

Issue 2/2013

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Dear readers,

SSI Schaefer is definitely something special, delivering the complete spectrum of intralogistics services from a single source. We make logistics visions a reality – and provide a one-stop solution for the entire value chain. Our comprehensive portfolio of products and services – from manual and fully automated systems to software – keeps us head and shoulders above the competition. And this, in turn, means a host of benefits for warehouse and logistics centre operators.

As some of our customers have discovered, leading providers deliver outstanding individual components. However, when these elements are combined with those from other manufacturers, problems with integration can arise. Even connecting the shelves to the conveying system can prove tricky. Additional interfaces in the warehouse include the integration of platforms, free-standing racking systems, storage and retrieval systems and shuttle systems, right through to control systems and IT. The result is often multiple service contracts and a lack of control over who is responsible for what.

This is where SSI Schaefer is different. Our one-stop approach means clearly defined roles and overall re-

sponsibility for projects. We build complex end-to-end logistics systems using products manufactured in house. What's more, our projects are completed fast. If the interfaces are right from the outset, the systems can be integrated in a way that saves space, money and – above all – time. And this delivers tangible advantages for our customers.

As usual, this issue of Update spotlights a number of successful projects. Their outcomes are the result of hard work performed by our units, or in some cases, the entire Group. The cover story, featuring pharmaceuticals wholesaler Salus, is an excellent example of an undertaking involving the whole Group. The pharmaceuticals player benefited from our comprehensive range of services. Its new state-of-the-art distribution centre boasts an automated small parts warehouse including storage and retrieval devices, conveying technology, pick-by-light system, new containers, the Schaefer Carousel System buffer system, a picking station and logistics software WAMAS. And the best thing: all Salus interfaces are fully integrated.

Happy reading!

A stylized handwritten signature in blue ink, consisting of a large 'R' followed by a series of loops and a long horizontal stroke.

Rainer Buchmann
Managing Director, SSI Schaefer, Graz, Austria



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Guided by integrated pick-by-light systems, employees pick the required items and load them directly into shipping trays.

State-of-the-art solution for pharmaceuticals wholesaler

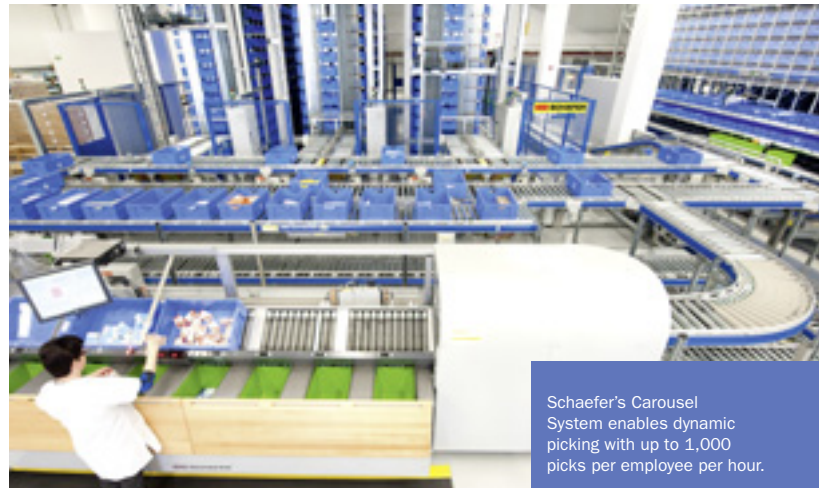
SSI Schaefer has created one of the most sophisticated distribution centres in central Europe, in the Slovenian capital Ljubljana. The facility, implemented for pharmaceuticals wholesaler Salus, follows a holistic approach, linking diverse storage and picking areas.

Ljubljana, Slovenia. To cater to a wide range of items and types of order, warehouses must offer exceptional flexibility and support an intelligent combination of picking methods. With this in mind, SSI Schaefer has implemented one of Central Europe's most advanced distribution centres for Salus – the Slovenian market's leading wholesaler for pharmaceutical and medical products. "Our existing facility was reaching the limits of its capacity," explains Andrej Hočevar, project manager at Salus. "What's more, its location was not ideal for transport links. So we opted to build a completely new centre. We now enjoy more space and greater efficiency – thanks to the latest equipment and leading-edge process design. All this adds up to better service for our customers." SSI Schaefer in Giebelstadt was contracted to develop an intralogistics solution tailored to Salus' precise needs. The result is a facility that meets the highly specific requirements of the pharmaceuticals market – and is a lighthouse project in this industry.

Around 13,000 items from eight groups and 11 item types are handled at the new distribution centre in Ljubljana. The average inventory is approximately six million items. The site comprises 30 storage areas with four different temperature zones. From here, Salus delivers a range of products to pharmacies, hospitals and other healthcare players, picking and preparing orders based on an efficient, end-to-end design that was planned and implemented by SSI Schaefer. This supports order-based, multi-level picking and a range of picking methods – in some cases, covering three floors.

SSI Schaefer implemented a six-aisle, fully automated high-bay warehouse with two aisle-changing storage and retrieval systems. There are over 5,100 pallet positions for the single-deep storage of pallets weighing 1,000 kg each. For cross-docking of entire pallets, a separate handling area was developed. An automatic small parts storage system and a Schaefer Carousel System ensure efficient storage and picking. In addition, the distribution centre has two manually operated storage areas: a dedicated zone for temperature-

controlled goods and designated areas for picking large quantities. SSI Schaefer's warehouse management system WAMAS manages all storage and picking areas plus the corresponding handling processes. "Thanks to tight integration and comprehensive IT, we have managed to unite diverse systems and processing strategies. This is one of the most ambitious projects in recent years – both in terms of the machines and technology deployed and the IT solutions used to control them," remarks Peter Diener, project man-



Schaefer's Carousel System enables dynamic picking with up to 1,000 picks per employee per hour.

ager at SSI Schaefer. "These new-look processes have greatly improved lead times, significantly increased throughput and enhanced process reliability – despite the huge variety of items the customer handles."

"The unique combination of technologies, large-scale automation and high-performance systems enables us to pick and dispatch up to 300 orders a day comprising a total of 10,000 to 12,000 individual items," explains Hočevar. To achieve outcomes like this, you need intelligent flows of goods. SSI Schaefer put these workflows through their paces in extensive simulations during the design and planning phase.



Swanson deploys an A-frame to pick fast-moving items.

