

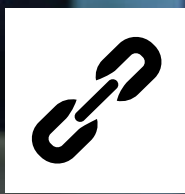
Creating Future Value Chains

making complexity simple

KNAPP AG
Günter-Knapp-Strasse 5-7
8075 Hart bei Graz | Austria
knapp.com



Value Chain Tech Partner



#weareknapp

broadening perspectives: interview

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**Dear business partners,
dear ladies and gentlemen,**

this issue, *Creating Future Value Chains*, is dedicated to a remarkable fact: In our area of business, there has never been such a plethora of opportunities for innovation. The future holds many challenges. Our value chains need to become faster and more resilient, more sustainable and less prone to error, while offering customers a better and more convenient shopping experience. Besides, profitability continues to be an essential requirement. For all these reasons, the call for new concepts is growing louder – especially in urban areas.

As urban space and traffic concepts are being redesigned, streams of goods will also have to be changed accordingly. Intelligent adaptations will be required that allow consumers to be supplied in an environment where the line between online and offline shopping blurs, and where delivery, pick-up and return options suit their daily routines. This is essential as consumers' lives are likely to become significantly more flexible in the future.

The use of technologies is going to play a vital role in these developments. Choosing the right strategy and *using state-of-the-art* technology capable of integration will be a decisive factor in tying up the loose ends of the value chain: The goal is to not only control streams of goods, but more importantly, streams of data in order to create *smart value chains of the future*.

As your technology partner, it has for years been our core mission to assist you in overcoming these challenges by providing you with the most suitable solutions. In this issue, you will find flexible solutions that adapt to changing order patterns and business models. Read about our software, which not only operates the diverse range of technologies, but also provides valuable information on your business, helping you make the right strategic decisions and continuously optimize your operations.

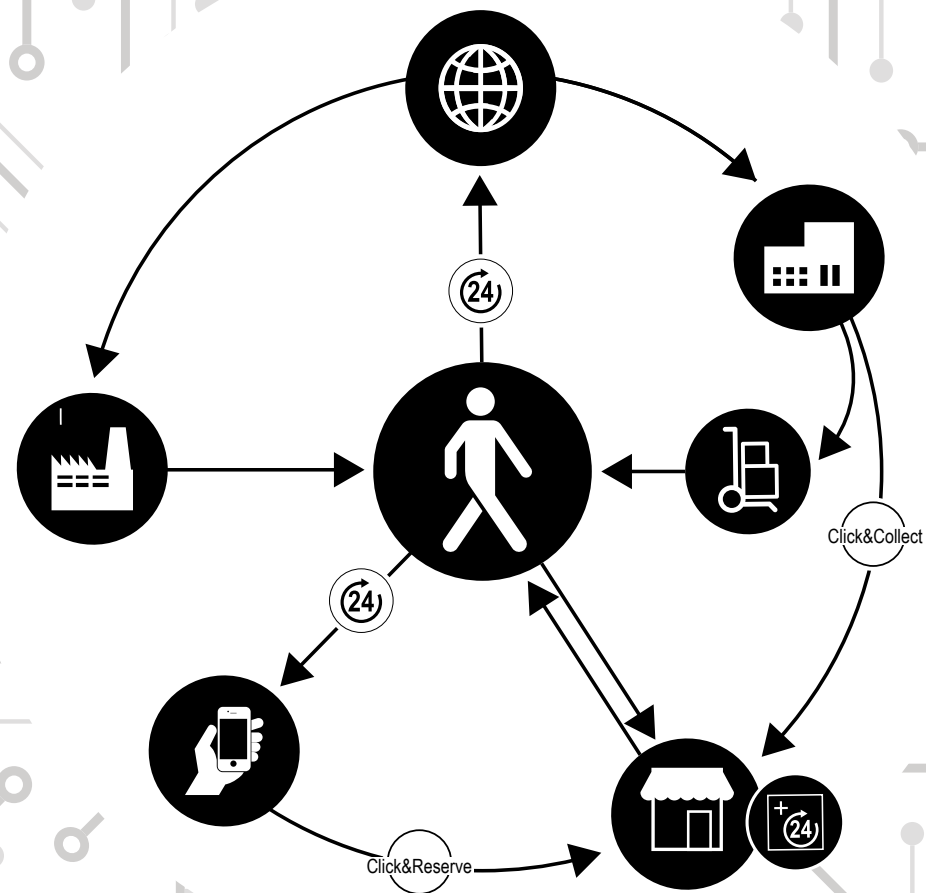
The means to implement value chains of the future therefore already exist, however, this area will continue to evolve. As your technology partner, we are at the cutting edge of these developments, combining our innovative power and drive to help you meet tomorrow's challenges.

