Carlsberg has just extended its SSI Resident Maintenance Service Agreement with SSI Schaefer for an additional 3 years. The agreement paves the way for a new type of contract in connection with large, complex systems and describes intelligent and differentiated maintenance.

To offer a customised service on request is becoming more important than ever. It requires expertise, coordination and resources, but it is also a value-adding partnership with the customer. SSI Resident Maintenance means that an SSI Schaefer team is stationed permanently at the customer's site and works actively and dynamically with the client. The team responds quickly and effectively to problems and participates in work processes and meetings.

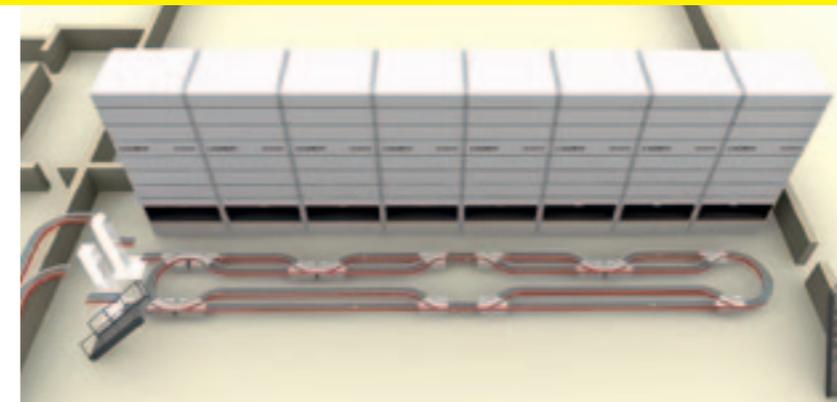
“With its main logistics centre in Fredericia, Carlsberg is an important partner

for SSI Schaefer in Northern Europe. Thanks to our efficient installation teams on the ground, we were given an extension of the original 4-year contract. We see our success as a general confirmation of the effectiveness of SSI Resident Maintenance”, evaluates Jan Mikkelsen, Customer Service & Support Manager at SSI Schaefer.

17 technicians from SSI Schaefer are permanently stationed at the ultra-modern, fully automated logistics facility at Carlsberg. “SSI Schaefer offers us direct operational support, which is based on a situational maintenance. We are very satisfied with the maintenance solution that we have achieved together. However, it is an ongoing process that requires a constant focus, but also a steady development”, summarises Jesper Fabricius, Technical Director at Carlsberg.



SSI Resident Maintenance – Service on demand



The interplay of the 8 storage lifts (rear) with the SSI Autocruiser transport system (front) enjoyed absolute success

Clever combinations

Holstebro, Denmark. For the first time, SSI Schaefer delivered the transport system SSI Autocruiser in combination with multiple LogiMat vertical storage lifts. This unique system at Creativ Company handles both picking and storage tasks.

Creativ Company is a major global supplier of hobby and craft items. With regard to the implementation of a new, exten-

sive logistics system, Creativ Company opted for the solution by SSI Schaefer. At the core of the solution are 8 LogiMat storage lifts, each 6 m in height and in total amounting to a storage area of 1,000 m². On a 300 m long track, 25 SSI Autocruisers transport 300 – 450 units per hour. The idea was to create a semi-automated solution using the SSI Autocruiser whereby the cruisers

– controlled by the warehouse management system – transport the SKUs to the different picking zones.

“The system was created in two phases. It was important that the first phase was completed in off-peak season and during the holidays in July and August - including software, platform, track network and LogiMat. The second phase follows in 2013”, explains Jacob Andresen, Supply Chain Manager at Creativ Company. “We chose SSI Schaefer as suppliers to ensure future growth. The solution was an excellent combination of lightweight tracks and storage lifts. The company has brought a high degree of accuracy and professionalism to the table during the very short project phase.”



Fish and seeds

Kuwait City, Kuwait. SSI Schaefer Middle East & Africa and Stack Group installed the largest storage system in Kuwait based on the R 3000 shelving system and PR 600 pallet racking.

The Public Authority for Agricultural Affairs and Fish Resources (PAAFR) combined the materials supply of most of its warehouses in a modern system, relying on the tried and trusted processes for warehouse storage and management from SSI Schaefer.

The Kuwaiti government decided to work with the consortium of the two companies for the following reasons:

The enormous success story with satisfied customers, 100% access to the SSI Schaefer service team, the wide variety of successful installations in the region as well as the local availability of service and maintenance.