Step-by-step transformation

Enhanced picking thanks to gradual introduction of automation technology

Fargo, North Dakota, USA. Swanson Health Products (SHP) is a leading mail-order and Internet provider of dietary supplements and other health products.

Due to growing market demand, the company rapidly expanded its product portfolio. The partnership began back in 2006 when the logistics player was tasked with restructuring picking processes. The ambitious project called for the fast installation of new systems without disrupting on-going operations. In addition, all new interfaces had to be aligned with SHP's existing solutions and the organisation's changing requirements had to be taken into account. The automated warehouse was planned in phases, with new solutions introduced gradually.

First, SSI Schaefer installed a Schaefer Carousel System (SCS) with three modules. This boasts a high storage capacity with sufficient space for the rising number of items SHP handles, as well as ample scope for future growth. A year later, a further SCS module was added. At the same time, SHP gained a one-aisle automatic small parts storage system featuring the SMC storage and retrieval system and a picking station to automate the handling of slow-moving items. This system improves performance and space efficiency. As a result, SHP was able to increase the number of items it handles at the facility by 7,000.

In 2011, four additional SCSs and a second goods-to-picker station were implemented to maximise productivity and throughput, reduce costs and increase the volume of orders processed. The small parts store integrated into the Schaefer Carousel System delivers replenishments to all eight SCS modules as required. The next step was to automate the handling of fast-moving items by introducing an A-Frame picking system for the 400 most popular items. Furthermore, a new aisle fitted with a SMC was added to the small parts store.

"The SSI Schaefer approach combines material handling, goods-to-picker and automated picking methods," explains Terry Kraft, Director of Operations at SHP. "This allows us to maximise productivity, increase throughput and enhance customer service."

The systems are integrated with SHP's AS400. And since their installation, the health products business has cut staff costs, reduced costs per order and shortened time to delivery. As a result, SHP has opted for a long-term partnership with Schaefer with a view to further boosting the efficiency and capacity of its logistics centre going forward.

Cold, colder, frozen

Fully automated channel storage system for frozen potato products from Mydibel.

Mouscron, Belgium. Mydibel, a family-run business founded in 1988, supplies frozen potato products such as wedges, French fries, flakes and potato flour to food industry players, including retailers and caterers, in over 75 countries. To automate and enhance processes across the board, decision makers opted to consolidate warehouse capacity at a brand-new, cutting-edge logistics centre at the company's production site in Mouscron. To this end, Mydibel tasked SSI Schaefer in Giebelstadt with the design and development of automated systems and installation of a turnkey high-bay warehouse, complete with conveying technology that would dovetail seamlessly with existing production and IT management systems.

The Belgian organisation selected an automated channel storage system with shuttle technology. Picking in cold stores must be completed within 30 minutes at maximum temperatures of -5 degrees Celsius. These regulations mean an increasing number of manufacturers are looking to increase warehouse efficiency – by choosing fully automated logistics solutions.

After 18 months of planning and preparation, including software customisation, Mydibel's systems went live in May 2012. Today, pallets are transported across eleven levels in the five 93-metre-long aisles of the high-bay channel warehouse. Each level has 57 channels which can be accessed from each side by five storage and retrieval devices. Items are stored eleven deep. In total, the cold store has 32,000 pallet positions for the 800-mm-wide euro pallets and 25,600 positions for the wider (1,000 mm) industrial pallets. With the exception of the two outer channels, each channel can be accessed from two aisles thanks to the Schaefer Orbiter System. "This enables us to load the channels with goods from two sides, for example for different batches. And in line with the first-in, first-out method, we can place items on the shelves from one side and remove from the other," explains Dries Seynaeve, head of the new logistics centre.



The storage and retrieval machines place up to 52 pallets in the channels each hour and remove up to 126.

Automated warehouse for muesli manufacturer

SSI Schaefer has implemented an automatic channel storage system with shuttle technology for organic food producer Lebensgarten. The result: order-based picking and sequenced provision of pallets ready for shipment.

Adorf, Germany. Lebensgarten manufactures sustainable, organic baked goods, cereals and chocolate products. Due to a continuous rise in demand, the food industry player's warehouses were reaching their limits. Lebensgarten needed a solution that could boost space utilisation and capacity and optimise staff deployment. The company considered a range of options – from a mobile racking system to a narrow-aisle warehouse. But it was SSI Schaefer's proposal for an automated compact warehouse with sequenced provision of pallets for outbound goods that ticked all the right boxes. In April 2012, Germany's first Orbiter warehouse was completed. It boasts space for 4,200 pallets and serves as an interim storage area for products waiting to be shipped.

Directly adjacent to the channel warehouse are eight gravity-driven tracks for outbound items and two infeed roller conveyors. The items come directly from the production lines and are stored in batches. Pallets are conveyed a short distance along the track to a storage and retrieval device which moves along the channels. Pallet positions designed for different heights stretch across seven levels to the left and right of the aisle. And the 42 channels on each level can be accessed from

both sides. Together with the Schaefer Orbiter System, the storage and retrieval system creates an efficient shuttle solution.

After the pallets are taken to the transfer station, the storage and retrieval system moves them along the aisle and stops at the channel pre-defined by logistics software WAMAS. The Orbiter shuttle then lifts the pallet and moves it along the channel. Using precise digital measurements and light sensors, the Orbiter shuttle accurately places the pallet in the correct channel before moving back to the storage and retrieval system. This device acts as a base station, charging the battery of the Orbiter shuttle as it moves. The storage and retrieval system has an integrated power supply, which means it is entirely mobile and able to operate without cables. Orbiter shuttles are powered by capacitor technology (PowerCap).

After positioning the pallet containing inbound goods, the storage and retrieval system moves the Orbiter shuttle to another channel where it collects the outbound items. The entire process is managed by WAMAS and supports efficient picking and sequenced collection of goods for shipment. These pallets are placed on one of the gravity roller conveyors.

Great teamwork: together, the storage and retrieval system and the Orbiter shuttle convey 30 pallets every hour.



Two tracks for receiving goods transport the pallets to the storage and retrieval system.





When the Schaefer Lift&Run System stops in front of the designated channel, the Orbiter lifts the pallet and takes it into the channel.



Thanks to precise digital measurements and light sensors, Orbiter delivers the pallets to the right position in the channel.