I hope you enjoy reading this issue and I am looking forward to exciting talks about what is shaping your *value chain*.



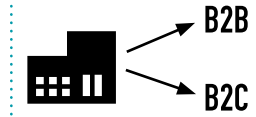
Heimo Robosch
Vice President
KNAPP AG

FUTURE VALUE CHAIN MEANS . . .



... error-free production

In **Industry**, we focus on the supply of various components to assembly lines and work stations. These are first automatically stored and later conveyed to the assembly area in a specific sequence. The ivii.smartdesk provides the setting for perfect quality control for these complex processes.



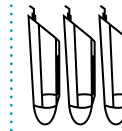
... staying on top of things

Whether goods are coming in from production or suppliers, they must be stored correctly, brought to the right place, picked correctly and finally moved to the right shipping lane. All at the right time. For **Wholesale**, we talk the talk and walk the walk.



... customer centricity

Everything revolves around the needs of end customers – that's our focus in **Retail**. You've achieved a shift of perspective and your logistics processes are now oriented towards satisfying the different needs of demanding end users.



... made-to-measure solutions

This solution is tailored to suit the logistics requirements in the **Fashion** industry. The pocket sorter system makes sure that goods from all the upstream areas reach the work stations in the exact sequence required.



... seamless patient safety

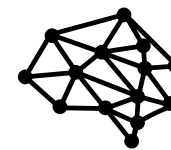
To ensure patient safety at all times, **Healthcare** logistics must comply with stringent legal requirements. With a combination of cutting-edge technology and software, you are perfectly equipped for serialization and lot documentation along the entire Healthcare supply chain.



... a clever combination with e-commerce

From small micro fulfillment centers (MFCs) and medium suburban fulfillment centers (SFC) to large central fulfillment centers (CFCs), the e-commerce solutions of **Food Retail** take the shopping experience to where the consumer is.

... all-round support



Combining years of industry expertise and state-of-the-art technology, the professionals from **Customer Service** help you configure the ideal service solution for your business. The support teams successfully navigate the data jungle, helping you make decisions faster and ensuring your system runs smoothly, stays adaptable for the future, and uses resources efficiently.



Are you Ready?

The speed at which our world is changing has reached an unprecedented level. Every hour seems to bring new innovations and with it the launching of new technologies. There's just so much to do to keep up with it all. These changes are also pushing value chain development forward. So, what will be coming our way next? We interviewed experts and asked them what companies should be preparing for and how a competitive advantage can be found in spite of value chains that are less than secure.



Siegfried Zwing

As Managing Director of redPILOT GmbH, Siegfried Zwing has been working in close collaboration with logistics companies for many years and knows their challenges and needs. His years of experience in both logistics and software engineering has taught him how to best support logistics companies in continuously optimizing their resources and becoming fit for the future.



Bernd Stöger

Bernd Stöger, Executive Product Manager, is responsible in Product Management for the areas value chain solutions, software and IT at KNAPP AG. His in-depth understanding of the market and customer needs gained in 15 years of experience help him to create an innovative solution portfolio which fully exploits the technological possibilities and focuses on customer benefits.



Dietmar Dahmen

As a top speaker booked worldwide, king of transformation, motivator, innovator and lover of change Dietmar Dahmen stands for the creative and unapologetic handling of disruption and digitalization.

Which trends will be having the greatest impact on logistics in the coming years?

Zwing: Within the well-known areas of digitalization, climate crisis, work-life balance, urbanization and globalization, you can say with certainty that the key mega trends are a completely connected *Digital world*, *the competition for resources* and the *energy transition*.