The warehouse is the centrepiece for PAAFR, which supplies seeds, fertiliser, pesticides and other articles for the agricultural industry, as well as supporting the modern fishing fleet. With the new setup, the ministry modernised the offering and the distribution of the material. The result: Considerable cost savings in comparison to the rental of multiple warehouses at various sites in Kuwait.

The amortisation time is a maximum of 6 years. In addition, the warehouse is becoming the government's showpiece to pave the way to HACCP-compliant storage application modules with a warehouse management system.

With this carefully designed concept, SSI Schaefer is supporting the PAAFR in avoiding cross-contamination, reducing losses thanks to an improved overview in the warehouse and thus lowering costs due to expired products. As the main supplier of this sophisticated solution, SSI Schaefer once again demonstrated its innovative competitiveness in the Middle East.

75 Years SSI SCHAEFER

From a one-man operation to a large firm with international locations

Neunkirchen, Germany. In seven and a half decades, SSI Schaefer has undergone rapid development, creating a successful company history in the process: From the one-man business operating from a cellar workshop, to a large company group with around 8,500 employees and multiple international subsidiaries. Today, SSI Schaefer is the world's leading provider of warehouse and logistics systems.

In 1937, Fritz Schaefer, a trained plumber and welder, founded his company to produce "factory-made sheet metal goods". Initially, he began with the production of transport containers and other sheet metal items. In 1953, the established family company launched the groundbreaking development of the Lager-Fix container onto the market. Since then, the range of boxes and containers at Schaefer has grown continually. Matching shelves for the containers were soon added to the product range. In the 1970s, other storage systems were developed, such as the high bay racking

system. The same decade saw the formation of the waste technology division and the office furniture division followed in the 1980s. Internationalisation took a step forward and additional foreign subsidiaries were gradually founded.

The turn of the century saw the formation of the SSI Schaefer Group, covering the entire product range of in-plant logistics with its varied associated companies. The initial foundation of the group was the integration of SSI Schaefer Noell GmbH, formerly part of the Preussag-Noell Group, in 2000. As a general contractor for complex logistics solutions SSI Schaefer Noell, Giebelstadt, has been supplying its highly innovative, automated logistics solutions to complement the warehouse equipment from Fritz Schaefer GmbH ever since. One year later, SSI Schaefer Peem GmbH, Graz, was added to the group. With modular order picking and conveyor technology, SSI Schaefer Peem completes the product range of the group. In 2008, the SSI Schaefer Group was strengthened further with the addition of Salomon Au-



1950: Production of stackable milk crates

tomation GmbH in Friesach near Graz, Austria, which offer outstanding software and logistics expertise. The WAMAS warehouse management software provides extensive application options for tailored customer solutions.

With this comprehensive range of products and services, SSI Schaefer operates in the market as a total solutions provider for in-plant logistics. This is something that our customers value very highly. This is because they receive a complete solution from one source – with the assurance that the various components, due to their standardised interfaces, can be seamlessly combined to work together.

Largest order in Asia

For SSI Schaefer, the order from tobacco company Gudang Garam is the largest to date in the Asia Pacific region