Taking beverage logistics to a new level

Gerolsteiner's fully automated compact warehouse is one of the most advanced logistics solutions in the beverage industry.

Gerolstein, Germany. The summer of 2006 brought record temperatures and they, in turn, created new challenges for drinks manufacturers. Warehouses became bottlenecks between the production line and the shop shelf.

To avoid negative fallout, Gerolsteiner Brunnen was quick to launch an efficiency drive. One of its aims was to enhance distribution logistics and improve cost effectiveness through process automation. The beverage player wanted to maximise capacity, improve logistics efficiency and significantly reduce truck turnaround times in the loading bays. Gerolsteiner issued a detailed request for tender, outlining its specific requirements. After careful consideration, decision makers tasked SSI Schaefer, Giebelstadt, with the design and development of a turnkey system. The scope included demolition of existing facilities, construction work and provision of new equipment. "SSI Schaefer's proposal featured an intelligent solution for a fully automated compact warehouse that offered maximum space utilisation, high throughputs, enhanced order picking and accelerated processing of outbound goods," explains Ulrich Rust, technical director at Gerolsteiner Brunnen.

Between mid-2011 and September 2012, SSI Schaefer created one of the most advanced and efficient storage and material flow concepts

in the beverage industry – in two construction phases. First, a warehouse with 9,300 pallet storage spaces for non-returnable bottles was created next to the bottling facility for this type of beverage. These products account for around 20 per cent of Gerolsteiner's bundles. After the warehouse went on stream in November 2011, the second phase of the project kicked off, doubling capacity. Since September 2012, Gerolsteiner has been the proud owner of a new six-aisle high-bay warehouse boasting almost 19,000 pallet positions. There is scope to extend this figure to as many as 60,000 in future.

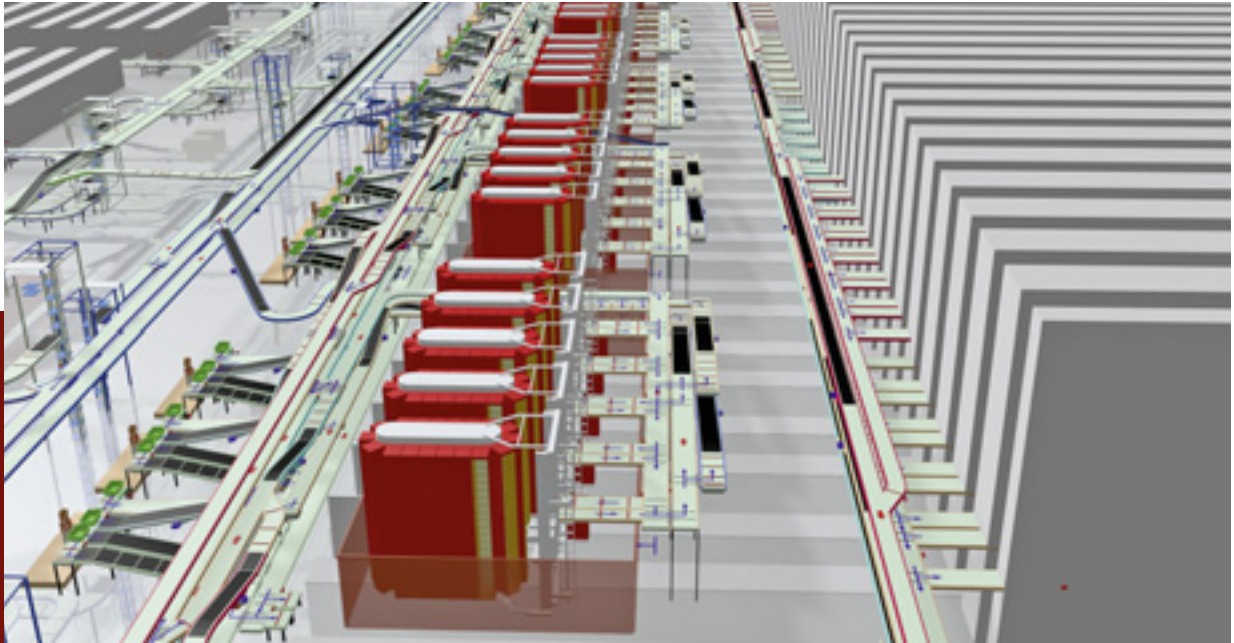
"The compact warehouse is only a quarter of the size of a traditional block storage facility. This means we have reduced space requirements by the equivalent of three football pitches," remarks Rust. In a first for the company, SSI Schaefer implemented its innovative Schaefer Lift&Run System over three levels. Furthermore, the entire despatch area was fitted with a platform. As a result, office and recreational space, as well as a handling area for the construction of display pallets could be intelligently integrated into the plant.

Customer quote

"The automated compact warehouse planned and implemented by SSI Schaefer is the most cost-effective solution for us in terms of technology and productivity."

Ulrich Rust, technical director at Gerolsteiner Brunnen.





The layout of KNV Group's planned distribution centre in Erfurt.

A once-in-a-lifetime logistics project

KNV Group is building the biggest, most modern, highest-performance media logistics centre in Europe.

Erfurt, Germany. KNV Logistik has ambitious goals for its new logistics centre in Erfurt, which will serve both the book wholesaler Koch, Neff & Volckmar (KNV) and the publishers' distributor Koch, Neff & Oetinger (KNO VA). To enable the two companies to maintain and even extend their market leadership, the new distribution centre must be flexible, innovative and cost-effective; accommodate growth; and deliver outstanding service. SSI Schaefer, Graz, won the contract to plan and build the new 315,000-square-metre facility. Hand in hand with KNV and logistics planning specialist IWL, SSI Schaefer devoted months of intensive effort to developing a comprehensive blueprint – considering the challenge from every angle, and planning every last detail with the greatest care.

And the results of their efforts: the 1,800 fastest-moving items will be stored in an automated high-bay warehouse. Other fast-moving items – which account for more than 50 per cent of delivery volume – will be kept in bins in the automated small parts storage system 1. A modular shelving system on two levels provides 170,000 additional storage spaces for moderately fast-moving items. The automated small parts storage system 2 will provide 260,000 storage bins, each of which will hold small quantities of several different items.

This means that the slow moving goods storage area will be able to hold well over half a million items. A total of 56 automated storage and retrieval systems will be installed in the two automated warehouses for rapid inbound and outbound movement of goods.

