SSI SCHAEFER

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update

Company Magazine

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Dear reader,

The demand for greater efficiency and faster response times is becoming noticeably stronger. We are seeing this both in the business and retail sectors. When we order something online, we expect an immediate response or delivery. ASAP – as soon as possible – is the motto here!

Based on modern technology, speedy and seamless processes in distribution centres are guaranteed. Providing diligent and realiable support, a variety of warehouse and logistics systems support employees in storage, order picking and order assembly as diligent and reliable helpers in the background. Logistics centre operators are continually faced with ever increasing requirements, such as shorter delivery times, smaller delivery quantities and units, and store-adjusted order picking. As a result, they are looking for additional capacities and improvements to increase performance levels.

This is normally the point where we step in. Based on the wide product range of the SSI Schaefer Group, we are able to provide comprehensive advice to our customers. In addition, based on years of design and consulting experience, we also deliver the corresponding hardware and software components. Most importantly, we supply interfaces that work together seamlessly.

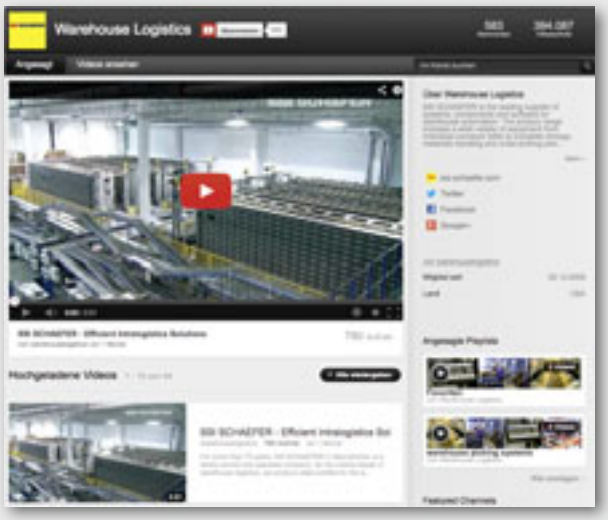
With regard to demographic changes and logistics centre employees becoming older, the demand for ergonomic workstation solutions is increasing. In line with this we have developed the new manual depalletising and palletising workstations that function according to the goods-to-person principle. These workstations can be flexibly adapted to individual employees to increase ergonomics and reduce physical effort. Read more on this topic in the SSI Schaefer Inside section.

Did You Know…?

Social media is not a foreign concept to us, because we live it! Did you know that SSI Schaefer has its own channel on YouTube? Stop by and take a look:
www.youtube.com/user/warehouselogistics
You'll find many interesting, industry-specific solutions and insights into our systems.

We look forward to you stopping by!

Your SSI Schaefer team



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Large Hub in Eastern Europe

For furniture retailer JYSK, SSI Schaefer has completed one of the largest logistics centres in Eastern Europe. Nearly 170,000 pallet positions, an intelligent material flow concept as well as the combination of modern automation technology and manual processes with an optimally designed warehouse management system.

Radomsko, Poland. At the new handling and distribution centre which was put into operation by the Danish furniture retailer JYSK Nordic A/S in Radomsko, around 100 km north of Kattowitz. Up to 900 pallets per hour can be simultaneously processed in goods receiving and shipping. “This turnover volume, however, is designed for medium and long-term growth“, explains Jacek Przerwa, System and Technical Director at the JYSK logistics centre in Radomsko. “Currently the throughput is at 50 to 60 percent of the potential volume - with rapid growth rates.“ This is because the new central warehouse is responsible for supplying the whole of Central and Eastern Europe. It also needs to provide a base for supplying the markets in Russia and China.

In Spring 2008, the decision makers at the Danish furniture retailer started planning a central logistics centre in Poland. Objective: to merge the Polish warehouses, increase throughput and create capacities for expansion into new markets. JYSK decided to modify the existing manual warehouse at the geographically convenient location of Radomsko to meet future requirements via expansion and automation. The contract for the logistics concept and turnkey implementation of the project was awarded to SSI Schaefer as general contractor.

With nearly 100,000 m² of usable space, the new logistics site is one of the largest distribution centres in Eastern Europe. The first requirement was that the large existing building complex of nearly 41,000 m² needed to be integrated. Secondly, the system design, material flow and automation components needed to be designed for a capacity of up to four new high bay racking systems with around 350,000 pallet positions. At the same time, the spacious corridor area of the building complex needed to be available for largely manual picking as well as for order assembly.

The implementation was carried out in several stages. First, three existing storage and picking facilities, each around 13,000 m², previously used as block storage, were expanded with an additional hall and corridor building. Via the material flow concept created in a project simulation, the separation of the incoming and outgoing goods areas was implemented by setting up 25 new goods receiving gates at the rear of the building. In addition, two further levels were integrated into the corridor building at a height of 5 and 10 metres, respectively. This meant the building level underneath could be used for storage, picking large and bulky items as well as for processing incoming and outgoing goods. The palletising of boxed goods, checking and replacing empty pallets as necessary, are also carried out on the floor level. “By setting up and spreading out the new gates, the consistent separation of the material flow and the system automation, we are twice as fast as before in the handling of incoming and outdoing goods alone”, evaluates Przerwa.

Work on the high bay racking systems began at the same time – initially at two of the four warehouses. The two others have been integrated into the system layout so that they can be erected quickly and connected effortlessly to the system technology when required.

The two new mezzanine levels in the four corridor buildings now provide space specifically for the installation of the distribution conveyor system for storage and retrieval in the high bay racking – without affecting processes on the corridor level. Following the concept of strictly separated material flows, the first level is dedicated to supply and disposal for the first high bay racking system, and the second level for the second. At the heart of the system is an electrical pallet conveyor on both upper floors. They handle all automated internal transports as well as the supply of the high bay racking systems in the central JYSK warehouse.

Primarily heavy and slow moving articles as well as bulky goods are placed into storage in the 24 aisles of the high bay racking systems. Due to the wide range of items with around 5,000 different products, all the conveyor technology as well as the transfer positions and the storage and retrieval systems in the four aisles of the second high bay racking system are designed for the transport of large pallets with measurements up to 1,200 x 2,400 mm. For the initial equipping of the system alone, SSI Schaefer has supplied around 7,000 of these platforms for storing furniture and larger packing units.

Scan the QR code for more info on this project

Facts and Figures

Project objectives:

- Integration of the Polish warehouses, providing a centralised supply for Central and Eastern Europe
- Additional capacities for expansion into new markets
- Faster order processing and increase in throughput
- Future-proof due to doubling of capacity if required
- Intelligent, route-minimised material flow concept

Our scope of supply and services:

- Planning, design and implementation
- Racking system incl. steel construction, roof and wall coverings
- 2 high bay racking systems of 12 aisles each, double-deep (high bay system 1: L 160 x W 94 x H 40 m, high bay system 2: L 144 x W 94 x H 40 m)
- 24 storage and retrieval systems for storing euro pallets, transport platforms, mesh box pallets (S, L, XL)
- Pallet conveyor technology, vertical transfer lifts, film stretchers and electrical pallet conveyor
- Warehouse management system, material flow controller and forklift control system

Vertical transfer lifts transport the pallets onto the upper levels for transfer to the electrical pallet conveyor

The electrical pallet conveyor supplies the high bay racking systems

Collection, IT entry, contour and weight control and transport security for pallets during storage

An unfamiliar sight: view from above

Behind the Scenes: Logistics for Online Shops

For the NETRADA Group, SSI Schaefer has developed one of Europe's largest modular shelving systems

Lehrte, Germany. The new distribution centre has been in full operation since August 2011. Just nine months before, the decision-makers awarded the contract for the conversion work during building operations. In Lehrte, the fashion e-commerce specialist operates one of six warehouse and distribution sites worldwide. The area of around 30,000 m² provides approx. 50,000 m² of storey, warehouse and order picking space. The increase in storage space was achieved by the company by setting up two 3-storey modular shelving systems. This is one of Europe's largest systems of its type. The contract for planning, installing and equipping the system was awarded to SSI Schaefer.