Stöger: Exactly, you could also say: *urban, fast and green*. Consumer behavior is changing, with increasing expectations for the level of service. As consumers, we want to choose when, where and how we purchase and receive goods so online retail needs to be seamlessly integrated with brick and mortar retail. Price also plays an important role. The ecological footprint and

social considerations such as the working conditions at manufacturers and retailers are also noticeably influencing consumer purchasing.

Zwing: At the same time, companies in industrial countries are also facing shortages of workers. This, along with increasing power requirements and the energy transition, is ramping up the competition for resources.

In your view, what specific innovations will influence the value chain of the future?

Dietmar Dahmen: Our rapidly changing world is making it harder and harder to make realistic predictions about what will be needed in the future. Data gathered is always historical and models become rapidly outdated. The new world plays by

different rules. It is like arriving at the beach with a vehicle only to discover that the idea *wheels are where it's at* suddenly no longer holds true. What this means is: Experience can get you into trouble! Being open to new ideas is the only solution. So out with the old and in with the new! After all, ships don't have wheels. We have to focus on the long-term trends such as automation, urbanization, the aging population and sustainability. The next wave will come and go but the long-term goals will remain.

What will the value chains of the future look like?

Stöger: Current trends are forcing supply chains to become more transparent, reactive and resilient, for example, making deliveries on the same day or even within the same

“He who invents a locomotive needs rails. The car needs roads. In the same sense technologies have been invented such as autonomous electric vehicles, fiberglass, precision farming, green energy, 6G networks and so on, but they need to mature and obtain the necessary infrastructure. However, this requires even more effort and a shared approach. Have we got this?”

*Prof. Dr. Gunter Dueck
mathematician, innovator and best-selling author*

hour. The only way to fulfill these rapid delivery times is to process the order in a store or logistics center in close proximity to the customer. In addition to the changed logistics for the last mile, production and distribution networks in the background need to be adapted. To convert these challenges into opportunities, using smart technology for digitalization and automation in processes is key.

What areas should companies keep a close eye on?

Zwing: The complexity in logistics will continue to increase. We need software that focuses on the essentials and makes processes more transparent and easily manageable. Decision-makers must be able to understand ongoing changes and to deal early on with opportunities and possible consequences on all levels. What we've learned from our customers is not to look back and regret costs, but to look ahead and plan where you want your investments to take you.

Stöger: The interaction within value creation becomes the competitive factor between software systems. Since digital ecosystems offer a new type of competitive advantage, they isolate themselves from other systems. Here, integration and compatibility are not the goals, instead, it's about exclusivity. This is a risk for the value chain, because if compatibility is missing, the necessary integration may no longer be possible.

The pandemic has revealed the limits of international value chains. How can companies make their own supply chains stronger?

Stöger: The new priority must be on the risk management within the supply chain to achieve more redundant, leaner and shorter supply chains which can respond in a faster and more flexible way to unplanned changes. However, adapting established processes is not always easy. Therefore, it is all the more important to create responsiveness and flexibility with the existing conditions and to optimally use the

available resources within a company every day.

Zwing: Flexibility can be created by building versatile activities and competences and by having access to a large pool of resources. This cannot be introduced on short notice, but needs to be planned well ahead of time. In general, job satisfaction and employee sovereignty in the sociotechnical system of a company increase at the same time.

But how can the access to a large pool of resources be balanced with the competition for resources?

Zwing: You also have to rethink how the employee structure is organized and involve the employees actively in the planning process. This is what the redPILOT PLANNER with its teamAPP is able to do: Employees are automatically and optimally assigned based on the labor needed, their competences, available hours and costs, carpool and dynamic shift models. At the same time, flexible employees can communicate

their preferred availabilities which are then taken into account by the system during the planning process, which would be unimaginable in a non-digital work environment using manual planning. This makes much more resources accessible in an environment that is also much more exciting for employees.

How does the value chain become a competitive advantage?

Zwing: Companies need to be venturesome and open for new things. They should systematically search for hidden potential and find the technologies they need to fully tap into them. Digital solutions such as redPILOT consolidate and provide meaningful data that helps managers to quickly make the right decisions. This means companies can respond more rapidly to changes, making them both more flexible and more resilient.