An ingenious technical solution was developed to provide the automated small parts storage system 2 with a high-performance forward-pick area. Goods required in the next few hours are brought out of the depths of the huge automated small parts storage system 2 and held in a connecting loop system that either transfers the goods to a buffer, the Schaefer Carousel System, or takes them directly to the picking stations. In the book trade, the amount of slow moving goods is expanding, and this solution will introduce a consistent goods-to-picker strategy that completely eliminates transfer times. This can deliver exceptionally high productivity: more than 400 picks per station per hour.

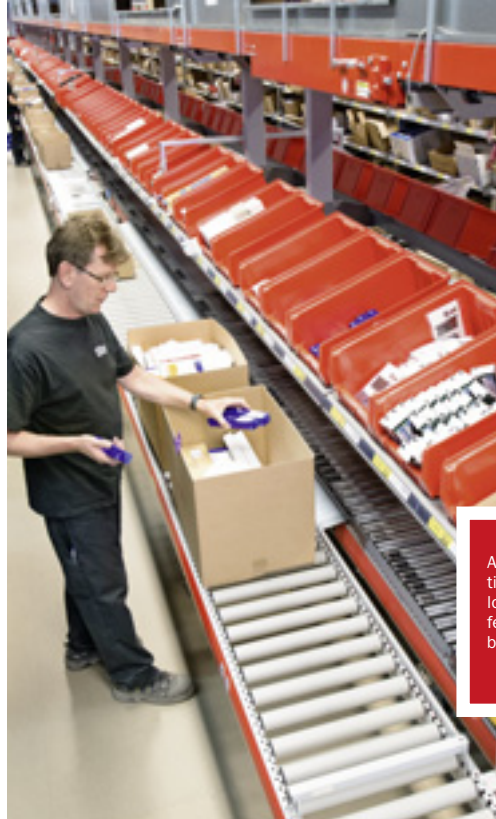
In all, 21 kilometres of conveyors will link the various areas of the facility. Thanks to an imaginative combination of systems, the logistics centre will boast flexible, efficient processes and operate to a significantly higher quality standard.

Warehouse consolidation

Strängås, Sweden. Office Depot was looking to streamline logistics at its new centre. Its aims: consolidate two existing warehouses, create additional capacity for future growth, optimise logistics processes and boost efficiency. In 2011, SSI Schaefer, Graz, won the bid to make these visions a reality.

Office Depot is a leading global provider of office supplies and related services. Its distribution centre in Bredden was no longer able to meet the growing company's needs. Against this background, decision makers opted to utilise another warehouse in Svänström as a new distribution centre, consolidating the two facilities at this location. The main reason for this choice was that Svänström offered better conditions for the introduction of warehouse automation.

SSI Schaefer designed a sophisticated semi-automated logistics solution to streamline processes. The new distribution centre has been up and running since May 2012. Some 11,000 items are stored on two levels at the facility, which is approximately 11,700 square metres in size. At its heart is an innovative 800-metre-long conveyor belt that enables rapid inventory turnover and an output of around 5,000 orders or 15,000 boxes each day.



At the heart of the distribution centre is an 800-metre-long conveyor belt that transfers approximately 15,000 boxes a day.

SSI Schaefer's WAMAS logistics software manages and monitors all processes with pinpoint precision and reliability.

The combination of automated and manual processes has made Office Depot so efficient that it is now able to supply 53 channel partners and all its Swedish customers within 24 hours from a single location.



and fashion retailer George. As Robinsons' scope of business has grown considerably in recent years, it needed to expand its distribution centre in Malaysia.

SSI Schaefer was commissioned to install a unique, customer-specific shelf system equipped with garment rails for hanging goods, pallet racks and long-span racking for products in boxes and containers. The flexible installation schedule enabled Robinsons to relocate its distribution centre on time, without disrupting on-going operations.

The three-level platform structure is divided into two areas: a zone on the ground floor chilled by an air conditioning system, and an area on the two upper floors kept at ambient temperature. Food and body-care products are stored on the ground floor, with hanging and flat packed garments on the upper floors. The racks on the ground floor are made of steel plates to retain the cold air within the chilled ground floor. On level two, steel mesh racks are employed, ensuring adequate air circulation within the ambient temperature areas.

A racking platform that keeps its cool

Subang Jaya, Malaysia. Robinsons is one of Singapore's oldest and largest retail groups. Established in 1858, the group runs stores and restaurants throughout Singapore and Malaysia. These include the Robinsons and John Little department stores, Marks & Spencer, Costa Coffee

Right next to the harbour gate on Copenhagen's waterside promenade stands UNICEF's global warehouse, erected in just twelve months.

Facts and figures

Project objectives:

- Consistently automated material flows
- High availability
- Efficiency in supplying vital goods to crisis areas
- Multiple climate-controlled zones
- Innovative fire protection strategy

Scope of delivery and service:

- Simulation and visualisation
- 8-aisle high-bay warehouse with various temperature zones, 36,000 pallet positions, silo design
- 8 pallet storage and retrieval systems
- Pallet conveyor system
- 2-aisle, automated small parts storage system with 3,000 tray positions
- Trays (LTB)
- 2 tray storage and retrieval systems
- Conveyors for containers, boxes, used cardboard
- WAMAS logistics software
- 2 pre-picking stations, 2 repacking stations
- Floor-mounted electric conveyor
- 2 fully automated robot palletisers

Efficient hub for worldwide relief operations

Fully automated material flows in UNICEF's new global distribution centre make for high availability and efficiency: exactly what the organisation needs to get help to crisis areas fast.

Copenhagen, Denmark. Right next to the harbour gate is the new global warehouse of the United Nations Children's Fund, UNICEF. SSI Schaefer was commissioned to design and build this key hub for supplying relief operations throughout the world. On a site in the Free Port of Copenhagen larger than three football pitches, the solutions provider created a fully automated logistics centre. The facility boasts multiple picking zones and offers more than 9,000 square metres of storage space. It features a silo design in which the vertical supports of the rack units also bear the roof and the side walls. It is an eight-aisle high-bay warehouse with different temperature zones and about 36,000 pallet positions for double-deep storage. Linked to this facility are a two-aisle automated small parts store with 3,000 tray positions, an enclosed, chilled

storage area for manual picking of pharmaceutical products, a store for oversized goods and supply storage for packaging materials. In all, 1,200 tons of steel and 15 kilometres of cables were used to build the warehouse complex. The specialists also installed a circular, 450-metre long floor-mounted electrified conveyor to transport the in-house pallets. With its 44 trucks, the conveyor provides rapid pallet transport throughout the complex. The processes are controlled by SSI Schaefer's WAMAS warehouse management system.