For NETRADA, selecting a supplier for re-structuring the distribution centre, the main focus was on the flexibility of the system in terms of its focus on the range of articles, the throughput and the number of integrated clients. "SSI Schaefer had the best system solution, offering a concept for a dynamic handling system we could use to process flat packed goods, hanging goods, accessories, boxes and hazardous goods optimally and easily", says Axel Klafs, Site Manager of the new NETRADA distribution centre.

NETRADA is a leading full-service provider in fashion e-commerce and as the exclusive partner of well-known brands offers a range of services for the entire e-commerce process chain: Implementation and operation of the online shop, content management, product photography, online marketing, logistics and shipping with returns management as well as payment and invoicing and customer service – with annual sales increases showing two-digit growth figures. Important components in this success are the processes in the NETRADA distribution centres worldwide. For this reason, a throughput-oriented solution was sought for re-structuring, as fashion is "has a short life span".

Based on the highly stable, multifunctional R 3000 racking system, SSI Schaefer designed 3-storey modular shelving systems for each of the two halls, each with two mezzanine floors around 3 m above the corresponding ground level. Result: a flexible, made-to-order solution consisting of standard modules and system components.

"With the systematisation and system design, we have been able to achieve considerable optimisation in order picking and for employees more than 30 % reduction in routes travelled" according to Klafs. "An intralogistics solution that offers us interesting options for further expansion stages – such as automation components."

Versatile racking system for storing flat packed goods, hanging goods, accessories, boxes and hazardous goods

With the wire mesh bases, a completely new development was in use at Dispeo

Huge Dimensions Three-storey Racking Systems

At two sites, SSI Schaefer installed approx. 140,000 shelves for Dispeo

Lille, France. With new developments in racking construction, SSI Schaefer implemented an intelligent warehouse solution for the new logistics service provider Dispeo that markets e-commerce within the French group 3 Suisses International (3SI).

“We have decided to construct a new 40,000 m² distribution warehouse in Hem as well as expand an existing warehouse in nearby Toufflers to 40,000 m²”, according to Bernard Avril, General Director at Dispeo. In mid 2011, SSI Schaefer was awarded the contract for a project, which was challenging in many ways: tight deadlines, systems with impressive dimensions and the corresponding development work for the installed racking components.

The first objective for both warehouse sites was to create a concept for compact storage for an extremely diversified range of articles. SSI Schaefer designed two 3-storey modular shelving systems, each the size of 2 (Toufflers) and 3 football fields (Hem). Around 3 km of conveyor technology was integrated by SSI Schaefer at both Dispeo sites to optimally tailor the goods flow to the requirements of the service provider. The construction should be completed within six months. To keep to the tight, available time schedule, as many as 80 employees were working on site at times in a two-shift operation for assembling the systems. Here, the specialists were using a new assembly technology due to the enormous system sizes: Individual racking towers (W 1.30 x D 1.20 x H 9 m) were pre-assembled on the ground. Using a special lifting device, the finished towers were constructed and the intermediate elements installed on the towers.

Due to local fire safety regulations, SSI Schaefer developed an entirely new type of wire mesh base. This is because with the range of articles stored by Dispeo, the shelf base must offer a water permeability of 70%. With this new development, that will also be available for other European projects, SSI Schaefer has a unique selling proposition on the market. The system was handed over to Dispeo in December 2012.

Off to France

Neunkirchen, Germany. 50 industrial trainees at SSI Schaefer completed their project work in September 2012 with the viewing of both Hem and Toufflers sites.

As SSI Schaefer was awarded the contract for this large project, the apprentices from the third and fourth training years were involved right from the start. For four months, the apprentices produced and fitted – together and according to a rotation principle – the specially developed mesh bases intended for the two huge multi-storey modular shelving systems. The journey to France meant that the apprentices were able to witness the results of their work on site.

At the Neunkirchen site, SSI Schaefer is training over 130 apprentices, including around 90 in the industrial sector.

Flexible Change in Designs Without Setup Times

For fashion jewellery supplier, beeline, SSI Schaefer designed the small quantity order picking operations to be more efficient

Cologne, Germany. “Delivery quality, speed and sustainability were the key reasons for the change from the previous static warehousing to order processing with dynamic, resource-efficient components”, says beeline Founder and Managing Director Ulrich Beckmann. The contract for construction and intralogistics equipment of the new distribution centre was awarded to SSI Schaefer as general contractor.

Controlled by the powerful, modular design WAMAS warehouse management system, energy-efficient conveyor technology in combination with dynamic systems ensures high throughput and rapid order processing. The basis: a two stage, sorter-based batch picking with a pick-to-bucket system. “With this concept we are currently fulfilling 2,000 orders a day. This corresponds to a turnover of 10 million articles a month – several times higher than previous throughput levels”, says Beckmann. “The intelligent combination of system components gives us a high level of flexibility and efficiency without the interventions and setup times previously required, especially with seasonal design changeovers.”

The logistics centre is implemented primarily on two levels. This meant that SSI Schaefer was able to provide a total usable area of almost 22,000 m² for beeline. On the ground floor there is sufficient free space for processing incoming and outgoing goods movements, shipping preparation work and order consolidation. In the upper storey are the repacking and picking workstations as well as a live storage system for large volume articles.