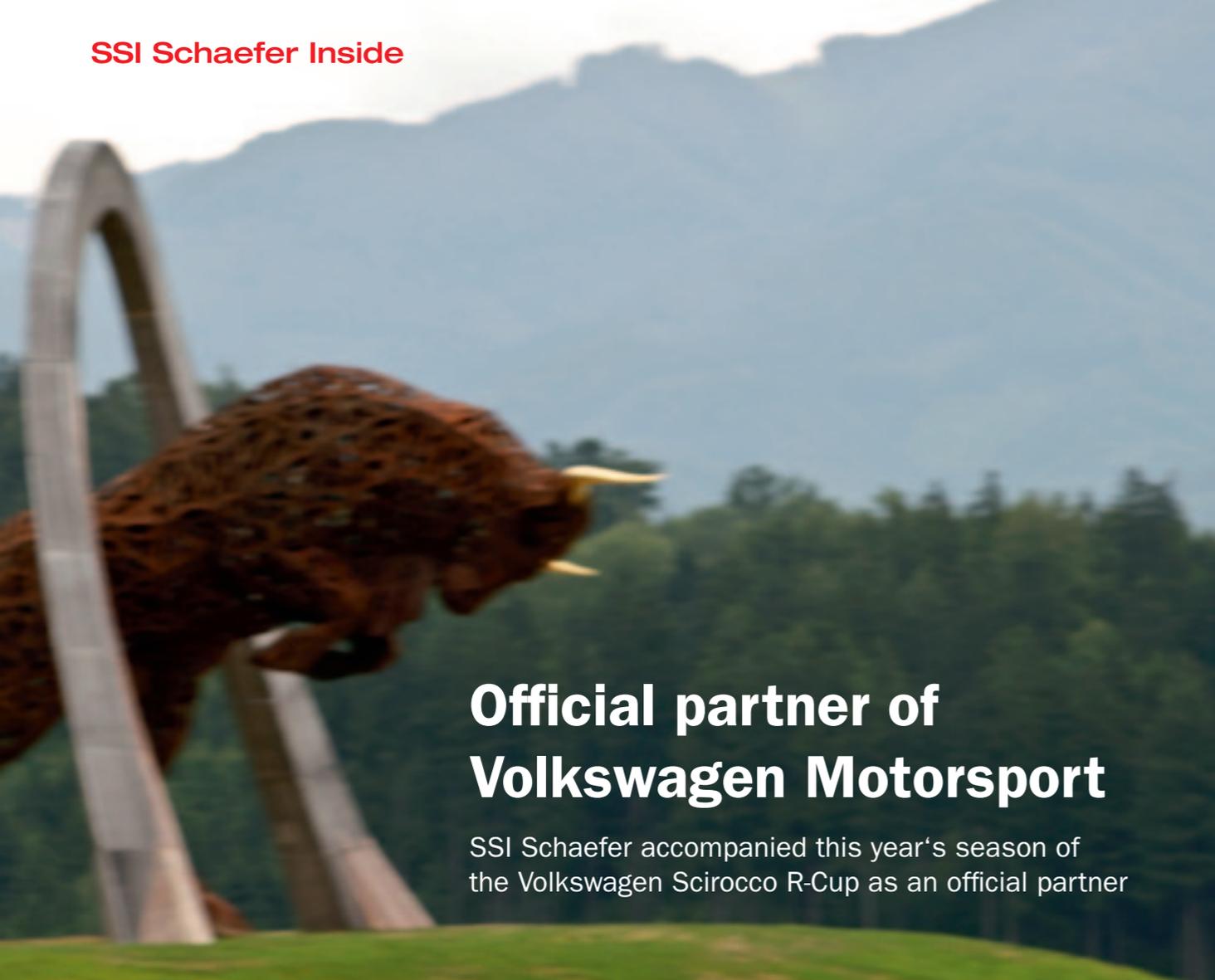


Kediri, Indonesia. One of Indonesia's largest tobacco companies, Gudang Garam, has appointed SSI Schaefer to set up three high-bay racking systems with a total of 150,000 pallet storage spaces. The first high bay racking system is set for handover at the beginning of 2013, with the remainder to follow at intervals of around 4 months. The order was preceded by two similar orders during which two high bay racking systems were created in a silo design in Gempol. SSI Schaefer has planned all warehouses under strict consideration of earthquake safety. The order also includes the supply of storage and retrieval machines and conveyor technology as well as the installation of the warehouse management system. This project is an excellent example of how SSI Schaefer can supply everything as a "one-stop shop". The storage and retrieval systems originate from SSI Schaefer in Giebelstadt, WAMAS from Salomon Automation in Austria and steel construction from German and 30% Malaysian manufacturing. For the steel construction, a total of over 10,000 t of rolled profiles was used.



SSI Schaefer constructed three high bay warehouses with a total of 150,000 pallet storage locations





Official partner of Volkswagen Motorsport

SSI Schaefer accompanied this year's season of the Volkswagen Scirocco R-Cup as an official partner

Neunkirchen, Germany. The Volkswagen Scirocco R-Cup 2012 is one of the partner series of the German Touring Car Masters (DTM), and took place for the third time in a row. The races are attended by a mix of motorsport legends, top young talent and celebrity guest starters.

Volkswagen has adopted a pioneering role with the Scirocco R-Cup among the international brand racing series. 80% lower CO₂ emissions due to natural gas power and a new sporty orientation cel-

ebrated its world première two years ago and has continued ever since.

In the 2012 season, the Scirocco R-Cup was held on eight dates from the end of April to October. The various circuits were located primarily in Germany, such as Hockenheim and the Nürburgring, but two of them were abroad: In May, the team travelled to Brands Hatch in the UK and in June to Spielberg in Austria. The young up and coming pilot, Jonas Giesler, competed in the yellow SSI Schaefer Sci-

rocco. With a remarkable performance, he ended the season in the Junior Cup in 2nd place and achieved 6th place in the overall competition as the top German competitor.

