SSI SCHÄFER

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update

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Editorial

Dear readers,

It was with great interest that we read a recent study on leading providers of logistics software, focusing on customer satisfaction, brand image and recognition. And we were particularly pleased with the results.

Of course, we were not surprised to see that criteria such as "simple implementation", "special-purpose functions" and "customer-specific solutions" play an important role when choosing logistics software. But we were pleasantly surprised to find out just how highly we scored on precisely these points.

There is nothing worse than working with outdated processes, not being "state-of-the-art" or simply failing to evolve. We have made it our goal to meet our customers' requirements to the letter, aided by our innovative WAMAS logistics software and our status as a certified SAP Service Partner. Our WAMAS and SAP EWM solutions are successfully deployed in scenarios around the world – whether in manual warehouses, pallet or small parts storage systems, or highly complex automated and dynamic distribution systems. We are committed to finding effective answers to customer challenges and changing market environments; to setting new trends and always staying at the leading edge.

We have pooled our IT expertise to create a central software headquarters for the entire SSI Schaefer Group in Friesach, near the Austrian city of Graz. In future, it will be supported by SSI Schaefer sites in Timişoara (Romania), Dortmund (Germany) and Giebelstadt (Germany). Moreover, we will continue to expand and develop our existing high-level IT expertise in Charlotte (USA) and São Paulo (Brazil).

Our goal is to deliver the best possible solutions for our customers.

Franz Bauer-Kieslinger
Managing Director, Salomon Automation, Friesach/Graz

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Two energy-efficient storage and retrieval devices work in the aisle between the order and tour buffers.

Two-phase shipping automation doubles throughput and capacity

SSI Schaefer has created an innovative two-phase automated shipping buffer system for products waiting to be shipped at beverage wholesaler A. Kempf – doubling throughput and capacity, and making it possible to load goods in line with store layout.

Balingen, Germany. Since 2002, beverage wholesaler A. Kempf has been a fully owned subsidiary of supermarket operator Edeka Handelsgesellschaft Südwest, providing logistics services to Edeka stores in southwest Germany.

The company operates two warehouses, one of which is located in the German town of Balingen. At peak times, 124,000 beverage crates, boxes and packages – and as many as 160,000 on particularly busy days – are shipped from the distribution centre every 24 hours. To keep pace with this level of turnover, A. Kempf needed to automate its processes without disrupting ongoing operations – so they turned to SSI Schaefer in Giebelstadt.

“By automating processes and installing a two-phase shipping concept, we were able to boost efficiency and ensure our deliveries are always ready on time. Plus, by creating automated order and tour buffer storage areas, we can now precisely time the provision of goods for shipment – minimising standby time for trucks. In fact, turnaround has fallen from up to four hours to less than one hour on busy days,” explains Christian Melchior, business unit head at A. Kempf, based in Offenburg.

The solution comprises two storage areas and two powerful, energy-efficient storage and retrieval systems working together in one aisle. SSI Schaefer implemented a fully automated pallet transfer system that enables pallet sequencing in line with truck routes – significantly enhancing efficiency. This meant dividing the outgoing goods storage area in two: pallets are first brought to an ‘order buffer’, and are then transferred to a ‘tour buffer’ before collection. The order buffer is made up of a flow rack system divided into four sections, each with eight channels. After picking, the pallets are transported to one of the system’s 1,152 positions, spread over three levels. The tour buffer offers a further 720 positions, equivalent to the capacity of 16 trucks.

The picked pallets enter the conveyor system via two feed stations at floor level, before being transferred to the automated two-phase process in the interim storage area. After the pallets have passed through a wrapper, an applicator labels them with EAN barcodes and a list of contents. A vertical conveyor then transports the goods to the right storage level in the order buffer.

The pallets are moved from the order buffer to the tour buffer in preparation for shipment. SSI Schaefer paid careful attention to the design of the load handling devices used in the storage and retrieval systems, in order to ensure seamless transfer and reliable transport of the beverage pallets in the aisle between the two buffers. Two motorised roller tracks are equipped with an electric pneumatic system that separates the pallets from each other, so that each pallet can be handled individually. Both storage and retrieval devices can move up to two pallets at a time. Based on this innovative system, orders can be sequenced in line with truck delivery routes and are rapidly transferred to the goods shipping area as needed. On the basis of pre-defined requirements, WAMAS logistics software generates the ideal sequence for placing pallets in the tour buffer – so goods are in the right order when unloading the trucks at each store.

By reducing setup times, automating labelling and pallet transfer and enabling automatic triggering of processes in the order and tour buffers, A. Kempf has increased throughput from 90 to 240 pallets per hour, and has almost doubled capacity in the interim storage area. And thanks to the increased capacity offered in the new facility, the company has plenty of room to grow.

At two floor-level double-pallet feed-in stations, the picked pallets are transferred to the conveyor system where the automated two-phase process begins.

A transfer carriage moves the pallets from the vertical conveyor to the order buffer.

Unlocking greater efficiency for retail and food industry logistics

The retail sector faces a number of challenges, such as an ever-larger variety of products and ever-smaller batch sizes. But by choosing the right internal logistics processes and technologies, companies can gain a competitive advantage. Efficient processes and systems make all the difference. The Schaefer Case Picking System (SCP) is a unique, award-winning solution that compiles deliveries completely automatically. This end-to-end, modular system is designed to meet the needs of the retail sector, and can be extended as required.

The technology behind the scalable SCP is a compact, highly dynamic buffer system for throughput of 30,000 to more than 500,000 packages per day. Here, items from the storage pallet are automatically separated out, and placed on trays in layers to be stored – with all movements designed to protect the goods from damage. The fully automated system can pick individual items from the tray if required, and can retrieve stock from more than one tray

The nine robotic palletisers in ES3's SCP facility arrange boxes in line with orders.

USA. Around 20,000 items, including food and household goods, are stored in the distribution centre of warehousing, picking and transportation specialists ES3 in York, Pennsylvania. Up to 1,300 pallets are delivered to the site daily, with throughput totalling over 100,000 boxes every 24 hours. SSI Schaefer was tasked with designing an intelligent end-to-end system for fully automated food industry processes for ES3 – from goods receipt through to storage and space-efficient pallet assembly. Now, ES3 enjoys efficiency on a whole new level, thanks to the SCP concept. SSI Schaefer designed a made-to-measure solution that meets customer-specific requirements including a pallet packing height of up to 2.4 metres.