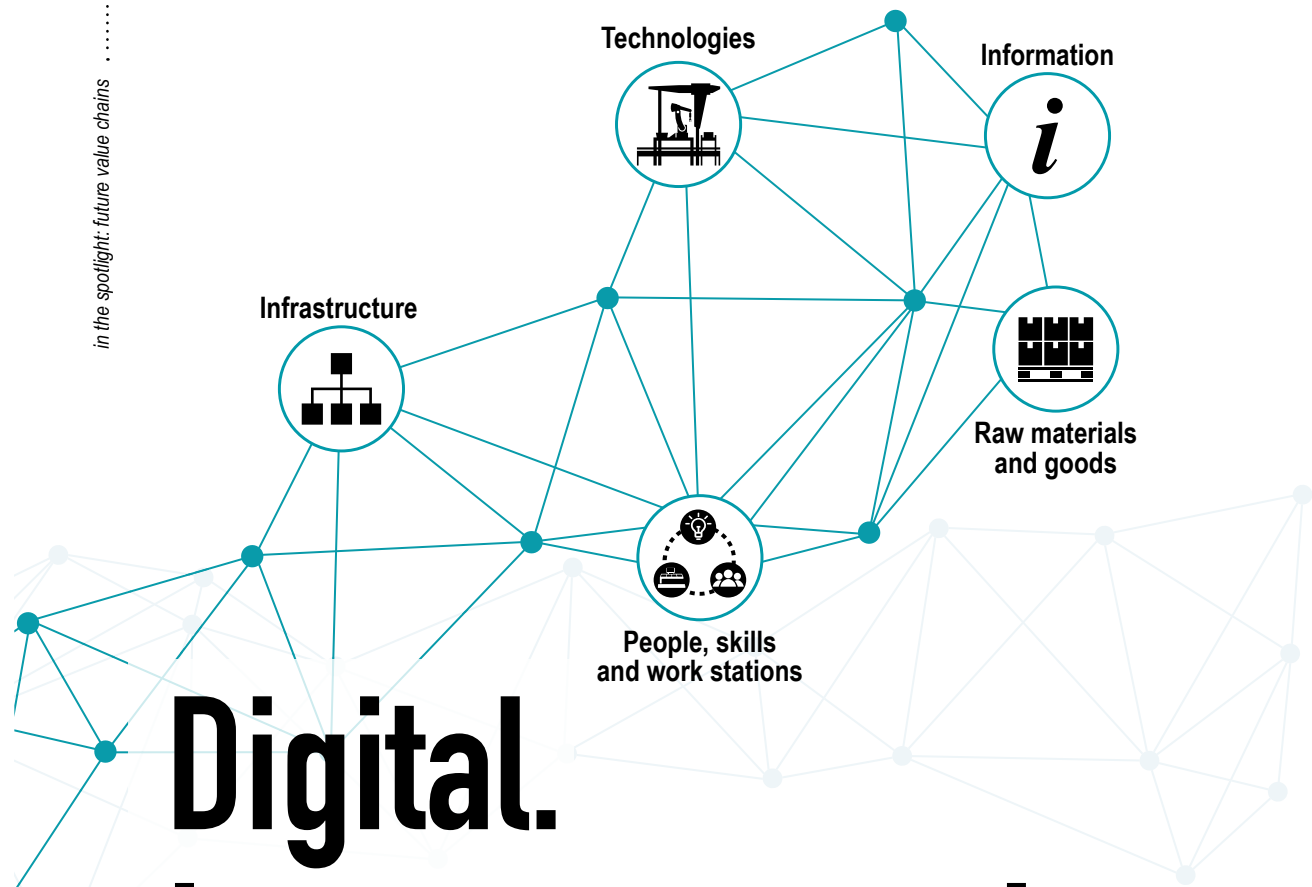
Stöger: *From supply chain to value chain* has become our motto because we want to leverage untapped potential in all areas, and we look at

everything from demand to production to the handover to the consumers. KNAPP is the technology partner for the perfect (re-)design of value chains and our portfolio is constantly evolving to reflect this. With smart solutions such as redPILOT, our customers can make immediate improvements in resource utilization for positive impact over the long run.



More about redPILOT

in the spotlight: future value chains



Digital. Interconnected. Successful.