UNICEF'S ability to respond quickly, dispatching relief supplies within 48 hours, is, to a large extent, due to its logistics facility in Copenhagen. Two feed stations where the floor-mounted conveyor trucks are loaded play a key role at the start of the process. After being inspected, the incoming palletised goods are registered in the IT system, and the pallets are labelled with a barcode generated by WAMAS before being entered into the automated flow of goods. One of the feed stations is equipped with an automatic stretch-wrapper which receives pallets needing to be protected with plastic film prior to transportation and storage. The electrified conveyor links the goods-in area with the high-bay warehouse. At the latter's transfer stations, the pallets are unloaded and placed on racks by the pallet storage and retrieval systems. The high-bay warehouse houses

many kinds of relief supplies, so it needs to be divided into multiple temperature zones, and the whole facility is insulated from the low-bay zone with its air-conditioned workstations.

However, because the floor-mounted conveyor moves the pallets between different climate zones, it was not possible to install rapid-action doors or similar devices. Instead, a special air curtain prevents air flow between chilled zones and the air-conditioned workstations. For this purpose, the high-bay warehouse has a special air circulation unit. This blows warm air below the warehouse ceiling into the aisles between the racks which is forced towards the floor. Operation of the pallet storage and retrieval systems causes the warm air in the aisles to move and spread around. As a result, various temperature zones between 5 and a maximum of 25 degrees Celsius can be maintained in the high-bay warehouse, while the floor remains frost-free, even in the coldest winters. Moreover, the fans incorporated into the facility's façade allow the warehouse to be cooled down in hot weather. The smoke outlets in the roof draw the warm air from the aisles. To make the best use of these climatic conditions, relief goods are placed in different zones of the high-bay warehouse according to their temperature sensitivity.



After being automatically strapped and labelled, the shipping boxes are fed to the palletising robots. From there, the newly assembled pallets are transferred to the shipping area.



To assemble orders comprising packages of small parts, the trays are moved out to five workstations, each consisting of five picking stations. One picking station is located in front of each of the automated small parts stores.



Boasting a compact design and based on the efficient sorting systems technology, LogiMat storage lifts prevent long and unnecessary waiting times.

Boosting picking efficiency

Two LogiMat storage lifts have helped KNF Flodos AG maximise warehouse capacity and enhance the efficiency of their order picking processes.

Sursee, Switzerland. KNF develops, manufactures and sells high-end diaphragm pumps and systems for gases, vapours and liquids. The company wanted to enhance order picking processes, shorten routes and maximise the capacity of the warehouse, with a system that could be tailored to their internal processes – so they turned to SSI Schaefer for a solution.

At KNF's Sursee site, SSI Schaefer installed two LogiMat storage lifts to enhance warehouse capacity, provisioning, and order picking for small parts. The lifts stretch from the basement to right below the roof, with the service opening located on the main floor of the warehouse. By making use of the full height of the building, the two devices need just a tenth of the space required by

a conventional static solution. The compact design, coupled with efficient goods-to-picker strategies, saves time and prevents unnecessary trips. Automation has not only accelerated processes, making them more efficient and transparent, but it has also significantly simplified them.

In total, around 2,000 parts are picked ready for the production line– rapidly and accurately. Orders are generated by the KNF Flodos SAP system and captured in the LogiMat management software LogiSoft via barcodes. To further enhance the picking process, the storage lifts feature two visualisation options: users can find the information on the display or identify the picking position by the laser pointer system

Shelving and storage lifts for Zehnder

Gränichen, Switzerland. To enhance the efficiency of internal logistics and warehousing, the Zehnder Group – European market leader for designer radiators and cooling and ventilation solutions for residential buildings – has consolidated its two storage locations at a single logistics centre at its Gränichen headquarters. The site houses a broad spectrum of items – from huge ventilation pipes to tiny O-rings. SSI Schaefer was responsible for implementing a modular storage solution to meet the company's diverse requirements.

Covering an area of 3,000 square metres, the manual system is tailored precisely to the customer's needs and offers the ideal storage location for every item. Large Zehnder designer radiators are stored in cantilever racking systems and other big items with a high turnover rate are stored in 1,500 positions in a pallet racking system. A modular shelving solution offers ample space for smaller items. For small parts with a high turnover such as spare parts and air conditioning components, Zehnder deploys SSI Schaefer's LogiMat storage lift. Around 500 of the total of 2,500 items are kept in these automated storage and picking systems, which save on space while ensuring rapid, convenient order processing.

A new look – and 90 square metres more space

SSI Schaefer has implemented a space-saving parts store for agricultural machinery specialists Hans Völk – based on a locator system and complete with up-to-date showroom design



Antdorf, Germany. For 150 years, Hans Völk GmbH has been delivering high-quality products and services and customer care to the local agricultural and rural conservation sector in southern Bavaria. In 1998, the company became a sales partner to John Deere, a renowned international market leader for agricultural machinery. Today, Hans Völk is the regional centre for the brand.

“To begin with, we tasked SSI Schaefer with performing a cost-effective assessment,” relays Doris Buchner, head of customer service at Hans Völk. Using available data on parts and the type of items involved, the experts from SSI Schaefer’s Neunkirchen branch determined the space requirements for the storage facility. Next they designed the layout and processes, with a focus on functionality and future growth. The study showed that the space requirement for the warehouse for small and medium-sized parts was in fact over 20 per cent less than had been assumed by Hans Völk. The insights gained from the study made

planning significantly easier in the subsequent stages and supported efficient project execution. “And the costs were kept under control throughout, which was a real plus for us,” explains Buchner.

SSI Schaefer built a state-of-the-art spare parts warehouse with a mezzanine floor. To save costs, selected shelving from the old warehouse was re-used – and positioned in such a way as to ensure it could not be seen from the sales floor, despite the open-plan architecture. Boasting a streamlined look and feel, the new warehouse is bright, open and contemporary. Moreover, SSI Schaefer designed workstations such as the part-sales and repair desks in line with the John Deere corporate identity, and incorporated them around the display area in the style of a modern car showroom. As a result, the area available for showcasing products grew by 90 square metres. “This made a real difference to our exhibition space,” concludes Buchner.