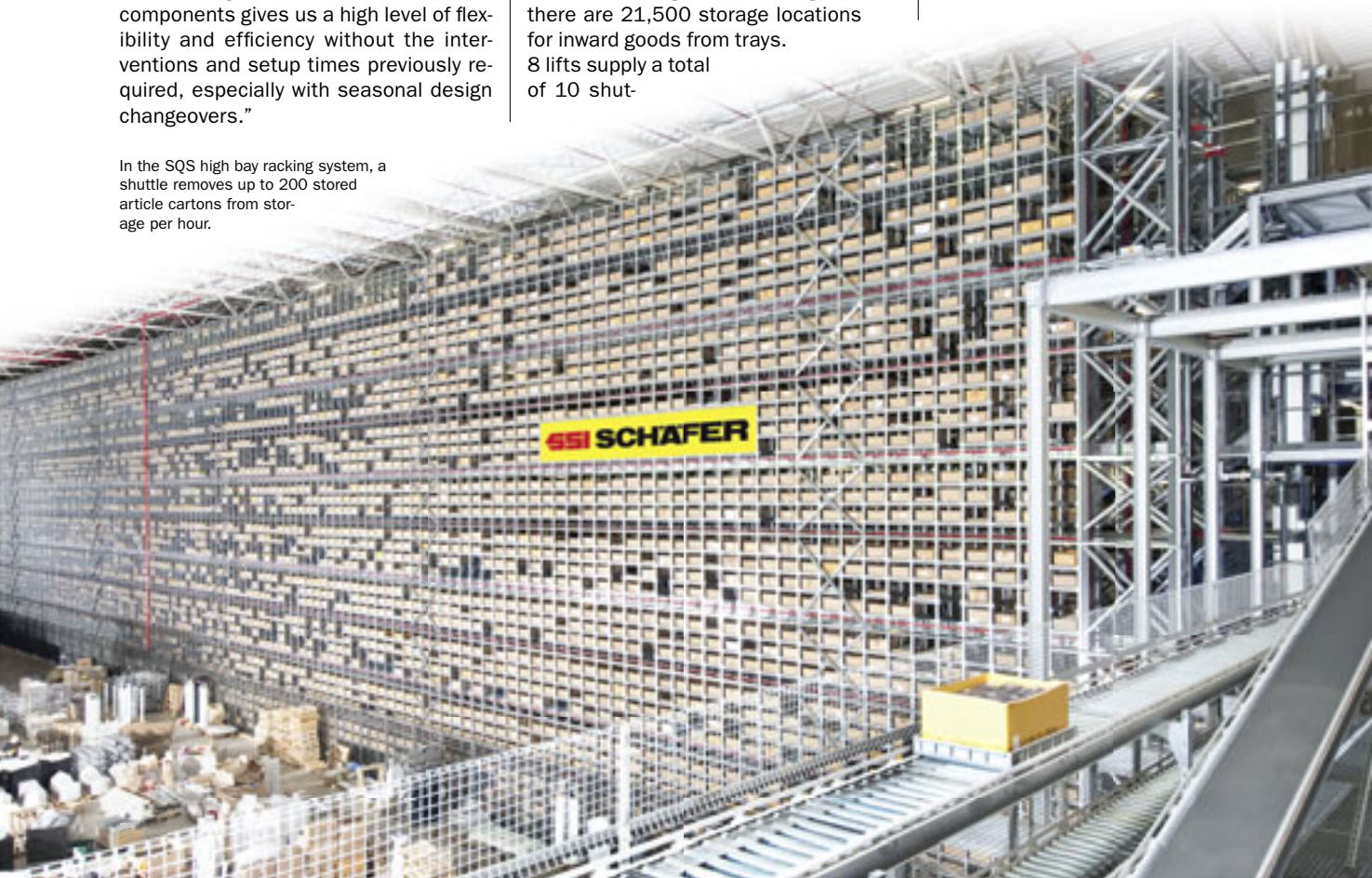
In the automatic small parts warehouse, 4 energy-saving storage and retrieval systems with up to 100 inward and outward movements per hour allow for rapid double-deep storage. It provides around 70,000 storage locations. In the material flow concept implemented, the automatic small parts warehouse is used simply as a buffer warehouse. The picking stations are supplied from the Schaefer Quad System (SQS).

In the SQS high bay racking system there are 21,500 storage locations for inward goods from trays. 8 lifts supply a total of 10 shuttles that serve the storage locations in the 2-aisle SQS warehouse.

Pick-to-bucket system: Every picking station has a collection system with 16 funnels assigned to it.

The system design of the picking workstations incorporates a 2 x 120 m long sorting route that runs underneath the picking shafts. This is used to convey sorter trays in which the picked articles are transferred from the filled funnels continuously in line with the specifications of the warehouse management system. The allocation of the funnel contents is carried out sequentially on the selected sorter trays.

“With the new logistics centre we are equipped for the future both technologically and environmentally”, says Beckmann.



In the SQS high bay racking system, a shuttle removes up to 200 stored article cartons from storage per hour.

Innovative Sector-specific Solution

Handling of half and quarter pallets in just one system

Giebelstadt, Germany. Industry puts increased emphasis on half and quarter pallets (display pallets). These are especially suitable for replenishing store shelves as one complete unit, presenting items on sale or initiating impulse buying. The advantages lie in the optimal use of the sales areas and shelf space as well as cost reduction thanks to minimised product damage and less clear-up work.

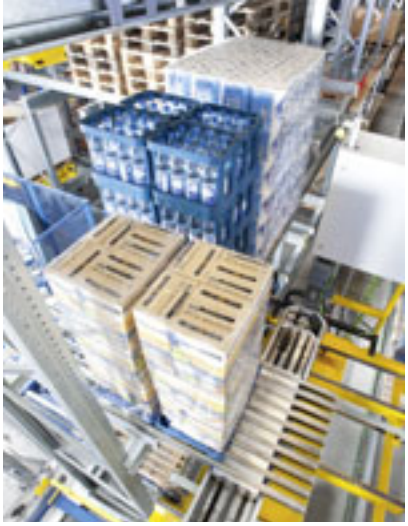
Handling in transfer and distribution centres was previously problematic. The delivery of the quarter and half pallets is normally carried out in the incoming goods area on euro pallets as the load carrier. In the outgoing goods area, however, the display pallets are loaded without support pallets because most stores do not usually have lifting gear available for receiving goods. The result: high, time-intensive effort in labour, reduced throughput as well as picking errors and limitations in picking quality.

Load handling device with quarter display pallet

These issues are being remedied thanks to the integrated total solution, the Schaefer Display Sequencer (SDS), currently unique on the market. Comprising tried and tested individual components, an intelligent storage and picking solution for the automated handling of both pallet types was developed in one system. Here is the kicker: thanks to this concept, the storage and retrieval system has become a fully automated and efficient picker. As well as optimal process reliability, this results in a considerable reduction in handling costs and greater handling capacity thanks to the automatic handling of display pallets without additional loading equipment. A solution for the cross-docking of display pallets, this comprehensive and practical solution is currently only available from SSI Schaefer.

With the SDS design, several hundred quarter pallets can be sorted and transferred every hour in inward and outward storage depending on the system design. For material flow control, interfaces for all standard Warehouse Management Systems, such as WAMAS from SSI Schaefer or SAP-based solutions, are automatically included as standard.

Scan the QR code and read the complete press release



In one operation, the load handling device removes 2 quarter or 1 half pallet from the storage spaces

How does the Schaefer Display Sequencer work?

1. Separation of the half and quarter pallets from the parent pallet in the incoming goods area.
2. Alignment of the display pallets always in the same positioning.
3. Transfer to conveyor system.
4. From the conveyor system to the storage and retrieval system: when removing the pallets, the storage and retrieval system picks up either 1 half or 2 quarter display pallets.
5. Outward storage = picking. The removal of the various pallet types can take place from various storage spaces. This means that the storage and retrieval system implement store-based sequencing and order picking in the outward storage movement.
6. In the outgoing goods area, the placing of goods is also store-adjusted – with even floor and without support pallets.

Warm Through the Winter

Amsterdam, Netherlands. Barts, the Dutch manufacturer of winter accessories, has put its new distribution centre in Amsterdam into operation. Speed, greater storage capacity and efficiency are the key features of the new warehouse.

Bart Koene founded his winter label Barts in 1992, and 20 years later it has grown into a comprehensive accessories label with collections for adults and children. In the area of winter accessories, Barts is currently one of the largest brands in Europe.

Due to Europe-wide growth, Barts decided to build a new 9,000 m² distribution centre at the company's headquarters. The warehouse covers 2 levels. On the ground floor, SSI Schaefer installed pallets and longspan racking systems. From here, the picking zones on the first level are supplied via conveyor technology. The outgoing goods process is also automated.

"The new system has been planned for the future. One of the principles was to automate the fulfilment area – with a good return on investment. We ultimately sell seasonal products", says Olaf Smits, Logistics Manager at Barts. "Our seasonal peak has more than doubled in 3 years. This means that we sell up to 4 million articles within three to four months."

The mobile racking system provides space for 14,500 pallets or for 13,000 tonnes of goods

Cold Store for Seafood

Pacific Cold Storage establishes the largest mobile racking system in Asia

Samut Sakhon, Thailand. In the face of increasing worldwide demand for frozen seafood, special measures are required on the supplier's part to be able to offer high quality products at all times. For the new cold store at Pacific Cold Storage Co. Ltd (PCS), a leading rental supply company of cold stores in Thailand, SSI Schaefer has installed a mobile racking system with over 14,500 pallet storage spaces (approx. 13,000 tonnes of goods) at storage temperatures of -25 °C.