Intelligent technologies for today's value chains

Can you feel it too? The logistics sector is undergoing major transformation. Logistics is no longer confined to the four walls of a traditional warehouse. Modern, digitally driven value chains are all about connecting raw materials, goods, processes, people and locations – globally and hyperlocally. What links it all is intelligent technologies and information. What might such interconnected value chains look like? Let us show you some examples from production to distribution, to the final mile and the store.


“As a leading technology company, we are the strong partner behind the success of our customers. Our intelligent solutions and technologies form the operating system for successful value chains.”






Christian Grabner
CFO
KNAPP AG

Example 1

Smart production: quality and performance combined

The highest quality and efficiency are crucial for production. On the one hand, it is important that components are manufactured in perfect quality. On the other hand, there is pressure to deliver the right quantity on time. Added to this mix is a shortage of qualified personnel. The answer to these challenges is *smart production* – digitalized and interconnected manufacturing processes that allow end-to-end traceability, boost efficiency and increase employee satisfaction.

Take a look at how smart production works at Pankl Racing Systems. 

 <p>The basis:</p> <p>Each component is uniquely identified and known in the software system.</p>	 <p>Automatic storage:</p> <p>A shuttle provides the components in the right quantity at the right time in the right sequence for the right employee.</p>	 <p>Software supports the assembly process:</p> <p>An intelligent software system guides employees through all work steps. Since the system provides immediate feedback, employees learn continuously.</p>	 <p>Mobile transport:</p> <p>Autonomous mobile robots transport the completely assembled part to the correct production line where it is mounted.</p>	 <p>Zero defect approach:</p> <p>Thanks to seamless digitalization throughout the entire manufacturing process, every part can be traced and identified at all times.</p>
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End-to-end safety from the raw material to the patient

Production
All raw materials are stored under optimal conditions and are processed into medicines, while the software keeps track of everything.

Pharmacy
In the pharmacy, automatic dispensing machines, blister pack dispensers or digital systems support the experts at work, so that the staff can concentrate completely on advising customers.

Pre-wholesale and wholesale
Software such as KiSoft and SAP® EWM by KNAPP helps keep an overview of stock, availabilities, lots, date marks and returns. Every medicine is traceable at all times. Smart automation technologies including the OSR Shuttle™ Evo, Pick-it-Easy Robot, SDA or Vision Central Belt support error-free and efficient picking and distribution.

Hospitals and nursing facilities
The supply to patients with meals, fresh laundry or the right surgical instruments, holds a great deal of potential for automation and centralization. The KNAPP Hospital Campus ensures highest quality and reduces the strain on personnel in hospitals and nursing facilities.

Online pharmacies
In online retail, patient safety is also at the forefront. With our intelligent technologies and solutions, we ensure the highest quality and compliance with all statutory obligations.

Example 2

Healthcare: From the raw material to the patient

The focus in healthcare is on the person and their well-being. Quality is our top priority because quality means patient safety. With our intelligent technologies, we support end-to-end traceability from the raw material to the dispensing of the medicine to patients. Even challenges arising from new trends in the healthcare value chains, such as the individualization of services, online retail and digital services, can be overcome using digitalization and automation.

Gain exciting insights into ProServ's Healthcare Campus

Example 3

Urban logistics: Positive customer experience and cost savings thanks to cutting-edge technologies

In urban areas, space is getting tight. Consumers are demanding sustainability, regional products and services which they are accustomed to having from online shopping. The use of automation technologies and intelligent data acquisition creates innovative concepts for urban supply and brings new impulse to the sales floors in brick and mortar retail.