Germany. When discount supermarket giant Lidl decided to extend its logistics centre in the German town of Kirchheim/Teck, the SCP system was the obvious choice. Not only does SCP boost efficiency, it optimises use of storage space and transportation resources, and makes life easier for supermarket staff when stocking the shelves. In addition to the SCP system itself, Schaefer also supplied Lidl with a five-aisle high-bay warehouse complete with around 15,000 pallet positions, and a Schaefer Tray System (STS) with 16,000 positions over five levels. Lidl is the first reference customer for SCP in Europe. For this project, SSI Schaefer fulfilled special requirements for the customer in terms of family grouping and sequencing in line with store layout – areas where other logistics specialists were not able to deliver.

By positioning multiple STS vehicles over one another in the Lidl warehouse, efficiency is enhanced and the available space is maximised.

Fully automatic, store-friendly palletising: the system combines high picking capacity with processes that protect the integrity of the products.

at a time. And at the buffer system stage, it is possible to sequence goods in multiple levels, so that orders are ready to go and are packaged based on store layout.

In addition to the SCP racking system and conveyors, Schaefer also offers a host of tried-and-trusted solutions such as the Schaefer Tray System (STS) and machine vision technology. De-palletising, palletising and wrapping systems round out the offering. And the integrated Schaefer Pack Pattern Generator (SPPG) software ensures optimal pallet composition.

The versatile SCP system meets the diverse requirements of a range of customers – as demonstrated in a number of successful international reference projects.

Switzerland. Migros-Verteilbetrieb Neuendorf AG (MVN AG) is the central logistics partner of Migros, the largest retailer in Switzerland. The frozen goods department specialises in logistics for the food industry. With the SCP system created by SSI Schaefer in the refrigerated warehouse (-28 Celsius), it is not necessary to label goods with barcodes or RFID tags. From start to finish, all processes run on the basis of machine vision technology. Once goods come into the warehouse, data is captured on the number of packages, best-before dates and delivery dates, for example, and compared with the master data in the IT system. At “teach-in” stations, employees record the weight, volume and dimensions of the current delivery, updating item information if necessary. The master data for each item is used to automatically set the parameters of the mechanical system components in the process chain. Moreover, machine vision technology performs all detection and monitoring tasks during warehousing and picking, such as recording volumes, positioning the items or automatic item counting for manual picking.

When goods are received, they undergo a “teach-in” process to update master data in the IT system.

Robots ready and waiting for deployment in a major new international SCP project.

USA. In early 2012, a US supplier of food sector services installed an SCP system in its logistics centre. The facility now benefits from highly dynamic processing of small order volumes (picking of individual items and cases). Around 12,000 items are stored in the logistics centre for delivery to retailers, with around 4,000 boxes and containers passing through 24 Schaefer Carousel Systems (SCS) every hour. The two SCP modules significantly boost efficiency. The customer was impressed with the results; so much so that they have recently tasked Schaefer with a follow-up project.

Intelligent design

Unique LogiMat® storage lift design enhances small parts picking processes.

This design meant that the storage lift could be higher than the building.

Neunkirchen, Austria. Founded in 1986, international company Ingrid L. Blecha specialises in aluminium pipes and pipe fittings, fence systems and profiles. The company serves customers in around 60 countries in a host of sectors – from the aluminium, metal and CNC industries, to automotive suppliers and fence systems manufacturers.

At Ingrid L. Blecha's site in Neunkirchen, Austria, the aluminium products are developed, stored, picked and dispatched. Faced with a lack of space and in need of additional capacity to meet future demand, the company decided in 2012 to build a central spare parts store and extend its newest warehouse. They hoped to improve the maintenance infrastructure in the process. SSI Schaefer was tasked with the project, installing a 14-metre-high storage lift that meets all the company's requirements. With the new LogiMat lift, Ingrid L. Blecha is fit for the future. Not only does it require very little space, it also features a smart, high-quality and cost-efficient design that ensures reliable processes. Plus, there is room in the new lift for all maintenance components and spare parts.

The project stood out for another reason, too: due to the site layout, SSI Schaefer did not install the LogiMat inside the building but on the outer façade of the warehouse, fitting fire protection cladding around the steel frame. The unique design kept costs for the warehouse extension to a minimum. Moreover, the LogiMat integrates seamlessly into the existing infrastructure and fire protection programme – it is lined with protective panels and features an integrated smoke ventilator and automatic fire door.

But that's not all. Supported by the dedicated LogiMat Logisoft software, the system can precisely pinpoint each item's position and automatically take inventory of the small parts. The goods-to-picker strategy makes picking items more efficient and precise. And the new system enhances safety in the warehouse to boot.

Keeping goods safe while on the move

Haarlem, Netherlands. Brammer Nederland BV, a leading distributor of mechanical components for industry, has just moved into its new, central distribution centre in the Dutch city of Haarlem. To ensure seamless internal and external transportation of parts, the company opted for storage and transport containers from SSI Schaefer.

1,000 of these containers now support Brammer in storing and picking goods, and transporting them between its new distribution centre and the 17 service centres dotted across the Netherlands. 200 containers pre-fitted with eight dividers hold expensive, fragile items, ensuring goods are protected as they safely and noiselessly make their way along the conveyor belts.

Even the standard version with a reinforced, ribbed base can support a weight of up to 50 kilos. "It is ideal for heavy components. Thanks to the flexible, ergonomic handles, the containers are very easy to work with, and they are designed to fit the size of a euro pallet. And with the Brammer logo emblazoned on the side, they are a great calling card for our company," explains Eric Dijkstra, Director of Operations at Brammer.

Enhancing transparency with WAMAS® GO!

At bag manufacturer Leonhard Heyden, the WAMAS GO! warehouse management system, together with a made-to-measure storage facility, ensures transparent processes and end-to-end monitoring across the entire supply chain.