When the cold store operator began planning a new central cold store warehouse in Samut Sakhon, the following requirements were the key focus: rapid and flexible response to a continually changing demand, logistics optimisation, improvement of internal workflows and achieving cost savings. The company decided in favour of a modularly designed system that is ideal for refrigerated and cold stores.

As in a previous project, SSI Schaefer and PCS worked closely together right from the start. The aim was to create an optimal solution where all aspects of the building structure are taken into account.

Today, a carefully designed system optimisation with 42 m long mobile bases with night park option and automatic aisle lighting ensures exceptionally efficient and safe storage operations. Incoming and outgoing goods are entered and checked via PDAs using wireless LAN on the mobile racking systems. The new warehouse is 40 m wide, 138 m long and equipped with modularly designed mobile racking systems that cover a total area of 5,520 m^2 in three storage rooms.

The new concept not only doubles the storage capacity in comparison to a static solution. The warehouse operator is also able to differentiate itself in a highly competitive market. Due to the automatic aisle lighting, the night parking and the space-saving storage, the electricity costs in the cold store have been dramatically reduced. Thanks to direct access to the pallet storage spaces, the goods are easier to locate. In addition, the pallets can be moved very quickly – around 100 items per hour.

"The system has accelerated material flow considerably", says Jitchai Nimitpanya, Chairman of PCS. "The clear organisation of the warehouse and intake zones has greatly streamlined the order processing and compilation. The error quota has also dropped to virtually zero."

Mobile Fruit Storage

Warsaw, Poland. The fruit-growing sector is also attempting to optimise its processes and speed up dispatch. The mobile racking systems from SSI Schaefer combine the positive features of stationary systems with an intensive block warehouse and offer optimal space utilisation. For channel storage, the Schaefer Orbiter System (SOS) is the right choice. Both systems can be used in the refrigerated sector without problems.

SSI Schaefer has recently installed mobile racking systems for various firms in the fruit growing industry, including Soska Owoce i Warzywa, Fruit Family, a subsidiary of Activ, and Elpa Fruit. All three companies grow fruit, and sort, pack and distribute it in domestic and foreign markets. At Soska Owoce i Warzywa, the SOS shuttle system also operates in the outgoing goods zone and ensures the rapid dispatch of pallets to the supermarkets.

Efficient Beverage Logistics

SSI Schaefer has implemented an ingenious logistics solution for Russia's leading juice producer, Lebedyansky

Lebedjan, Russia. Lebedyansky is the market leader in Eastern Europe and the sixth largest juice producer worldwide. SSI Schaefer, Giebelstadt, was awarded the contract for the logistics centre at the Lebedjan production site, approx. 600 km south-east of Moscow.

"Due to the increasing demand and our continuous growth, we needed greater warehouse capacity and an intralogistics system designed for higher throughput with mostly automated processes", explains Sergey Podchepaev, Production Manager at the new distribution centre. "For a project of this scale, we were looking for a reliable general contractor who was able to both develop a solution and provide the necessary systems, but who could also consider the specific conditions in Russia both in terms of material selection and in terms of the legal requirements." SSI Schaefer offered comprehensive documentation in line with Russian regulations and obtained certification for the plant.

The multifunctional warehousing and transport concept, intelligent material flows, modern technology and automation components as well as the application-specific warehouse management system from SSI Schaefer provides a sector-specific solution with turnover and order-based goods output with a high throughput.

After demolishing the old building and erecting the new logistics centre, the racking system was constructed and the systems installed. The strong frost caused difficult assembly conditions and required the inclusion of two breaks in works during winter (this had been scheduled in at the planning phase).

The high bay racking system provides more than 49,500 pallet storage spaces for single-deep storage. Two monorail loops as well as over one kilometre of roller and chain conveyors along with further conveyor system components were installed. Twelve storage and retrieval systems are at work in the aisles of the high bay racking system.

Pallet infeed station

"The high bay racking system consistently provides the required ambient temperature of +5 °C. The storage capacity and throughput have increased in line with our expectations because of the project implementation", confirms Podchepaev.

Scan the QR code for more info on this project

Exterior view of the logistics centre

Hungarian Pasta

Salomon Automation implements warehouse extension at Gyermelyi Logisztika Kft.

Gyermely, Hungary. Every day Gyermelyi, Hungary's largest producer of pasta, produces tonnes of products and delivers them to over 100 customers all over Eastern Europe. Due to the remarkable growth of Gyermelyi and the storage of new goods categories, the fully automated high bay racking system from 2004, developed by Salomon Automation as a general contractor, soon hit its capacity limits several years later. As a result, Gyermelyi decided to appoint the project to expand the fully automated warehouse to Salomon Automation. In just 13 months of construction time, the high bay racking system was equipped with 2 additional storage and retrieval systems to provide almost 9,400 storage spaces. Since the beginning of 2012, the warehouse has been operated in full automation by means of 5 storage and retrieval systems.

The WAMAS warehouse management system controls and manages all the logistics processes. In this way, WAMAS assumes the operational control and management of goods flows in logistics and support processes, including resource planning and work progress. Every day, up to 340 pallets are processed in the incoming goods area and up to 350 pallets at dispatch. This ensures timely outbound delivery of the range of goods to all stores.

Process cost savings based on the comprehensive logistics software, greater energy efficiency as well as ergonomically designed workstations are the key features of the new goods handling centre.

Automatic small parts store with integrated emergency concept that permits variable distribution to the aisles.

Fit for the Solar Age

Acting as a general contractor, SSI Schaefer contributed a balanced mixture of manually operated, semi and fully automated storage systems.

Kassel, Germany. In mid April 2012, SMA Solar Technology AG, world market leader in photovoltaic inverters, put its new logistics centre in Magna Park Kassel into operation. In the roughly 47,000 m² large hall, the company is combining and optimising its logistics processes for supplying materials to the production area.

The SSI Schaefer Group contributed to the project as a partner for implementing the intralogistics equipment. “The overall concept won us over in terms of quality, flexibility and response capability”, confirms Dr. Armin Lohse, Vice President of the Launch Management & Supply Chain at SMA. With regard to the tight time window, too, the decision was absolutely the right one: “It took just ten months from planning through to the first partial commissioning process. To be able to achieve this, we needed a reliable partner with the same concept of professionalism and goal-orientation as us.”

A business relationship based on tradition: For around 15 years, SMA has been using container and racking technology from SSI Schaefer, e.g. shelving, pallet and live storage racking. The bulk of the manually and forklift operated racking in the new logistics centre also comes from the systems provider from Neunkirchen. A special significance in the technology-driven supply chain at SMA is given to the 5-aisle automatic small parts store in the service area as well as a semi-automated storage system for mini-load containers, however. The latter is used for just-in-time supply of all the production sites.

In the service area, faulty inverters returned by customers are initially taken in and stored temporarily. The WAMAS software solution from SSI Schaefer that is linked to SAP maps the warehouse structure including the compartment assignments. Based on this information, the system determines the free compartments and includes in its assessment factors such as height classes, buffer fill levels, distribution and availabilities. The loading units are then conveyed via the conveyor technology loop to the assigned aisles, where they are picked up by the relevant storage and retrieval system and placed into storage in one of the 9,940 storage spaces of the automatic small parts store. The response is sent to SAP at the same time. The outward storage movements follow two principles: The removal from storage of faulty inverters is triggered by the production control system and sent to SAP via the warehouse control system. Following repair, they are placed back into temporary storage in the automatic small parts store. The process of outward storage of repaired replacement parts on the other hand follows specific information such as serial numbers that are included in the orders generated by SAP.