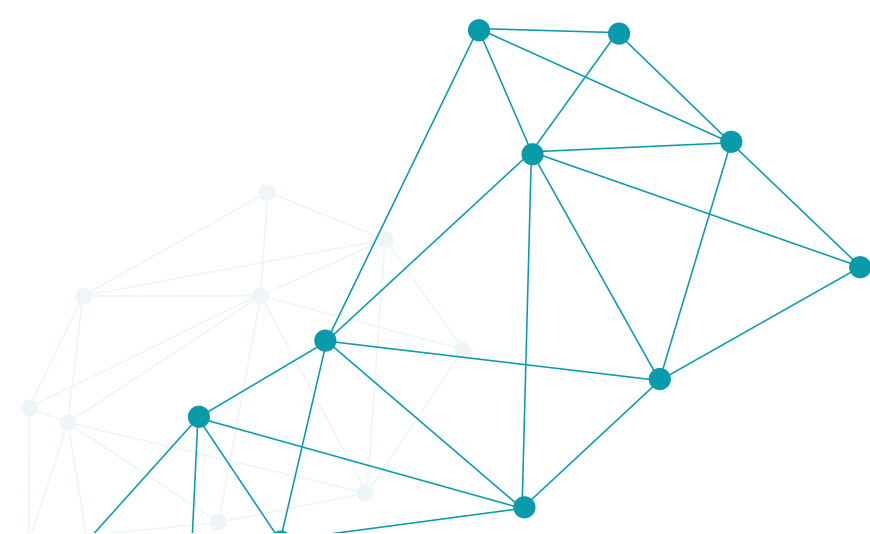
Experience a day in the life of this couple to find out how software plays a big role in our daily lives.

Micro fulfillment
Micro fulfillment solutions help efficiently process online orders within a radius of 30 kilometers (18 miles). The solution consists of a miniature distribution warehouse that is directly connected to a store, with online orders ready to be picked up within two hours.

Nano fulfillment and store automation
Automating part of the store space provides numerous benefits to customers and retailers. There is more space for a greater selection of goods, and there is more time to advise the customer as employees are not tied to the cash register or to refilling shelves. This is how *seamless commerce*, 24/7 purchasing and click and collect become a reality using automation and intelligent software.

From the last mile to the fast mile
The last mile is one of the most cost-intensive steps and involves the risk of disappointing the end customer, for example, because of a lack of flexibility in shipping or from late delivery. The intelligent software solution KiSoft links data along the entire value chain, from production to end customer, and always finds the fastest, most economical solutions.

New concepts for fine distribution and package logistics
The incredibly rapid growth of online trade means solutions are also needed for the tasks in fine distribution and package logistics. One significant issue is the lack of space in existing distribution hubs, located in geographically convenient locations. Intelligent automation solutions using overhead conveyors and pocket sorter systems can double the performance capacities in the same amount of space.



Let's shape the value chains of the future together.

Have we sparked your interest? Get in touch with your personal KNAPP contact for information on our solutions or drop us a line at sales@knapp.com.



Fast, Urban, Green

New ways of supplying medicines in urban areas

In times of low emission zones and overnight delivery bans, commercial enterprises and logistics service providers are coming up with new ideas on how to provide their logistics services on the last mile. Various collaborations, the use of electric vehicles and logistics hubs on the outskirts of the city are only a few concepts that are addressing these challenges. KNAPP has launched the initiative New Urban Logistics with a comprehensive solution portfolio. The healthcare sector in particular allows for innovative ways to combine the advantages of a local pharmacy with those of an online store.

“Together with KNAPP, we planned an automation project for each pharmacist to implement in their region to best effect. This way, we create a platform for our experts to pool their individual strengths, making us fit to compete with international online pharmacies.”



Marc Schrott
Proprietor
Central Apotheke Frankfurt

Central Apotheke Frankfurt implements Healthcare Campus

When it comes to supplying urban areas, Central Apotheke Frankfurt is truly a visionary. Medicines and health products are delivered not only to pharmacies, but also to office buildings, hospitals and private customers within a few hours.

“In the last few years, it has become apparent that for essential medicines, international supply chains are no longer stable enough for our patients. We had to come back to keeping stock that we can control locally, even if this drives the costs up for pharmacies,” explains Marc Schrott, proprietor of Central Apotheke Frankfurt. However, the impact of the pandemic on the supply chains is only the tip of the iceberg as far as Marc Schrott is concerned, *“Unfortunately, the structural problems in medicine supply are getting worse every year. This is why we decided to return to keeping stock locally, as it was the norm before the globalization of the pharmaceutical markets. But of course we don’t want to return to the 80s. We’ll shape this new decade with our own ideas and improvements, and deliver to our patients and customers with the greatest level of reliability.”*

Healthcare Campus for both B2B and B2C supply

Mixing B2B and B2C creates logistical challenges. While the product structure is the same for both business models, the order structure is completely different. Consequently, different pack sizes are needed when assembling shipments in the warehouse: A full case heading to a hospital, a pack unit going to a pharmacy, and a single pack making its way to an individual customer.