Hachenburg, Germany. Successful international briefcase and handbag manufacturer Leonhard Heyden operates ten stores across Europe and sells its products through countless retailers worldwide. The mid-sized player releases four collections on the market every year. All items must be ready for delivery at short notice, in line with orders from outlets and customers – labelled, modified as required, and packaged. Seasonal peaks in demand and rapid changeover from one collection to the next are the norm.

When Leonhard Heyden decided to consolidate three existing sites at a single, central 3,000-square-metre warehouse in the German town of Hachenburg, they had a number of goals in mind. They needed to ensure they had sufficient products on hand to meet demand, while enhancing routes, minimising incorrect orders and ensuring seamless processes and traceability. Moreover, they wanted the possibility to access the warehouse systems from company headquarters, in order to remotely monitor and control processes. To meet these complex requirements, Leonhard Heyden decided to implement SSI Schaefer's WAMAS GO! warehouse management system.

The system is based entirely on the successful WAMAS logistics software. WAMAS manages complex processes in all manner of warehouses, from manual to fully automated, and WAMAS GO! is tailored specifically to the needs of mid-sized companies. This made it ideal for Leonhard Heyden, which has a mid-range turnover and manual warehouse system. The new software manages, plans and monitors all flows of goods, information and resources – and supports all logistics processes from goods receipt and picking through to packaging, shipment and tracking.

The IT system is combined with a manual storage facility from SSI Schaefer, tailored precisely to Leonhard Heyden's requirements. A modular shelving solution with around 1,800 positions holds all fast-moving items, packaged individually and grouped by product range. End-of-line items are stored in the rear of the warehouse using the 'chaotic' storage principle. In the outgoing goods area, SSI Schaefer installed eight height-adjustable, ergonomic packing stations. Two are reserved for packing products for shipping to stores, two are used for returns management, and at the remaining four, employees modify the high-end leather bags before they are dispatched.

When new supplies arrive, they are stored in boxes on pallets in two halls. In one hall they are stored several rows deep, organised by product line (slow-moving items); in the other, they are kept on mixed pallets for direct access (fast-moving and regular items). WAMAS GO! supports end-to-end management of all products, directly on the pallets.

"Now that all processes are managed by WAMAS GO!, we have achieved time savings of around 30 per cent. In addition, the system ensures full visibility into inventory and end-to-end traceability. Plus, we have seen a significant reduction in the error rate," reports Christian Usinger, head of logistics at Leonhard Heyden.

All fast-moving items are stored on shelves in around 1,800 positions, individually packaged and grouped by product line.

Items are prepared for dispatch at the packing stations. Around 150 - 400 orders are processed each day.

After successful implementation of the new system, it is now possible to perform around 600 incoming goods processes and 2,500 outgoing goods processes every day, with operations split into three shifts.

Boosting productivity in assembly line supply

Since December 2012, Bosch Rexroth has been operating a new interim storage area for its mobile control units production facility in the German town of Augsfeld. The manufacturer required greater performance and flexibility – and SSI Schaefer was able to deliver, with a concept based on new containers that are significantly easier to use.

Hassfurt/Augsfeld, Germany. With over 37,500 employees around the globe, Bosch Rexroth is one of the world's leading suppliers of electric drive and control technology. In Germany, the company operates 17 production facilities, four regional sales centres and eight service centres. The complex in Hassfurt/Augsfeld, founded in 1961, includes a manufacturing and logistics site, and part of the Mobile Applications business unit. It was here where Bosch Rexroth decided to install a new interim storage area for the production of mobile control units.

The two-aisle automated small parts store provides interim storage for the production facility, and is used to hold items such as brakes, stabilisation modules, hydraulic components and valves. Capacity totals 10,488 positions, comprising standard containers in a range of sizes. The new automatic small parts store replaces an old facility where goods were stored on euro-pallet-sized trays. The company was looking for a new solution that would significantly reduce handling time and effort, and markedly boost flexibility. "In SSI Schaefer, we found a partner that offered us the perfect solution, delivering all the improvements we were looking for – and meeting our requirements in terms of picking," explains Dr Lars Biester, head of logistics at Bosch Rexroth's Hassfurt/Augsfeld plant.

While work was underway on the automated small parts store, SSI Schaefer also integrated the warehouse management system into the central SAP-based ERP environment. Now that the project has been successfully completed, it is possible to

execute around 600 incoming goods processes and 2,500 outgoing goods processes each day, with operations split into three shifts. A picking step takes a maximum of one minute. Plus, handling each individual container is now far easier and more ergonomic.

Equipped with telescopic load handling devices, the storage and retrieval units are designed to work with double-deep storage and can support a weight of 100 kilos. The parameters of the load handling devices can be flexibly configured, and they can safely move containers and trays of up to 50 kilos. There are practically no limits to the shape or the surface material of the articles to be stored. On average, each storage and retrieval device transports around 320 containers every hour.

Once the requested small container has arrived at one of the four picking stations, the employee removes whatever he or she requires and places it in the order container. The container is then returned to the small parts store and the warehouse management system records that it is available once again. Parts are subsequently delivered to the assembly lines as required, on the basis of the “milk run” principle.

The two-aisle automatic small parts store serves as an interim storage area upstream of the production lines for items such as brakes, stabilisation modules, hydraulic components and valves.

A first-class relocation

Greystanes, Australia. Founded in 1914, the Brady Corporation is the global leader in labels and signs that identify premises, products and people. Its portfolio includes labels, software, printing and data capture systems for the manufacturing, electronics and telecommunications industries. One of the company’s international sites is located in the town of Greystanes near Sydney.

Now, Brady Corporation’s Greystanes facility boasts a new central distribution centre covering around 10,000 square metres. The new centre consolidates two existing sites that were being phased out. Brady Corporation turned to SSI Schaefer for support: they were looking for a flexible partner who would coordinate the entire move and the consolidation of the two warehouses – all while working in close contact with all stakeholders.

Experts from SSI Schaefer implemented the ideal solution. They needed to take into account the fact that Brady Corporation requires storage for a wide variety of different items. The new system ticked all the boxes, particularly in terms of flexibility. An R 3000 modular shelving system featuring around 4,000 positions and fitted with a state-of-the-art sprinkler system is now available for the storage of items in the distribution centre. The pallet racking units offer a further 5,000 positions.