The five storage and retrieval systems of type SMC 2 are compact two-mast devices. At driving speeds up to 5 m horizontally and 4 m vertically per sec-

ond, around 62 inverters can be moved in and out of storage per aisle each hour. Access to the various sizes of load carriers is provided via load handling device designed as a combined telescopic table and swapping device.

Greater flexibility was achieved via the 3-storey, semi-automated small parts store with a special conveyor technology solution for containers and cartons. The platform system with integrated live storage racking is embedded into a pallet racking system with approx. 460 storage spaces. The mini-load container system is used to fill the route trolleys bound for the production area. Process reliability is therefore especially important here. If problems arise in the system, the production departments at all sites will be at a standstill two hours later, if not before, as they would have no material stocks. “For this reason, we have decided in favour of partial automation only”, explains SMA Project Manager Dr. Lohse. “This means that our flexibility remains unaffected and we are able to control our resources adequately.”

The containers picked from the live storage racking have a barcode added, are positioned manually on the ESD-proof container conveyor technology and thus fed onto one of the eight destination tracks.

“The overall solution from SSI Schaefer met our requirements exactly for a streamlined and flexible process design”, summarises Dr. Lohse.

Scan the QR code for more info on this project

Platform system with integrated live storage racking

Retrofit – New from Old!

Thanks to the comprehensive modernisation of hardware and control, the automatic small parts store from SKF is now once again using the latest technology available.

Berlin, Germany. SKF Lubrication Systems Germany AG is part of the SKF Lubrication Business Unit, the world’s leading provider of central lubrication technology. At the Berlin site, different materials, screws, nuts, pumps, and shafts for central lubrication systems are stored according to the FIFO principle. A four-aisle automatic small parts store provides approx. 30,000 storage spaces.

All components of the storage and retrieval system were replaced, except for the mast and undercarriage cross beam.

“After more than 15 years, the warehouse management system software, the automation, and the system components, including the material flow control, needed to be replaced”, reflect SKF Project Managers Walter Althoff and Thomas Lehnigk. Accordingly, SKF coordinated the project in two phases. In the first project phase, the new warehouse management system from SSI Schaefer was introduced and connected to the material management system from SAP. As a modular warehouse management system design, it permits the exact customisation of the warehouse software to the conditions at SKF. The automatic small parts store was modernised in the second project phase.

Due to the maximum height restriction set by the building, the previous equipment installed was primarily made up of custom designs. Everything was replaced, with the exception of the mast and the header and ground beam of the storage and retrieval systems. Starting with the motors, running wheels, sliding lines and gear units, to the load handling device through to the rails. Now, the storage and retrieval systems are also equipped with an energy recovery system. As part of the storage and retrieval systems, SSI Schaefer has replaced the outdated on-board S5 controls with stationary S7 controls. The container and tray conveyor technology was also replaced.

The retrofit project at SKF was completed in July 2012. “For us, increasing the throughput speed was only one objective”, the SKF Project Manager continues. “We were aiming for a modern IT and communication solution and wanted to significantly reduce wear as well as maintenance and repair costs for hardware. Thanks to an energy recovery system, the energy consumption is also reduced. Our expectations were all met in terms of the project objectives.”

It's All in the Mix

> "It is our deliberate decision to keep the process in the warehouse traditional. You have to choose the concept that best fits your company."
>
> Lex de Wijn, Managing Director at Haco

Apeldoorn, Netherlands. Haco Tail Lift Parts recently moved into its new, future-proof logistics centre, covering a storage area of 2,000 m². SSI Schaefer was awarded the contract for the warehouse equipment and installed a mixture of racking systems: pallet racking, long-span racking with various load capacities, modular shelving, racking with drip trays and fixed freestanding racks. In total, the warehouse stores up to 800 article lines. SSI Schaefer also supplied the workshop equipment, consisting of height-adjustable workbenches and cupboards.

Haco is a leading wholesaler and supplier in Europe in the area of loading board wall spare parts for all markets. In addition to the provision of original components, Haco concentrates increasingly on developing alternative standard products. Haco now sells more than 3,000 of their own products.

"Due to our new course, Haco is now the European market leader in the area of spare parts for lift loading platforms. We now even supply wholesalers and have now also made agreements with large dealer organisations, including DAF, MAN and Scania", explains Lex de Wijn, Managing Director at Haco. "Sales in the past year have risen by more than 140 % so we have completely outgrown our old building. The new logistics concept is an ideal fit for our processes."

In addition to various racking systems, SSI Schaefer supplied height-adjustable workbenches for the workshop

Automation for the Paint Industry

A high-bay pallet racking system for Asian Paints

Khandala, MH, India. Asian Paints is the largest manufacturer of paints and varnishes in India and the third largest in Asia. To achieve its strategic objectives, Asian Paints appointed system integrator Bastian Solutions. Asian Paints wanted the latest technology for their large warehouse and shipping centre. For the planning, delivery and installation of the steel construction for the high bay racking system, Bastian Solutions worked together with SSI Schaefer.

The installation of the high bay pallet racking system began in January 2012. The high bay racking also offers around 14,200 storage spaces for raw materials, as well as around 18,200 storage

spaces for finished products. The project was successfully completed in June 2012. The result: Maximum storage and picking performance for increasing market demand.

For manual handling there are under-grip handles on the fronts of the QX container in the stacking rim

New Containers for Volkswagen

The new QX containers can be automated, ensure cleanliness and much better protection of the delicate engine parts.

A robot packs the crankshafts in the QX containers

Salzgitter, Germany. One Volkswagen site, and one of the world's largest engine factories, is located in Salzgitter. This site, with around 6,000 employees and covering an area of over 2,800,000 m², produces engines for the entire Volkswagen Group.

The cleanliness of the components is of critical importance for the site. Automation and rapid, efficient processes also play an increasingly important role. In terms of production equipment, Volkswagen is focussing not least on a new generation of transport containers: the QX container series. The path to finding the new containers was less than conventional, however. Even without an order or declaration of intent in place, SSI Schaefer, Neunkirchen set to work together with Volkswagen on developing a new range of containers for the automotive sector. "The greatest challenge was to meet all of Volkswagen's requirements in just one container", explains Axel Breitkreuz, Product Manager at SSI Schaefer.

About a year of development work and much blood, sweat and tears were invested into the new transport container. The QX combines all the benefits of container research and development from recent years. The plastic container, with dimensions of 1,000 x 600 mm and 600 x 500 mm, is designed to work perfectly with standard industrial pallet dimensions of 1,200 x 1,000 mm. The QX is currently being used primarily to transport new and delicate engine components: crankshafts, cylinder head modules and auxiliary unit holders.

The QX container has smooth internal walls that make the washing process considerably easier. The container side walls can also be fitted with a locking device as required, and this is used to place thermoformed inlays or other component retainers into the container. The innovative drip edge/stacking rim also ensures that neither spraywater nor dust particles (ø > 1 mm) can penetrate the container.

Another key aspect: the QX container series can be fully automated, which is particularly useful for the workflow of crankshafts. This is because a robot now loads components, which have been thoroughly cleaned, directly into the container. The loading process is carried out in three adjacent stacking boxes according to a chaotic storage system. There is room for three crankshafts in one container. When eight containers have been loaded into one stacking box, a light signal appears. A worker then removes the pack from a transport trolley, adds a label and seals the top container with a lid as well, to protect against dust and spraywater. The crankshafts, manufactured and packed according to the Kanban principle, are temporarily stored in a buffer zone and then transported off via an electric tractor vehicle to the assembly line.

"Cleanliness, automation capability, stability, optimal volume use, washable and precision fitting – the QX containers passed all our tests and won us over", explains Torsten Fellenberg, Logistics Planner in the Volkswagen plant in Salzgitter. As the first series containers were produced, orders for another 30,000 containers followed.