The 340-square-metre site now offers space for around 12,500 spare parts – 8,000 small, 4,000 medium-sized and 500 large items. Workstations such as the parts-sales, repairs and information desks have been designed using the John Deere corporate identity and integrated into the space in the style of a high-end car showroom.

New archive for the Bank of Cyprus



Multi-level long-span racking

Latsia, Cyprus. The Bank of Cyprus Group was founded in 1899 and is the leading provider of banking and financial services on the Mediterranean island. Now SSI Schaefer can count the bank among its satisfied customers after successful completion of a follow-up project, in collaboration with local distributor and long-standing partner SPIMA.

The project goal was to update the archive by adding a new shelving system that would make the most of the available space. Half the facility was completed during the first phase in January 2010. After carefully analysing customer requirements, SPIMA designed a multi-tier long-span racking solution that delivers high-volume capacity, supports straightforward loading and unloading of items and is fully scalable. The specially designed wire mesh decking makes it easy to add and remove archive box files, and will enhance fire safety if a sprinkler system is installed at a later date. In a second phase, the system was extended to the rest of the storage area, with the entire project being completed in summer 2013.

Automated high-bay pallet warehouse

Madrid, Spain. ICP Logística is a market leader in logistics services in the telecommunications and automotive industries. The Spanish firm tasked SSI Schaefer with the implementation of a two-aisle, double-deep automated high-bay warehouse with 3,732 pallet positions for its central storage facility, which covers an area of over 55,000 square metres.

The building also features conveyor technology from SSI Schaefer. After the goods are received, the system captures and monitors the weight, stability, quality and labelling of the pallets on the conveyor track. Moreover, material flow control system WAMAS enables optimal execution of the transport tasks generated by in-house system SCL.net.

Outstanding collaboration between SSI Schaefer and the customer meant production go-live could be brought forward in three weeks. And thanks to its new automated system, ICP Logística can guarantee its customers capacity and availability of the highest order.



Accessing the high-bay warehouse with conveyor technology



Outdoor storage for lampposts

Ideal storage for lampposts

Brussels, Belgium. Sibelga operates the electricity and gas distribution network in the Brussels region, and is responsible for the maintenance and development of municipal lighting. This includes around 80,000 street lamps that lend a warm and pleasant glow to the city's streets at night.

In spring 2013, Sibelga contracted SSI Schaefer with building a high-capacity cantilever racking system – with enough space to store four-kilometres worth of lampposts, if they were lined up end to end. By partnering with SSI Schaefer, Sibelga knew that its inventory would be in good hands. All the lampposts are rust-proofed, so they can be stored outdoors.

Vast shelving system can house 80,000 pallets



Source: Itella Logistics

State-of-the-art logistics hub

Pennala, Finland. Itella Logistics specialises in effective, cost-efficient solutions for land, sea and air freight, and multi-level warehouses. When the logistics specialist decided to build its largest centre to date, storage solutions from SSI Schaefer were the obvious choice.

The new, state-of-the-art logistics hub is designed to maximise energy efficiency and deploys eco-friendly heating technology. Between October 2012 and March 2013, SSI Schaefer installed a pallet racking system with around 80,000 positions, a two-tier modular shelving system with a total shelf length of 8,000 metres, and a number of cantilever racking systems. The shelving solutions offer storage space of 77,000 square metres, while the pick-by-voice system makes the picking process quicker and easier.

The logistics centre houses products from Rautakesko, Itella's biggest customer in Pennala and one of Europe's leading retailers of building, renovation and home improvement supplies. Moreover, it offers storage for clothes, hazardous goods and household appliances. "We currently store hardware and packaged clothing here. The project was completed on time, and the quality of the facility meets our requirements one hundred per cent," reports Toni Nyman, project manager at Itella Logistics.



Narrow-aisle pallet storage

Shelving solutions for the ceramics industry

Rangsit, Thailand. World Ceramic Center Co., Ltd. is currently the logistics service provider for Boonthavorn, distributing bathroom and kitchen products such as ceramic tiles, bathroom fittings, bathroom and kitchen furniture, and accessories.

At present, World Ceramic Center maintains an inventory of over 100,000 items, primarily comprising ceramic tiles. In 2012, the logistics service provider planned construction of a new, 10,000-square-metre warehouse – and after successful collaboration in the past, SSI Schaefer was its first port of call when it came to designing the concept. World Ceramic Center needed a picking zone for packaged goods and a storage system for three types of ceramic tiles, capable of supporting weights of 1,200 kg, 1,500 kg and 1,800 kg. SSI Schaefer created a tailor-made solution: narrow-aisle pallet storage that provides space for 35,600 pallets and 1,170 picking stations. Each row of shelves in this complex includes 58 sections and one transfer station. A guiding system integrated into the floor gives the forklift driver excellent control when turning into the aisle, and provides support during the order picking process.

Mr. Chatchawan Terdphadungchai, manager of the World Ceramic Center distribution centre, is happy with the outcome: "The narrow-aisle pallet storage system allows us to fully meet the requirements of our customer Boonthavorn and enhance our storage capacity. What's more, it has increased productivity and reduced the risk of forklift accidents."

Doubling storage capacity in Charleroi

Charleroi, Belgium. SSI Schaefer has developed an efficient wheel storage solution for BMW dealership Louyet, based in southern Belgium. For over 50 years, the father and son behind this family-run business have been delivering top-notch service to customers.

The solution installed by SSI Schaefer comprises a wheel storage system and multi-tier mobile racking. The shelving systems now hold a total of 3,800 wheels – double the previous capacity. Louyet's owners are highly satisfied with the results as they can now offer even better customer service, providing wheel storage in summer and winter. Further benefits include the highly compact design and optimum use of space.

Ergonomic solutions – efficient processes

Two of the major challenges facing today's business are: constant pressure to enhance efficiency, and managing the impact of changing demographics on employee requirements. The answer? Highly ergonomic workstation solutions that minimise physical strain – solutions like the SSI Schaefer ergonomics@work!® system, which features a range of innovative technologies designed to reflect people's natural movement.



pick@work assembly workstation

Neunkirchen, Germany. Boost efficiency, stay competitive, protect employee health – these are top priorities for warehouse operators and assembly plants. A focus on the physical workplace is a crucial element in achieving these goals. To maximise efficiency and quality, manual tasks must be easy to perform and follow clearly structured processes. In short, an ergonomic working environment enhances employee productivity. However, many businesses have yet to fully tap into this potential.