The new facility has significantly increased picking speed, so every order can be shipped on time. This means customers are happier, too. The entire project was completed on time, and provides Brady Corporation with plenty of scope for future growth.

Schaefer Orbiter® System accelerates inbound and outbound items in the food industry

Laem Chabang, Thailand. Founded in the UK in the 19th century, the Cerebos Group produces and markets food items such as salt, instant products, coffee, and several major beverage brands in Asia.

Around 35 years ago, Cerebos began producing BRAND's Essence of Chicken in Thailand. Cerebos' business in this country primarily consists of supplying nutritional supplements to customers in some 18 countries. This means there are large quantities to be stored before shipping.

One of the organisation's first sites in Thailand, located in the Nonthaburi province, is now the leading manufacturing facility for BRAND's Essence of Chicken. Recently, Cerebos decided to increase its production capacity, opting to extend its existing facility at the Laem Chabang Industrial Estate in the Chonburi province. The company chose this plant because of its excellent logistics infrastructure.

SSI Schaefer was tasked with providing systems for the new warehouse. To find the ideal solution for Cerebos, experts from the intralogistics player meticulously studied existing inventory processes, including shipping data for each and every product.

Since the BRAND products are picked in batches and there are only a small number of stock-keeping units, SSI Schaefer recommended a combination of the Schaefer Orbiter System (SOS) and a pallet racking solution. The system has a pallet depth of 28 and a pallet height of five. Furthermore, the racks are designed to accommodate an additional five pallets on each level, taking the total number of positions to around 5,500.

After careful analysis, decision makers at Cerebos chose to implement the SSI Schaefer warehouse solution. In addition to significant capacity gains, the high-performance system reduces operating and maintenance costs. What's more, professionals from the SSI Schaefer customer service team are on hand to ensure everything runs smoothly – with zero errors.

Schaefer Orbiter System with a pallet depth of 28.

Diplom-Is increases picking speed and reduces error rates with a new conveyor solution.

Greater efficiency through consolidation

A new semi-automated warehouse solution streamlines processes for ice-cream manufacturer Diplom-Is, boosting cost-efficiency and flexibility.

Gjelleråsen, Norway. Diplom-Is is the largest manufacturer of ice cream in Norway. In order to improve flexibility, efficiency and cost-effectiveness, the company decided to restructure its logistics processes. In the past, pallets of finished goods were strategically distributed to a number of warehouses on the west coast of the country before the items were sold. Over time, however, this approach proved to be both time- and effort-intensive. Flexibility is of the essence in this industry because ice-cream sales depend heavily on the weather and the time of year.

For this reason, Diplom-Is wanted to consolidate its depots at one central distribution centre in Gjelleråsen. From here, frozen and non-frozen goods can be shipped significantly faster and more cost-effectively to customers. This is down to a semi-automated picking and packing system from SSI Schaefer. This smart combination of conveying and pick-by-voice technologies not only ups picking speed, it also reduces error rates.

A major highlight of the project was that it was carried out during regular operations at temperatures as low as -28 Celsius. Leveraging state-of-the-art conveying technology, items are now fed through the sorting process on multiple levels and transported to the right dispatch tracks. Goods are then manually picked from the pallets to the boxes using voice commands. The result: even in high season, Diplom-Is can fulfil all orders cost-effectively and on time, with no need to hire additional staff.

New shuttle system for tea products

Cakung, Indonesia. Using the Schaefer Orbiter System (SOS), food manufacturer PT. Sinar Sosro has maximised its warehouse capacity at its Cakung site on the Indonesian island of Java. The company uses this facility to distribute its ready-to-drink tea products across the country and beyond.

To increase warehouse capacity at this space-limited site, PT. Sinar Sosro has introduced a shuttle system with 32 channels, 16-deep and three-high storage – enabling an overall capacity of around 1,500 pallet positions. Three Orbiter units move the items around the warehouse, ensuring greater efficiency, reliability and increased safety.

Over 60,000 pallet positions in a 36-metre-high, nine-aisle high-bay warehouse.

Speedy solution for paper towels

SSI Schaefer has installed a high-bay warehouse, innovative pallet conveying technology and a reliable warehouse management system for hygiene tissue manufacturer Cartarie Tronchetti S.p.A (ICT), significantly improving efficiency and transparency.

Kostrzyn, Poland. ICT is one of Europe's leading manufacturers of paper handkerchiefs, household and toilet tissue, paper towels and other hygiene and cosmetics products made from pulp. Seven plants across the continent are responsible for producing and processing these goods, including a factory in Kostrzyn. The warehouse here was operated manually and, as such, was not able to meet all requirements. This meant additional external storage facilities were needed. After careful consideration, the company decided to consolidate activities at a single warehouse. As ICT logistics head Dariusz Drzazga explains, "The new warehouse will help us deliver goods to customers faster, more flexibly and more efficiently."

SSI Schaefer Giebelstadt was tasked with planning and developing a turnkey warehouse solution on a site of around 16,000 square metres. The intralogistics expert was responsible for the end-to-end execution of the project. Implementation phases included a steel construction for a silo-design, automated high-bay warehouse, almost two kilometres of pallet conveyers, storage and

retrieval devices and corresponding control systems. SSI Schaefer also delivered warehouse management software, which provides a solid IT basis.

The automated, 36-metre high-bay warehouse is already up and running. In addition, the outdoor storage areas have been closed and all inventory integrated into the new system. The warehouse management solution controls and monitors all outgoing and incoming goods, the dispatch area picking processes and disposal of production.

There are two feed-in positions for pallets which are transported via conveyers to the high-bay warehouse. Pallets that do not meet norm specifications are automatically identified via a dedicated detection system and assigned a new system pallet. The checked pallets are then transferred on two redundant tracks via a conveyer bridge to the high-bay warehouse – at a height of around 5.5 metres.