Scan the QR code for more info on this project

Future-proof Spare Parts Store

Efficient storage and picking concept for Covs Parts

View of the conveyor technology, the 2-storey long-span racking system and in the background, of the pallet racking

Perth, WA, Australia. Automotive Holdings Group Limited (AHG) is a diversified automotive retailing and logistics group with operations in Australia and New Zealand. In July 2011, AHG acquired the Covs business which sells and distributes genuine car parts and other parts and accessories, as well as mining and industrial products in Western Australia. AHG made the decision to relocate from the existing premises to a purpose built 10,000 m² distribution centre in Welshpool which would allow for the growth of the Covs business. This resulted in Covs forming a working partnership with Schaefer Systems International and Crown Warehouse Solutions to provide a picking and storage system to meet their current and future requirements.

SSI Schaefer equipped the new logistics centre with pallet racking, a narrow aisle pallet warehouse, a modular shelving system and a 2-storey long-span racking system. The racking system was designed so that a future third level can be easily added to accommodate further growth.

Covs business model provides for deliveries of parts to be made to the same customer up to 5 times a day. It was important that they are picked quickly and efficiently, especially urgent orders. To achieve this, Schaefer supplied its lightweight conveyor system with zone routing and sorting. The WAMAS software was integrated into the existing warehouse management system at Covs. It ensures that the containers reach the correct zones. The system was put into operation in October 2012.

Shelf containers with dividers for up to 8 compartments.

Car Parts Re-organised

Made-to-measure warehouse solution ensures rapid response times at car parts wholesaler

Oberhausen, Germany. The requirements to the entire car parts wholesaler industry have changed fundamentally over time. For example, in line with the increased number of car manufacturers and models, the variety of spare parts has grown immensely.

To be able to include other product and goods groups into the range, Conrad Autoteile GmbH has expanded its storage capacities. Since February 2012, Conrad has been storing more than 50,000 different car spare parts in OEM quality on 2,500 m². The rapid access to a further 500,000 article numbers is ensured through contacts in a trade and industry network. The workshop customer ultimately determines when the delivery is made: all parts located in the actual warehouse are – where required – supplied within 90 to 120 minutes after receipt of order via the in-house transport fleet. “It is precisely this flexibility and speed that our customers appreciate”, according to Klaus-Werner Conrad, Managing Director at Conrad Autoteile GmbH.

The hub of the new spare parts logistics system is the picking and take-away warehouse. The bulk of the spare parts are stored in a 3-storey R 3000 modular shelving system. “This system is the core of our company. It permits the seamless material flow for our workshop customers as well as an extremely high take-away quota for our shop customers”, according to Conrad.

In addition to the modular shelving system, SSI Schaefer has installed pallet racking for 280 euro pallets. It is used to store batteries, wheel rims, oil, antifreeze brake fluid, and more.

“We offer a particularly high level of availability of the entire range of parts – and all this entirely without automation”, continues Conrad.

Special Tools Cleverly Stored

New special tool warehouse for optimised processes

Memmingen, Germany. In conversation with SSI Schaefer, Peter Reisacher, Managing Director at Autohaus Reisacher, found out about the newly developed locator warehouse for special tools. A system that had already been tested successfully at the Volkswagen Centre in Ingolstadt. “We were already familiar with the SSI Schaefer locator warehouse from the spare parts sector”, according to Reisacher.

The implementation took place shortly afterwards, in August 2012. What appears to be a simple, 6 m long modular shelving system, now forms the basis for the new special tool warehouse. The modularly designed shelf container system houses more than 90 % of the special tools in drawers. Each of these tools has a defined storage location that is referenced on the IT system. Here the shelf containers also ensure the safe transport of the tools.

Like virtually every established BMW dealer, BMW Reisacher in Memmingen has around 1,100 special tools. Previously, the car dealership had stored them primarily in cupboard systems with vertical heavy load drawers. If a tool was not hanging on the hook, it could not be tracked without problems. The cupboard drawer also continually caused the expensive and sometimes heavy tools to fall down.

Now, every tool is entered into the IT system with its storage location and this location is uniquely identified on the new system with number and barcode. In the issueing process, the fitter then defines and notes the required special tools from the repair instructions. This information is used by a warehouse employee to create an issueing document. The document gives the staff number, fitter name, tool number, storage location and issueing date. If the tool is lent to a partner or another Reisacher site, this is also registered. When the tool comes back, following a visual inspection it is taken back to its intended position by the warehouse employee and the return is acknowledged.

The shelf containers are also used to safely transport the tools

More than 90 % of the special tools are stored in the drawers

“We have been completely won over by the new warehouse. So much so, that we will also be implementing the system in our other three car dealerships. The synergies this produces provide us with a decisive advantage”, says Reisacher.

Order for SAP EWM Follow-up Project

Koprivnice, Czech Republic. Brose, an international supplier for the automotive industry, entrusted the intralogistics specialist SSI Schaefer, Giebelstadt, with the design, planning and turnkey construction of a modern logistics complex for their manufacturing plant in Koprivnice.

The scope of supply and services included an automatic high bay racking system and an automatic small parts store that form the backbone of material supply in production. The silo design in the high bay racking system provides space for around 9,700 euro pallets and mesh boxes. Five one-mast Exyz storage and retrieval systems ensure energy efficient storage and retrieval. The automatic small parts store has about 23,500 container storage spaces. The SAP EWM module means that SSI Schaefer provides an advanced material flow control of the entire system and an interface-free connection to the SAP system.

This project once again sees SSI Schaefer reinforcing its leading position in complex system solutions for the automotive industry.

Lots of Space on a Small Area

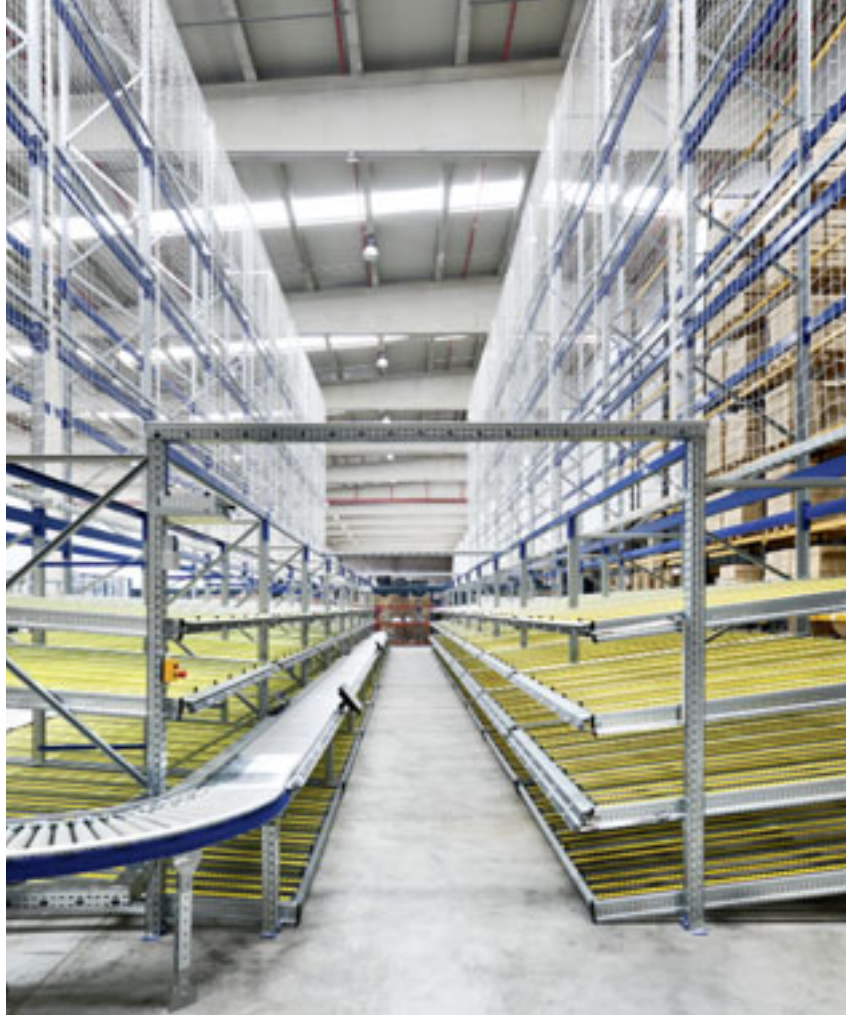
Secunda, South Africa. SASOL (South African Synthetic Oil Limited), South Africa's leading oil and petrochemical company, manufactures all oil-based products from coal and natural gas. For the storage of its system spare parts in one of the coal mines, SASOL decided in favour of the LogiMat vertical storage and picking system from SSI Schaefer.