Boosting efficiency is not the only reason to assess and improve our place of work. It also makes sense in light of the changing demographic landscape. As our society gets older, the proportion of employees aged 50-plus is on the rise, and the workplace must be designed to meet their requirements: it must be flexible and customisable, safeguard health and prevent unnecessary physical strain. If workplace design requires staff to move in an unnatural way or forces them

hold lengthy periods, this presents serious risks in the long term. Studies have proven that when employees are put under excess physical pressure, their performance suffers and error rates, absenteeism and staff turnover increase.

Against this background, SSI Schaefer developed the ergonomics@work! concept to enhance the way staff work with machinery – deploying innovative technology that reflects and supports people's natural movement. Following a specialist analysis of all processes and environmental conditions, SSI Schaefer designs a space that promotes safe, ergonomic working. And this goes hand-in-hand with a host of other benefits: by minimising physical strain, productivity rises by up to 20 per cent, the quality of the work improves, and order processing time is shortened. What's more, it is impossible to underestimate the positive impact on employee motivation.

The ergonomics@work! system comprises specially designed picking stations and workstations – such as goods receipt workstations, returns workstations, the Pick-to-Tote and E-Pick picking stations, the pick@work assembly system, and the new palletising and depalletising workstations. This comprehensive product portfolio sets new standards for all scenarios where people and technology interact. By minimising physical strain, the system reduces risks to health. No wonder the ergonomics@work! concept has become a core component of planning workstations and facilities at SSI Schaefer.



Pick-to-Tote picking station

“Listening to the customer and moving with the times”

For Rainer Buchmann, Managing Director of SSI Schaefer, Graz, the future lies in listening carefully to customers and precisely identifying their needs to create tailor-made solutions. Flexibility is the key to making this happen.

Can you fill us in on what has been happening at SSI Schaefer in Graz?

Our customers' business is changing – which means ours is, too. New requirements are emerging in sectors where time plays a crucial role. In e-commerce for example, the time between ordering and delivery must be as short as possible. In addition, after analysing customer processes, we have identified a need for monitoring and documenting outgoing shipments. Demand for this kind of solution has arisen in light of new legal requirements in the pharmaceuticals industry. We have responded by developing the SSI Order Verifier, which can be easily integrated as the last stage in an existing process – so there is no need to modify or interrupt established workflows, which is good news for our customers. An additional benefit is that the SSI Order Verifier can sort the products after being recorded. This makes it possible to process a number of orders simultaneously: the system reads each item separately before sorting products into individual shipments. As a result, it is a popular option in the cosmetics industry, the office supply sector and for retailers selling products such as books, CDs and DVDs.

How would you describe the current landscape in your business and in the logistics industry as a whole?

Our industry is seeing an on-going trend towards greater automation, and highly dynamic and multi-functional systems. This is driven in particular by the unstoppable growth of e-commerce, which requires integration of new processes into existing delivery structures. These constant changes to distribution workflows create a high need for investment. As a result, we are being kept very busy. We feel well positioned to meet these challenges, and are looking forward to the future.

What makes SSI Schaefer solutions an attractive choice for customers?

The most important thing is to listen to customers and find out what they really need. This means taking on board criteria such as staff costs at the planned facility, the volume and size of goods to be moved, and any special requirements that might play a role. We have the advantage of a wide range of products and services, which we can combine to meet each customer's unique requirements. That gives us an edge over companies that focus on selling a single solution. However, we also offer products individually. This is a deliberate choice as it enables us to see how they perform on the market. Anyone can build a facility using our products. But, the really important question is: how do you put it all together? How can you offer a solution tailored to the customer's unique requirements?

What do the next 20 years have in store for the industry?

One thing is certain: things will continue to change. A transformed demographic landscape and ever-higher standard of living means expectations are greater than ever. The trend of delivering products directly to consumers' doors shows no sign of slowing. Another important development is that traffic in towns and cities is getting heavier. This is something we will have to tackle. Cross-docking stations will begin to crop up on the edge of towns, where goods will be packaged into single shipments for each business or customer. So instead of a shop receiving deliveries from ten different suppliers, it will receive only one. No doubt there will be many other changes that we cannot even predict yet. But one thing is certain – it will be an exciting time for the industry.



Technology up close and personal

At four sites in Germany, Austria and Switzerland, the SSI Schaefer Group offers visitors the chance to see diverse warehouse and logistics systems in action. These showrooms serve multiple purposes, including demonstrating technology to customers and providing an ideal venue for conferences. The facilities are also used for product development and to perform functional, stress and durability testing. What's more, this is where solutions tailored to specific customer needs are regularly put through their paces. And the rooms provide the perfect setting for employee and customer training sessions. The entire SSI Schaefer Group is delighted with the positive response to these centres. The newest showroom in Neunkirchen has recently opened its doors.



Neunkirchen

The latest showroom

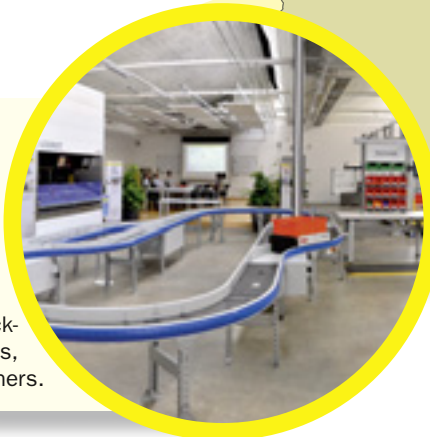
- Opened: 2013
- Showroom space: 2,000 m²
- Exhibits: Shelving and pallet solutions, cantilever racking systems, on-line shelving, boxes and containers, mezzanines, the Schaefer Vertical System, a mobile racking system, LogiMat storage lift, SSI Autocruiser, the Schaefer Orbiter System, automated small parts warehouse with storage and retrieval system, conveying technology, workstation systems, a pick-by-light system, E-Pick and a range of waste management solutions.



Neunkirch

Centrally located at the heart of our Swiss site

- Opened: 2005
- Showroom space: 400 m²
- Exhibits: LogiMat storage lift, SSI Autocruiser, pick@work, the Schaefer Orbiter System, mobile racking systems for light and heavy loads, E-Pick, conveying technology, containers.