The silo-design high-bay warehouse is the beating heart of the new system. Around 60,000 pallet positions are used to store approximately 500 different items. Moreover, it features single-deep and double-deep storage. New storage and retrieval devices travel across the shelves at speeds of up to 230 metres per minute. That means as many as 225 pallets can be moved into position every hour.

Items are retrieved on the bottom level. The software triggers assembly of the orders and the storage and retrieval system begins picking the pallets, achieving a throughput of around 600 pallets per hour. Finally, the goods are transferred to a 2,450-square-metre dispatch area via a pallet conveyer system.

Here, chain and accumulating conveyors, rotary, roll, and gravity roller-conveyors, as well as shuttle vehicles and pallet stacking and destacking devices ensure efficient internal goods flow. Before the final step, the pallets are transferred to three shuttle vehicles and distributed to 40 feeding tracks. Only the pallets that have been requested are released. A total of 460 pallets can be loaded onto the ramps in the dispatch area every hour, enabling the simultaneous loading of 15 trucks.

Thanks to the new solution, employees now have complete visibility into all items, which means maximum inventory control. The results speak for themselves: lower transport and warehouse costs, time savings in order processing, increased quality, and efficient, flexible, end-to-end processes.

Nine storage and retrieval devices, each with two telescopic forks, move along the aisles at speeds of 230 metres per minute and with a lifting speed of 70 metres per minute.

Modular shelving system for small parts.

New distribution centre for PACCAR Parts Europe

Eindhoven, Netherlands. PACCAR Parts Europe, a major provider of high-quality truck and trailer parts, has opened a 26,000-square-metre distribution centre. The new logistics hub replaces PACCAR's previous warehouse in Eindhoven. SSI Schaefer was tasked with fitting out the new facility.

Around 12,000 items are processed for orders here every day. To this end, 65,000 different truck parts are stored on pallet racks with a capacity of over 30,000 positions. Oversized goods are stored in cantilever racking systems. Moreover, a platform featuring a modular shelving system offers space for small parts, and around 100 live storage racks are deployed for fast-moving items. In addition, 30,000 totes and 80,000 labels are used to organise the warehouse. During implementation of this project, SSI Schaefer used some 130 tonnes of steel for modular shelving units and 580 tonnes for the pallet racks.

The logistics centre has been up and running since March 2013 and was completed three weeks ahead of schedule. PACCAR Parts Europe now benefits from first-class delivery capability for replacement vehicle parts. What's more, thanks to greater capacity and increased efficiency, the company has more scope to grow its own DAF Trucks division.

Three-level modular shelving system for car parts.

Efficient storage of car parts

Geel, Belgium. Autoparts De Jonghe has been selling vehicle components and other car-related products since 1980. The company stores new and used parts in a warehouse measuring 15,000 square metres that serves its four sites. SSI Schaefer has developed a new storage solution for De Jonghe, enabling the delivery of parts for all common makes of vehicle within just 24 hours.

The intralogistics expert implemented an R 3000 modular storage system with a three-level platform design. This ensures greater space-efficiency at the existing warehouse and significantly boosts capacity. Four steps at each side lead to the next level of the structure. The solution has a total of 4,000 modular shelves for both light and heavy parts. Even items of varying shape and sizes such as body panels and exhaust pipes can now be stowed away easily. Depending on their length, these types of items are stored horizontally or vertically.

LogiMat® storage lift breathes new life into car showrooms

Fulda, Germany. The atzert:weber group runs four car showrooms and a maintenance workshop (Auto Sofort Service) in the German state of Hesse. On a site of 22,000 square metres, the Volkswagen centre in Fulda showcases a range of vehicles from the VW, Skoda and Audi marques. In May 2013, atzert:weber opened a new Audi centre at the same location.

Both businesses operate in parallel, with sales and after-sales services for each brand kept entirely separate. The VW centre is on the left and Audi on the right. A brand-new semi-automated parts store on two levels located between the facilities is at the heart of warehouse logistics operations. This is designed to act as a link between the body shop and the paint centre, and the mechatronics and services departments. Special-purpose tools required for the vehicles remain in the workshops but have been reorganised based on the SSI Schaefer locator approach.

Together, the LogiMat storage lift (3 metres x 7 metres) and a two-level locator storage system streamline processes.

Locator storage systems on both levels and a multifunctional LogiMat storage lift ensure efficient processes. The parts are stored in modular shelving, cross-beam and mobile racking systems, as well as in drawers. The LogiMat lift has 60 trays and is directly integrated with the other systems. It fulfils a range of functions: for example, it serves as a link between the levels, with one service opening at each level, and it acts as an interim storage area for picked items before they are retrieved.

As Philipp Atzert, CEO at atzert:weber group's VW centre explains: "Because orders are pre-picked and stored in the lift for our employees, we cut waiting times at the collection point. It's really smart."

SSI Schaefer delivered all equipment for the entire undertaking. The relocation of the warehouse was performed in stages as defined by a dedicated strategy developed by the intralogistics player. This meant the move could be completed in four days and during ongoing operations. This combination of new systems reduces waiting times and distances by over 70 per cent and saves around 50 per cent on space. The facility is currently used for around 5,500 parts but has capacity for up to 7,000 positions.

The first LogiMat® for China's automotive sector

Beijing, China. SSI Schaefer has implemented a distribution centre for Volkswagen in Beijing. It is the first time a LogiMat storage lift has been deployed in the country.

Usually China's automotive players leverage shelf systems. However, with the aim of improving space efficiency and increasing picking speed for small parts, this customer opted for two storage lifts in combination with multiple shelving solutions.

The LogiMat storage lift requires up to 90 per cent less space than a conventional shelving system.

The LogiMat lift saves up to 90 per cent of warehouse space in comparison to conventional shelf systems and delivers fast, ergonomic picking for small parts. As a result, picking speed at the VW distribution centre has increased between six- and ten-fold. Additional systems include a three-level modular shelving system, a pallet high-bay warehouse with around 12,000 positions and a cantilever racking system for the storage of replacement parts.

Mammoth undertaking during ongoing operations

BLG Handelslogistik is responsible for delivering goods to German retailer Tchibo's high-street stores. Now, the logistics company is taking over online orders too. To support this task, SSI Schaefer has enhanced the central warehouse in Bremen.