The critical factors were the additional ergonomic functions of the system that competing products simply did not offer. It was also important to SASOL for SSI Schaefer to have a standing presence in South Africa and to be able to deliver a comprehensive product range directly all from one source.

The two LogiMat systems are used at SASOL to store small and medium-sized spare parts: from consumables through to special spare parts that are often required at short notice. The limited space in the existing building would not have been adequate for a manual picking system. In addition, SASOL wanted to equip the system with modern technology to improve picking and dispatch times as well as the picking accuracy.

As additional functions, the LogiMat includes an electrically driven safety gate, a tilting device for the ergonomic removal and LogiSoft as the interface to the ERP system at SASOL for stock management.

Both systems were delivered in August 2012. SASOL is currently planning to modernise all three spare parts stores across the country and has already selected SSI Schaefer for their equipment.



In the live storage racking, there are 216 picking stations for slow-moving items

Ready for the Future

Zeleris is increasing the efficiency of order processing with pick-by-light picking

Madrid, Spain. Logistics service provider Zeleris belongs to Telefónica Gestión de Servicios Compartidos, S.A.U., the worldwide market leader in the telecommunications sector.

The warehouse in Madrid houses approx. 800 different articles and is designed for B2B business. On 300 m², SSI Schaefer realised an individually designed concept that facilitates the processing of an average of 650 orders a day. The picking zone provides space for around 1,000 cartons. For fast-moving items, there are also 32 storage spaces for picking directly from the pallet, and 216 picking stations in the live storage racking for slow-moving items. With E-Pick, Zeleris now has 6 pick-by-light controlled picking workstations that guarantee safety and efficiency of order processing.

The goods replenishment is carried out via pallet racking that is located above the live storage racking. The combination of two racking types and the E-Pick workstations connected via the conveyor technology permits a simple but exceptionally effective working method: a total of 6 warehouse staff manage their own areas and achieve a throughput of 250 to 400 units per hour at their workstations. After completing the picking per zone, the cartons are forwarded to the next workstation. At the final workstation, the picked order is completed with the fast-moving items and transferred to the outgoing goods area. Here it is checked for accuracy and dispatched.

With this new warehouse solution, Zeleris is not only increasing its efficiency and productivity, but is also ideally equipped for future challenges. With additional automation and the installation of logistics software WAMAS, Zeleris can optimise the warehouse in a second phase.

Breaktime Snack at the Touch of a Button

Selecta AG, the leading Swiss supplier of breaktime snacks, installs comprehensive logistics solution

Kirchberg, Switzerland. Selecta vending machines for fast food snacks around the clock are located at 30,000 sales points in Switzerland, e.g. in public areas and in companies.

Around 550 articles are stored in the logistics centre in Kirchberg and must be available at all times. This also means a total quantity of around 7.8 million goods units held in stock. Quantities that meant that the former central food warehouse in Oensingen hit its capacity and performance limits.

With the new administration and logistics centre, Selecta AG is not only centralising its logistics but also its administrative offices in Oensingen, Bolligen and Murten in Kirchberg. On an area of 5,000 m², a carefully designed system for high storage density was set up with drive-through picking tunnels.

For the normal temperature warehouse at Selecta AG, SSI Schaefer developed a combination of pallet racking plus pallet and container live storage racking, with optimal storage options for heterogeneous goods compilation. The entire warehouse has been in operation since April 2012 and was designed in line with the first-in/first-out principle, an important standard in the food industry.

A shelving concept with drive-through picking tunnels unites the 7 m high racking rows and offers 3,500 storage spaces, sufficient space for heavy goods and large pack units, such as cold drinks in PET bottles and cans. The goods are made available on a total of 700 picking

positions. The picking option on both sides in the tunnels provides direct access to approx. 170 articles. All smaller product units such as sweet and salted snacks, chocolate as well as various near-food products are stored in container live storage racking with a total of 600 standard channels.

The picking tunnels permit access to approx. 170 articles on both sides.

Intelligently Linked

A semi-automated solution consisting of five modern LogiMat® storage lifts and a racking system ensures a compressed warehouse at Bucher Schörling

Niederweningen, Switzerland. As part of the Bucher Group, Bucher Schörling is one of the world's leading manufacturers of service vehicles for cleaning and snow plowing on public and private traffic routes. At the Niederweningen site, the company manufactures high quality, compact and large road sweepers.

Bucher Schörling previously shared one warehouse together with two other companies within the group. In 2012 the decision was therefore made to split up the three companies in terms of logistics and to implement a separate spare parts store for Bucher Schörling using the latest warehouse technology, as well as new, efficient order picking strategies. The warehouse was also intended to be able to fulfil online customer orders within 24 hours in the future.

The contract to construct the new spare parts warehouse was awarded to SSI Schaefer. "It was very important to us to work with a company that has worldwide representation. This is because we also have branches in other countries. One of the most essential factors was that SSI Schaefer presented a compelling total solution, as a complete provider", according to Hartmut Conrad, Project Manager at Bucher Schörling AG. The completion date was fixed for January 2013.

In addition to the planned modular shelving system and a platform, the LogiMat storage lift was also a compelling feature. Five storage lifts of around 7 m in height and 3 m in width are now in operation for the compression, provision, storage and order picking of a total of 15,000 small parts. Thanks to the process automation, the LogiMat increases order processing at Bucher Schörling by a factor of three. And all this even though the storage lift requires just one-tenth of the storage area of a conventional static warehouse solution.

The warehouse automation software is linked directly to the company's ERP system at Bucher Schörling. This means that the orders are transferred and completed on the LogiMats immediately on receipt. In this process, the software ensures that the orders are fulfilled with the greatest possible level of efficiency. It is also possible to pick an order in parallel on multiple storage lifts.

Three add-on options: the storage lifts have a laser pointer system that detects the removal positions of the spare parts with full automation. What is known as the LogiLift option means that the system has an infinitely height-adjustable service opening, ensuring a removal height adjusted to the correct level for the employee. The LogiTilt tilting device permits simple and healthy working, by automatically tilting the removal tray forward. "We hadn't seen this in this format in any other storage lift", highlights Conrad.

The slow-moving parts are housed in the new modular shelving system and the new, 130 m² platform. This provides space for a further 10,000 articles. Due to the semi-automatic solution, between 100 and 200 orders are completed each day.

Thanks to process automation, the LogiMat is accelerating order processing at Bucher Schörling by a factor of 3

The new distribution centre is almost three times the size of the previous system

A Picking System is Relocated

Following the relocation to the new European headquarters in Avonmouth, Yankee Candle® Europe has expanded its state-of-the-art picking system

Avonmouth, Great Britain. To be equipped for further business growth, Yankee Candle Europe – the world's largest and popular manufacturer of scented candles – relocated its logistics centre to Avonmouth in June 2012. The extended system permits higher quantities of stock to be stored, and allows a higher order volume to be processed for stores, export customers and the growing online business.