“Gathering different business models together in one central logistics center is the key to success in efficient urban logistics. To make this happen, KNAPP provides a fully integrated solution such as a warehouse with pallet storage and a shuttle system, fully automatic Central Belt Systems, ergonomic goods-to-person work stations and a shipping solution that takes security regulations specific to pharmacies into account. The automation and software solutions have been designed with various expansion scenarios in mind. Technology and software modules can easily be added depending on the business model,” explains Johannes Kompek, Senior Sales Engineer, Healthcare Solutions, KNAPP AG.

The entire Healthcare Campus runs on solar power, collected by way of roof panels and active façades. Central Apotheke uses the maximum solar charging power for their delivery fleet. The building is designed to be as energy-efficient and eco-friendly as possible, utilizing geothermal heating and cooling for the warehouse and picking areas.



“Our recipe for success? Quite simply, the close collaboration between both our companies in developing solutions that fulfill our clients’ demands for service and quality.”

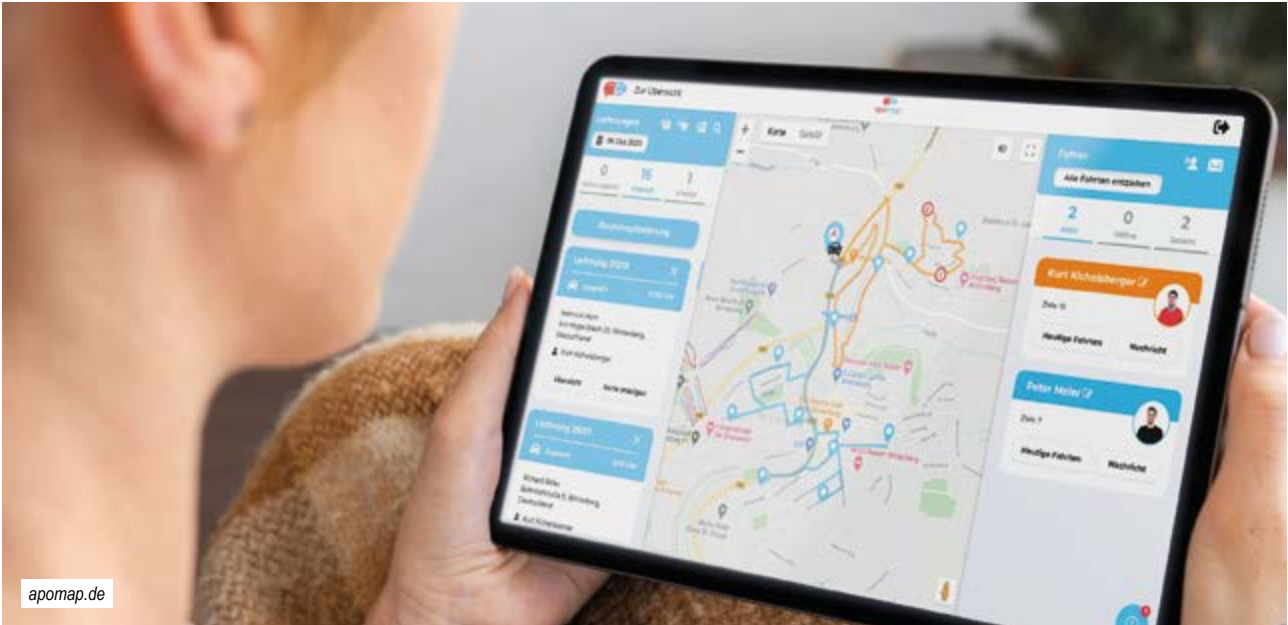
Fernando Castillo
CEO
Novaltia

Novaltia relies on smart mobility in pharmaceutical retail

Spanish pharmaceutical wholesaler Novaltia is another pioneer when it comes to urban, green supply. The company and KNAPP have been working in partnership for 22 years. Headquartered in Zaragoza, Novaltia operates four distribution centers and delivers to more than 1,100 pharmacies, up to five times daily. As a result, Novaltia supplies even to remote areas of the region. Together with KNAPP, their distribution centers are continually being expanded and optimized. When it comes to urban supply, Novaltia has also found new ways on how to make deliveries in urban areas more environmentally-friendly, sustainable and regional.