Bremen, Germany. BLG Handelslogistik operates one of Tchibo's largest logistics centres. Now, online orders are to be handled here too. To prepare for this change, new processes were needed. BLG has invested 50 million euros in bringing its 92,000-square-metre warehouse up to speed, tasking SSI Schaefer in Graz, Austria with designing the new workflows.

A highlight of the project was a two-storey sorting building complete with conveying technology and connected to the other warehouses via a conveyer bridge. In addition, SSI Schaefer fitted out three existing stock warehouses and a storage facility for returned goods. Now, some 17 kilometres of conveying systems, 20 tote interim storage areas (Schaefer Carousel System), 133 picking stations, 14 live storage racks for boxes, 96 packing stations, pallet conveyer technology, totes and tote palletisers plus 42 telescopic belt conveyers ensure efficient, flexible processes.

Online orders are picked and collected in special bins and the goods for brick-and-mortar outlets are placed in boxes or totes. To this end, items are conveyed directly to the picking stations located across two of the halls. Here, employees remove the goods either from live storage racks using a pick-by-light system or directly from the pallet. Monitors at these workstations display the type and quantity of products to be picked. Integrated weighing scales can detect picking errors immediately. The conveyers transfer the totes from one station to the next until all orders have been processed. If a load carrier is not large enough for the order, additional load carriers are available next to the operator.

The full totes are then transported via the conveying bridge to the sorting building. Here, up to 13,500 totes can be held in an interim storage system which also compiles the orders. Next, employees pack the online orders into boxes ready for shipping. These are sent directly to the dispatch area. The new warehouse solution has been fully up and running since May 2013.

Source: BLG Handelslogistik

Employees prepare orders for shipping at 96 packing stations.

Pallet racking system with 32,400 positions.

Phased warehouse implementation at Dubai World Central

Dubai, UAE. SSI Schaefer has implemented a new warehouse for INL, a provider of logistics and supply-chain solutions in the Middle East and Africa. The new facility is located at Dubai World Central, an international passenger and freight airport.

The team from SSI Schaefer deployed leading-edge technology during the implementation – with excellent results. The project was executed in phases and during regular operations. The PR 600 pallet racking system, manufactured in Germany, was tailored to meet the customer's specific needs. A high level of customisation ensures significantly greater flexibility compared to the previous solution.

Each pallet bay has space for two pallets side by side and up to seven full pallets can be stored on top of each other, in addition to the ground level. As a result, INL now has capacity for 32,400 pallets, and plenty of space for future growth. "The SSI Schaefer team did a great job and all deadlines were met. Implementation was fast and simple. It is highly likely that we'll turn to SSI Schaefer for future projects, too," said Paul Maycock, General Manager at INL in Dubai.

Optimised warehouse in Dubai

Dubai, UAE. Founded in Germany in 1890, Kühne + Nagel is now a world-leading logistics provider. Its services range from sea and air freight, to road and rail transport, to contract logistics. The company operates in over 100 countries.

In its Dubai warehouse, Kühne + Nagel has introduced euro and industrial pallets. The combination of a narrow-aisle and wide-aisle pallet warehouse system has improved productivity and reduced costs. What's more, SSI Schaefer's solution has increased storage capacity by around 40 per cent compared to the company's previous conventional pallet racking system. In addition, warehouse throughput, picking speed and product reliability have all improved – with an error rate of almost zero.

Showrooms around the globe – SSI Schaefer in Asia

The SSI Schaefer Group operates over 50 subsidiaries around the world. To present its cutting-edge, end-to-end solutions to customers and prospects, the company has a number of showrooms. These rooms feature permanent exhibits and are the perfect backdrop for customer meetings, internal staff training or industry events. In the last issue of update, we profiled our facilities in Germany, Austria and Switzerland. This time, we're focusing on two showrooms in Singapore, SSI Schaefer's Asian headquarters.

SSI Schaefer Singapore

- **Opened:** 2011
- **Showroom space:** 220 m²
- **Exhibits:** Conveying technology, a parallel picking system in combination with RF picking, pick-to-tote picking, RF picking, pick-by-light with E-Pick, pick-by-light with Multilight, mobile picking with pick-by-voice technology, live storage systems for packages, modular shelving units, totes, a mobile racking system for pallets, the Schaefer Orbiter System, the LogiMat storage lift.
- **Usage:** Primarily for customer demonstrations and for internal staff training with a focus on picking.
- **Objective:** The showroom aims to underline that a tailored solution does not just consist of one product but of multiple components intelligently combined to form a comprehensive, end-to-end answer to challenges.

Republic Polytechnical School, Singapore

- **Opened:** 2013
- **Showroom space:** 150 m²
- **Exhibits:** A diverse range of conveying technology, S-Pemat, E-Pick, live storage system for packages, modular shelving units, totes.
- **Usage:** The facility is designed to train students focusing on the supply chain.
- **Objective:** Students receive insight into automated and manual picking processes. In addition, a variety of sorting and diversion mechanisms are on display.

So what does Salomon Automation do?

Salomon Automation, the software specialist within the SSI Schaefer Group, is headquartered in Friesach near the Austrian city of Graz.

Friesach, Austria. A member of the Schaefer Group since 2008, Salomon Automation excels in IT. Alongside the development of logistics software WAMAS, the company is a one-stop provider of made-to-measure, end-to-end warehouse systems – from fully automated to manual solutions. Professionals at Salomon Automation support customers for the entire product lifecycle, from the planning stages, to implementation, to ongoing maintenance.

Information focus areas

Salomon Automation's Friesach headquarters is the key site for WAMAS. Additional offices in Germany further strengthen the company's knowledge network.

The organisation not only focuses on logistics software but also on process management. WAMAS was developed based on experience gleaned from numerous projects around the world. That means the software was not created with one particular customer in mind but can be deployed universally to solve diverse challenges. Support and assistance during implementation are key parts of the process. And employees at Salomon Automation are experts when it comes to advising customers on intralogistics, always ensuring the right balance between hardware and software. As a result, they can create the ideal solution for every requirement.