Hamburg



Giebelstadt

Giebelstadt

The SSI Schaefer-Group's largest showroom

- ▶ Opened: 2008
- ▶ Showroom space: 4,500 m²
- ▶ Exhibits: Diverse storage and retrieval systems (Exyz, SMC, STS), the Schaefer Orbiter System, ergonomic workstation solutions, conveying technology, Schaefer Case Picking, SCS buffer systems, sorting concepts, mobile racking systems for heavy loads, ergonomic palletising and depalletising workstations, automation technology and storage and factory equipment, including a multi-level modular shelving solution.

Munich

Linz

Salzburg

Innsbruck

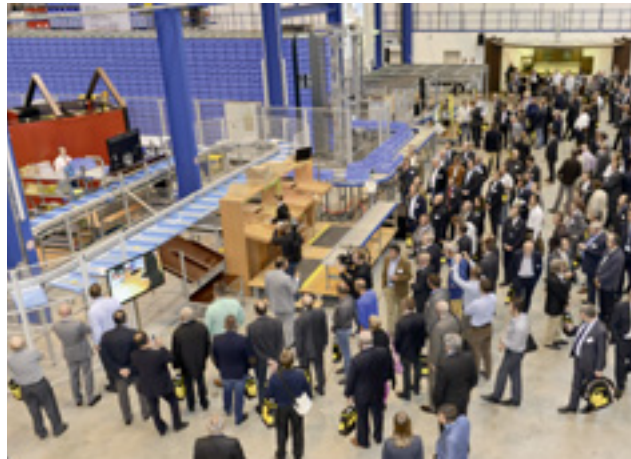
Graz



Graz

A spotlight on conveying technology and picking systems

- ▶ Opened: 2008
- ▶ Showroom space: 350 m²
- ▶ Exhibits: Diverse conveying systems, automated small parts warehouse with storage and retrieval system, Softfall, SSI Robo-Pick, S-Pemat, SSI Order Verifier, workstation systems.



SSI Schaefer presented a range of industry-specific solutions to customers and prospects at this year's LOGISTICA. Guided tours of the technology centre proved to be a real highlight.

LOGISTICA 2013 – SSI Schaefer opens its doors

Giebelstadt, Germany. SSI Schaefer's international customer conference LOGISTICA was held from 25 to 27 September 2013. To mark its tenth anniversary, the annual three-day symposium was hosted in Giebelstadt, Germany, instead of its usual venue in the Austrian city of Graz.

The focus of this year's event was One Stop Logistics Excellence – in keeping with SSI Schaefer's comprehensive and holistic approach to intralogistics. The theme was clearly apparent in the host of systems and solutions on display.

LOGISTICA guests were treated to presentations and live demonstrations in the technology centre, giving SSI Schaefer the opportunity to showcase efficient new solutions based on recent projects.

Guided tours of the centre gave visitors a closer look at the company's products and ideas and a chance to see the technology in action. With an impressive area of 4,500 square metres, the Giebelstadt showroom is the largest in the group, profiling the organisation's entire portfolio.

Well over 300 participants from around the world attended the event. To cater to this international audience, all presentations were held in English with simultaneous interpretation into German, Spanish, French and Russian.



Expertise under one roof

Dortmund, Germany. For over ten years, Dortmund has been a key location for SSI Schaefer and Salomon Automation. In light of the rapid growth of the logistics software unit and increased headcount at both sites, decision makers opted to consolidate expertise at a single facility. In May 2013, the SSI Schaefer team relocated to Salomon Automation's spacious site.

This move generates synergies and delivers tangible benefits, including effective knowledge transfer between employees, improved collaboration and a clear focus on IT expertise in Dortmund.



Software support for manual warehouses

WAMAS® GO! is precisely what many warehouse operators have been waiting for – and it is already making its mark on the industry.

Neunkirchen, Germany. A significant majority of efficiency gains are achieved through process standardisation. Based entirely on the successful WAMAS logistics software, WAMAS GO! is a comprehensive and effective answer to the logistics challenges of midsize enterprises.

Warehouse management system WAMAS GO! delivers functionality for planning, monitoring and managing goods flows, information and resources. The software monitors and enhances transportation tasks and optimises inventories. What's more, it documents all business processes including warehouse and transport workflows, increasing transparency. WAMAS GO! paves the way for efficient use of storage space, as well as cutting response and lead times. In addition, SSI Schaefer's comprehensive service and support network delivers everything companies need for greater peace of mind. The software is regularly updated, ensuring maximum investment protection and value for money.

A particular highlight of WAMAS GO! is its modular structure. This allows customers to extend their basic software package with additional functionality to support their specific requirements. As a result, the logistics solution grows with your business. WAMAS GO! can be deployed to streamline manual warehouse processes and supports one or multiple sites. It manages picking technologies using tickets or wirelessly via mobile connections. The program delivers support for returns and can define retrieval strategies. Connections to fixed-location and mobile printers for labels, lists and evaluations round out the offering.

The software is up and running at a number of businesses – and already proving a success. Customers include Bührig-Adam, a wholesaler and service provider for rolling-element bearings, sealing products and hydraulics, and bag manufacturer Leonhard Heyden.



Successful trade fair in the UK

Birmingham, UK. Visitors to IMHX 2013 were invited to explore SSI Schaefer's entire product portfolio at the company's 380-square-metre stand. LogiMat and the SSI Autocruiser made their UK trade show debut, attracting a great deal of attention.



SSI Schaefer showcased the QX container range, as well as container conveying technology with a combined picking zone, a mobile racking system and the Schaefer Orbiter System. IT experts were on hand to demonstrate WAMAS and SAP integration. As Mike Alibone from SSI Schaefer's Business Development department remarked: "All the hard work and organisation paid off. This event is held every three years and once again our innovations turned heads among potential customers."

Award-winning supplier

Hranice, Czech Republic. SSI Schaefer was the proud winner of the 2013 Supplier Award given by lift manufacturer Schindler Aufzüge. The accolade recognises outstanding commitment and excellent performance in terms of on-time delivery, quality, flexibility and product innovation.

In the fast lane with SSI Schaefer

Speed is not confined to the racetrack. It is also a key element of logistics.

SSI Schaefer is committed to streamlining processes – from the moment goods are received at the warehouse, to the moment they leave. Our manual and automated warehouse and logistics systems and our software solutions create the perfect blend of technology, tailored to specific needs. And we have been delivering this unique mix for over 75 years.



About **update**

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