The individual pick-by-light picking system with flexible zones was originally installed by SSI Schaefer in the old building. Yankee Candle has then appointed the company once again to expand the existing system in the new logistics centre and to adapt it for the increased distribution requirements.

The relocation was completed within just one month. SSI Schaefer removed the existing picking zone, i.e. live storage racking, pick-by-light picking system and conveyor technology based sorters, transported the parts to the new distribution centre and re-installed the system there – including a complete reconfiguration and extension. The new distribution centre with an area of around 16,300 m² is almost three times the size of the previous system. The additional pallet storage spaces have increased the storage capacity considerably.

Added to this was a belt conveyor for picking packaging units, additional sorting tracks for completed orders and a separate shipping carton feed from two order picking zones. The software for the entire system has been comprehensively tested, including an additional interface to contract courier company systems.

Bruce Mitchell, Managing Director, Yankee Candle Europe, says: "SSI Schaefer ensured that the relocation of the picking system into our new distribution centre ran smoothly. The additional function of picking packaging units has accelerated our processes considerably. We now have a system that is future-proof and flexible enough to allow for further expansion, when necessary."

Heavy Refrigeration

New pallet mobile racking for GSL cold store in Dubai

Dubai, VAE. The new cold store for logistics service provider Global Shipping & Logistics (GSL), located in the Dubai Investment Park, was set up by SSI Schaefer with a 3,280 m² large mobile pallet racking system. The approx. 8,100 pallet storage spaces are used to store raw materials and finished products at -25 °C. GSL also decided to deploy double-deep pallet racking with around 3,100 storage locations in the same building.

GSL belongs to the Al Shirawi group of companies which has grown to become one of the largest company groups in the Middle East.

Cold stores are always associated with high operating costs. Thanks to the 100 % availability of all products and the maximum space utilisation, however, the heavy load mobile racking from SSI Schaefer represents a cost-effective storage solution.

GSL had already chosen SSI Schaefer as a warehouse installer several years before. In the first project in 2005, a narrow aisle pallet racking system, a mobile racking system and double-deep pallet racks were installed in three buildings.

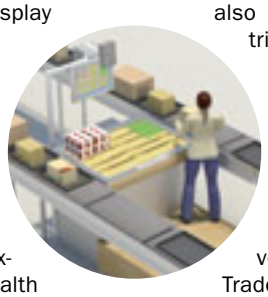
Over the years, SSI Schaefer has installed racking systems for GSL with a total of approx. 43,600 pallet storage spaces on 47,000 m².

Ergonomic pulling and sliding replace lifting and carrying that is harmful to the back.

Ergonomic Palletising and Depalletising

Giebelstadt, Germany. The newly developed, multi-functional manual depalletising and palletising workstations from SSI Schaefer have been designed according to the goods-to-person principle and meet the highest requirements of ergonomics, safety, performance and employee health. The largest ergonomic risks along the value added chain in the goods distribution centres are in the areas of transport, provision, depalletising, setting, moving and picking in particular.

The new workstations drastically reduce the load on employees when lifting, moving, and carrying. Lifting and carrying operations are entirely replaced by ergonomic pulling and pushing. Employees are intuitively guided via intelligent communication and display systems.



The workstations offer new and future-oriented ergonomic attributes which have been confirmed and recommended by official occupational health experts. The German Health and Safety Institute, BAD, represented by Dr. Sven Stabenow confirms: “We regard the workstations developed by SSI Schaefer, Giebelstadt as an outstanding contribution to ergonomics in the area of high-bay warehouses and large warehouses. They intelligently reduce health risks for employees and also provide a ground-breaking contribution to the issue of design of workstations for increasingly older – and therefore physically less capable – employees.”

Testing for practicality was conducted on the workstations together with the Accident Prevention & Insurance Association Trade and Goods Distribution (BGHW). “Above all thanks to the considerable reduction in upper body forward movements, an improvement in body posture in manual order picking on the palletising workstation is achieved in comparison to standard picking operations”, was the assessment from BGHW.

Ingenious All-round Talent

Can be used as a load carrier or transport trolley

Neunkirchen, Germany. The roller pallet made from galvanised steel is ideal for use as a load carrier and can accommodate euro pallets, mesh boxes, boxes and similar. The internal dimensions are 1,200 x 800 mm and it offers a load capacity up to 1,000 kg. As with a standard pallet, the version on rollers can also be placed in the racking for storage. In addition, they can be stacked both when loaded and empty using the stacking frame.

The fixed rollers on the underside of the euro pallet permit the effective and convenient use as a transport trolley – even in the tightest of spaces. Another highlight: multiple roller pallets can even be coupled together to form a complete route track. This means that the load carriers can be used as transport trolleys, e. g. in production supply. To then divide the route track back into individual mobile bases, all that is required is to lift the roller pallets using a forklift or pump truck.

The roller pallets are easy to handle: load, attach a hauling device and move to the required location. The roller pallet supports more effective materials supply and helps increase productivity levels in logistics.

Bachelor Thesis of Distinction

Giebelstadt, Germany. SSI Schaefer has for a long time been consistently implementing measures to attract and support the expert talent of the future. For example Alexandra Schieck, studying Logistics at the University of Applied Sciences in Würzburg-Schweinfurt, wrote her Bachelor thesis during her internship at the Giebelstadt site. During the practical phase of her study, she covered the topic of improving performance in automated warehouses.

"The thesis describes the degree of the effect of intelligent order assembly at goods-to-person picking workstations", according to Ivo Neidlein, Supervisor of the Bachelor thesis at SSI Schaefer in the field of Logistics Solutions. "Ms Schieck analyses how many outward storage movements can be saved with multiple accesses to the same storage containers using an intelligent order processing sequence. In her analysis, she refers directly to picking systems that have been tried and tested in practice, such as our ergonomic pick-to-tote workstation."

The Bachelor thesis was recently awarded the Logistics Solution Award. The sponsor association of logistics firms of the University of Würzburg-Schweinfurt awarded the 3,000 euro prize for the first time as part of the logistics conference at the end of November 2012.

Editorial Announcement

Like any other publication, the Update is meant for its readers. For this reason, we would be glad to learn your suggestions and opinions about our company magazine. Please let us know what kind of topics you are interested in. You can leave a note at **www.ssi-schaefer.de/en/update** or you can call up the feedback formula by using the QR code below.

We look forward to hearing from you!

Your SSI Schaefer team

Dynamic Driving

SSI Schaefer supports the Team Germany at the International Six Days of Enduro (ISDE)

Neunkirchen, Germany. SSI Schaefer, together with other sponsors, has supported the Motorsportclub Freier Grund e.V. and enabled the association to take part in the Enduro race series with a mobile service container. The container provides space for a complete workshop and all the team equipment, including spare parts and tyres for up to 43 drivers. SSI Schaefer contributed a number of products to the equipment provided: starting with R 3000 modular shelving to Euro-Fix containers, a workbench through to waste bins as well as various accessories.

As several members of the MSC have been selected to ride for the German Enduro team, the container was inaugurated at the International Six Days of Enduro, the team world championships in moto-cross at the end of September 2012. To this end, the mobile service workshop was transported from Neunkirchen to the Sachsenring racetrack in Zwickau and used by the entire Enduro Team Germany in the championship.

The container will also be used for on-site service in the future, e.g. with the next Enduro events, the Six Days on Sardinia 2013 and in Argentina 2014 as well as the 2013 European Championships in Portugal.

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