Corporate culture

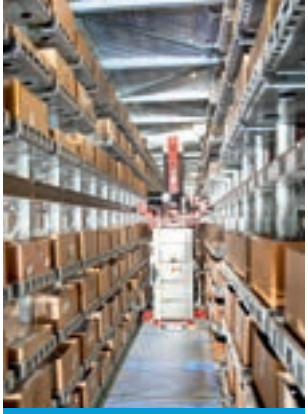
In 2012, the Friesach site was awarded the title "Austria's Best Employer". The philosophy behind this is simple: a friendly, open atmosphere encourages excellent teamwork. Training is another important aspect, with specially designed courses on software development, logistics and automation technology regularly on offer to staff.

New research and testing facility

Neunkirchen, Germany. SSI Schaefer has opened its own research and testing laboratory at its site in Neunkirchen. The facility will be used to ensure the shelf systems produced here fully comply with all standards, norms and requirements (ISO, EN, SIN, FEM, etc.). To this end, diverse tests are performed to verify the resistance, strength and load-bearing capacity of products and to prevent toppling and falling. Project-specific tests are used to check the rigidity of totes deployed in live storage racks. The results of these experiments are leveraged for production optimisation.

Based on these stability, reliability and endurance tests, customers can rest assured that the products they receive comply with the highest quality and safety standards – worldwide. A similar facility is currently under construction in Malaysia with completion slated for early 2014. Automated systems are put through their paces at the SSI Schaefer Technology Centre in Giebelstadt.

3D-MATRIX SOLUTION


Totes, boxes, trays


Layer trays


Pallets

Highly efficient logistics processes

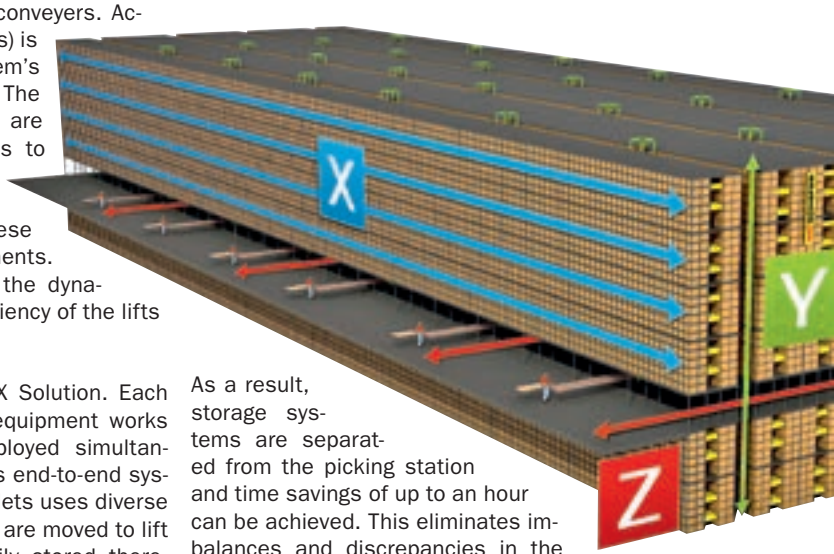
With its patented 3D-MATRIX Solution®, SSI Schaefer is taking automated warehouse systems to new heights. Storage, interim storage and sequencing in a single system.

Giebelstadt, Germany. SSI Schaefer's 3D-MATRIX Solution® is a highly dynamic system for the storage and picking of individual items, boxes and entire pallets. The first reference customers to use the solution are impressed: the 3D-MATRIX significantly increases efficiency across all industries and delivers long-term investment protection.

Conventional systems are designed for retrieval of goods at the front end of the aisles (x axis). Storage and retrieval devices or lifts move the items along the vertical y axis to the conveyers. Access to the pallet positions (z axis) is via the storage and retrieval system's load handling device or a shuttle. The pallets that have been removed are transported using shelf vehicles to the conveyer or to transfer stations. The warehouse's entire material flow is restricted to these few retrieval points and components. And the transfer stations limit the dynamism of the system and the efficiency of the lifts and conveyors.

Enter SSI Schaefer's 3D-MATRIX Solution. Each element of the transportation equipment works independently and can be deployed simultaneously in the x, y and z axis. This end-to-end system for totes, layer trays and pallets uses diverse shuttles. The required load units are moved to lift transfer stations and temporarily stored there. Each lift has access to the transfer stations, allowing effective sequencing of outgoing items and load-based positioning of inbound goods. The system can be configured to include an almost unlimited number of picking and dispatch stations, which can be integrated individually. Goods can be sent to these in sequence. This means all outbound operations are performed separately and exclusively for the connected workstation. As a result, storage capacity can be flexibly extended in length, width and height without the need to modify the entire system.

The 3D-MATRIX Solution offers unlimited accessibility to racks during regular operations, significantly reducing waiting times. What's more, add-ons and extensions can be seamlessly integrated into existing warehouse management IT solutions. But that's not all: with the 3D-MATRIX, the warehouse management system handles all sequencing, the SSI Schaefer shuttles have access to a large number of positions and the flexible number of lifts enables a larger number of transfer stations.



As a result, storage systems are separated from the picking station and time savings of up to an hour can be achieved. This eliminates imbalances and discrepancies in the order and goods structures.

Beverage producer Gerolsteiner Brunnen, Migros-Verteilbetrieb Neuendorf, discount supermarket Lidl, US food retailer ES3 LLC and jewellery manufacturer beeline are already successfully leveraging this innovative system.

Containers in the spotlight

SSI Schaefer containers have been around a long time. And they are found in production facilities and warehouses around the world. Thomas Schleisick and Thomas Jettkant from SSI Schaefer shed light on this key element of the industry.

Thomas Schleisick, Head of Sales, Container Systems.

Thomas Jettkant, Head of Sales, Bespoke Packaging.

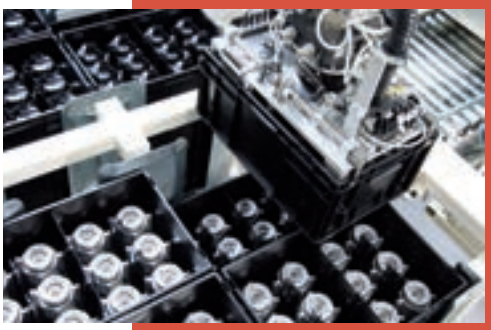
What significance do containers have for SSI Schaefer?
T. Schleisick: They are a cornerstone of our corporate history and are extremely important for us. However, over the years many more significant product areas have been added to our portfolio.