SSI Schaefer will continue to support the Scirocco R-Cup in 2013 as a partner of Volkswagen Motorsport. Fans can already look forward to many exciting races ahead.



New SRM generation Exyz ['æksɪs] for pallets

With innovative design features, Exyz offers a multitude of efficiency advantages, high flexibility and more storage capacity.

Giebelstadt, Germany. With the market launch of the latest generation of storage and retrieval devices, SSI Schaefer has taken a whole new path: moving away from the production of customised equipment through to the individual combination of standardised machine components.

Different, series-manufactured basic elements - from single or double-mast devices with one or two load handling devices for a single-deep, double-deep or multi-deep storage and retrieval system or an Orbiter version - form a comprehensive pool for customised SRMs. "With the one-mast and two-mast-versions of Exyz we have developed and implemented an entirely new modular design for the whole storage and retrieval market of heights between 8 and 45 metres", explains Markus Sellen, Product Manager for pallet-based SRM systems at

SSI Schaefer. "Since mid-2012, the concept is used for new projects and, where applicable, successively replaces existing storage and retrieval systems, including in retrofit projects."

The name Exyz stands for all the advantages of the new storage and retrieval system. "E" for efficiency in energy consumption and performance - on all three dimensional axes X, Y and Z: travel, hoist as well as storage and retrieval movements. A particularly notable feature of Exyz is its compact design that delivers high customer value. "Attractive price, reduced delivery and implementation times as well as high reliability with proven components", summarises Sellen. "But technological innovations implemented with the Exyz concept also relate to the monetary benefits that customers will achieve in their warehouse processes."



Exyz: Efficiency in every respect



10% of staff members at Giebelstadt are apprentices

Training at the Giebelstadt site

Thanks to the high proportion of junior staff, SSI Schaefer is preparing for the predicted shortage of skilled labour

Giebelstadt, Germany. "The shortage of skilled labour poses a threat for German intralogistics", warns the Association of German Machine and Plant Construction (VDMA).

Against this backdrop, SSI Schaefer based in Giebelstadt has launched an

exemplary training initiative and is thus continuing on its path of intensive exchange of expertise with universities, colleges and schools. The company will be offering 20 new apprenticeships to young professionals this coming year. For the basic training of new apprentices, a new training workshop is now

being set up with investment of a high six-figure sum and which will be officially opened on 22 September during the "Technical Training Day".

SSI Schaefer, Giebelstadt, is currently training around 100 apprentices, interns and students who are completing their practice-oriented dissertations at the company. Meanwhile about 30% of all new positions are filled from these contacts. In addition, there are also 50 apprentices and students with a permanent contract among the total of 530 employees.

Both the training offerings and the Bachelor courses of study in cooperation with Baden-Wuerttemberg Cooperative State University (DHBW), cover business studies and various technical areas of study. "With this concept we are establishing the principles at our company to develop further innovative products and sustainable services", according to Ramona Vian, Human Resources Manager at the Giebelstadt site.



Perfectly connected – Simple, safe and scalable

The SSI Autocruiser is the in-plant link between warehouse and production. The self-powered transport system feeds the workstations cost-effectively and flexibly.

update publishing notes

Publisher and party responsible for the content: SSI SCHÄFER / FRITZ SCHÄFER GMBH · 57289 Neunkirchen/Germany

Public Relations / Editor: Katharina Jung – eMail katharina.jung@ssi-schaefer.de

SSI SCHAEFER LTD.

83/84 Livingstone Road
Walworth Industrial Estate
GB-Andover, Hampshire SP10 5QZ
Phone +44 / 12 64 / 38 66 00
eMail solutions@ssi-schaefer.co.uk

SSI SCHÄFER

FRITZ SCHÄFER GMBH
Fritz-Schäfer-Straße 20
D-57290 Neunkirchen
Phone +49 / (0) 27 35 / 70-1
eMail info@ssi-schaefer.de

SSI SCHÄFER NOELL GMBH

i_Park Klingholz 18-19
D-97232 Giebelstadt
Phone +49 / (0) 93 34 / 9 79-0
eMail info@ssi-schaefer-noell.com

SSI SCHÄFER PEEM GMBH

Fischeraustraße 27
A-8051 Graz
Phone +43 / (0) 3 16 / 60 96-0
eMail sales@ssi-schaefer-peem.com

SALOMON AUTOMATION GMBH

Friesachstraße 15
A-8114 Friesach
Phone +43 / (0) 31 27 / 2 00-0
eMail office@salomon.at

www.ssi-schaefer.com