Are steel totes outdated in this day and age?
T. Jettkant: No, both plastic and steel totes serve their own particular purpose. For some scenarios, steel is the only option – for example, if the goods are very heavy or temperature sensitive, or additional modifications or washing is required. That's why we will continue to offer steel totes. Without a doubt, though, plastic is more versatile and can cover a broader range of applications. Plastic containers are lighter and can be used in automated warehouses, for instance in automated small parts stores, on conveyors, or in robot-controlled systems.

What is the role of your containers in automated systems?
T. Schleisick: Automated systems are generally designed to meet specific customer needs. And that is also true of the containers. They need to fulfil complex requirements both in terms of protecting the goods being stored or transported and being suitable for use in automated logistics processes. At the start of any project, the central question for us is "How do I move the customer's products as efficiently, reliably and safely as possible within the system?" Based on the results of this analysis, we develop the ideal container concept for that company – often working closely with the customer.

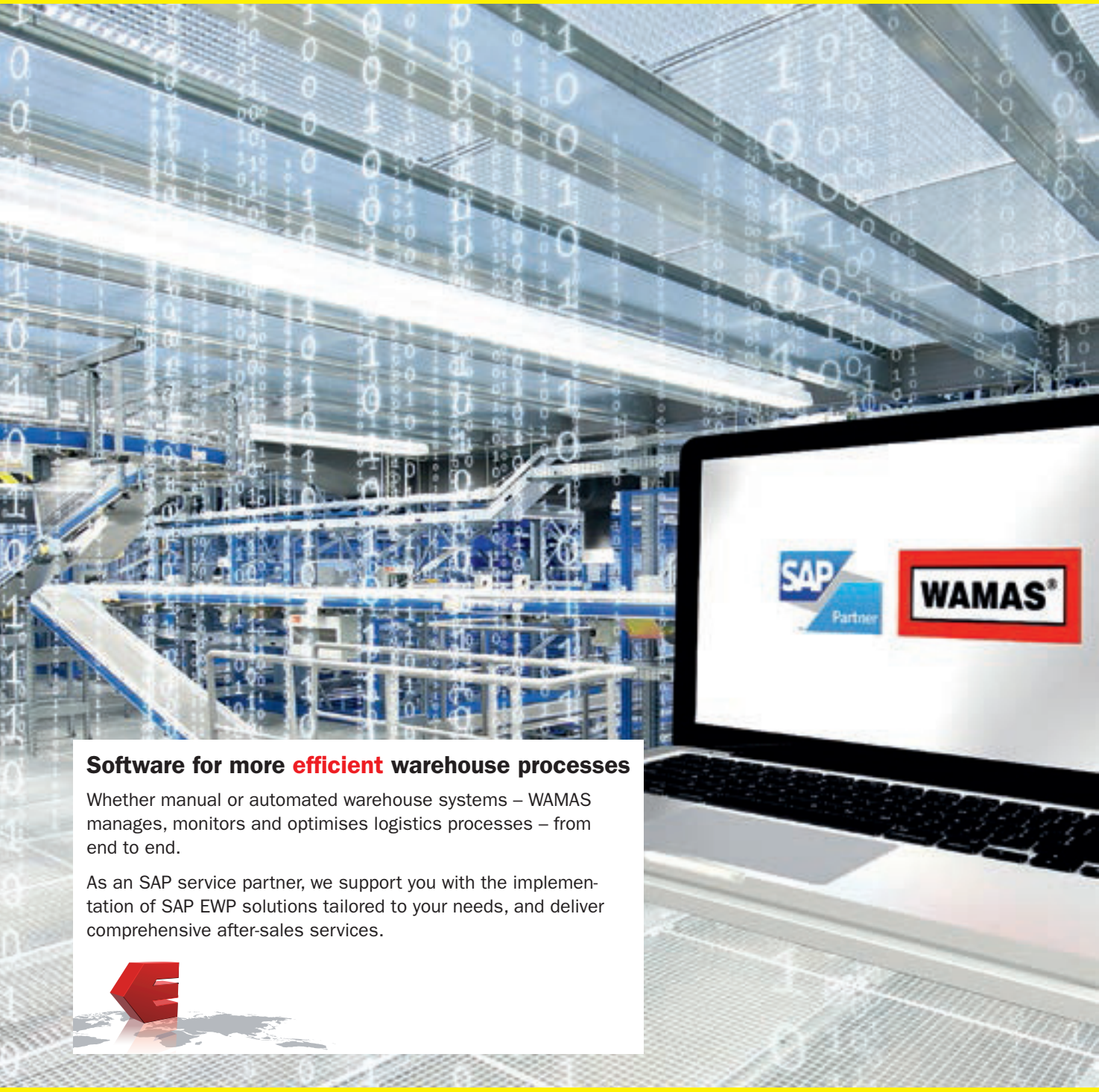
Automated containers for ever-more complex projects.

What can you tell us about the current market situation?
T. Jettkant: At the moment, we're seeing a rising demand for tailor-made solutions. And this customisation trend applies to all industries. Typical challenges we face include automating containers and ensuring they can be both managed internally and tracked externally, for example via barcode, 2D code, RFID transponders or in-mould labelling. Another key issue is the protective nature of the container: it needs to keep dust and moisture away from the products. The demand for perfectly tailored transport containers increases when you're handling very sensitive goods. After all, the container is closest to the product so it is worth investing in the ideal packaging solution.



Fabricated inserts are the perfect fit, protecting goods during transit and in automated handling systems.

SSI SCHÄFER



Software for more efficient warehouse processes

Whether manual or automated warehouse systems – WAMAS manages, monitors and optimises logistics processes – from end to end.

As an SAP service partner, we support you with the implementation of SAP EWP solutions tailored to your needs, and deliver comprehensive after-sales services.

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