Cargo bikes facilitate urban mobility

Most of us probably know what driving a car in the city can be like: Finding parking is usually difficult to almost impossible. The boom in e-commerce with the resulting deliveries on the last mile have aggravated the problem further. This is where cargo bikes come in handy. They require far less space on the streets than conventional delivery vehicles and – as a positive side effect – do not cause any emissions. Novaltia has picked up the idea and is now using the Eco Bike by Novaltia, a motorized tricycle with a transport box for delivering pharmaceutical containers. The Eco Bike’s transport box can hold up to 750 liters or 250 kilograms. The electric drive system with a 250-watt motor supports the cyclist up to 25 kilometers per hour. This way of sustainably delivering medicines to pharmacies has earned Novaltia the Global Green City Award 2019 by the city of Vitoria. Aside from the sustainability strategy of reducing the number of vehicles that run on fossil fuels, bicycles are often the only option in Spain to directly supply pharmacies in old towns. Urgently needed medicines are delivered to pharmacies in less than 30 minutes, saving both costs and the environment.



apomap.de

Courier management for pharmacies

A German startup company has created a tool that is both free of charge and easy to use, and that has been designed for an efficient delivery service for pharmacies: apomap. It includes interactive route planning for courier assignments and shipment tracking in real time. The software runs on the browser without requiring any further installation, allowing it to be integrated fast and effortlessly.

“We have developed apomap together with pharmacists with a focus on the challenges that are specific to this industry. To use the software, customers simply need to register and create an account that is free of charge. The tool is compatible with every insurance system.”

Moritz Schäfer
Managing Director
apomap

What’s more, apomap is also available as an app for mobile devices to help couriers navigate through town. In automated pharmacies, an automated picking robot takes over the previous process of goods availability as well as goods issue with clear customer allocation. In addition, patients can use a customer app to view the delivery status of their orders. Through this app, customers also have the opportunity to pay digitally. In the future, they should also be able to contact the pharmacy through the app, for example, to receive personal advice.



Fast, safe and sustainable with drones

Novaltia has another project in the pipeline: Pharmadron. It examines the possibility of delivering medicines and other pharmaceutical products to pharmacies in remote and hard-to-reach areas using autonomous drones. The idea behind this is to provide a steady supply of medicines to the chronically ill, the elderly and to people who live in remote areas as well as to ensure the transport of medicines even during poor weather conditions and natural disasters.



Der Taschensorter räumt auf:
Schnell, effizient und mit skalierbarer Flexibilität

90 systems implemented worldwide

8 million sorter pockets filled

The Perfect Bag for Every Occasion

Buffer, sort, transport – our versatile pocket sorter systems can do it all

A wide range of items, ever-changing product properties, seasonal peaks and returns – these are only some of the challenges fashion logistics is facing today. On top of that, unexpected events such as the COVID-19 pandemic have shown us just how fast our daily business plans can be thrown off track. Fortunately for us, there are pocket sorter systems. Reliable, dynamic and flexible, these systems meet high standards even during peak periods, handling even unpopular tasks with aplomb. This article is all about our pocket sorter system solutions and what these multi-talents can accomplish.

Order and efficiency for today's omnichannel fulfillment

Our pocket sorter systems transport and buffer hanging and flat-pocket goods such as shirts, shoes or accessories together in just one system. After loading all the different goods in the pocket sorter, matrix sortation brings order to the chaos by creating a precise item-by-item sequence. This makes the pocket sorter ideal for applications requiring a great deal of sortation, fulfilling the demands of the e-commerce and omnichannel businesses with ease. Organization with speed, precision and incredible flexibility – the pocket sorter. The intelligent system has already convinced numerous customers, especially in the fashion sector, but also in other sectors such as retail. Our pocket sorters are in use worldwide, depended upon by renowned customers such as ASOS, The Very Group and REI.

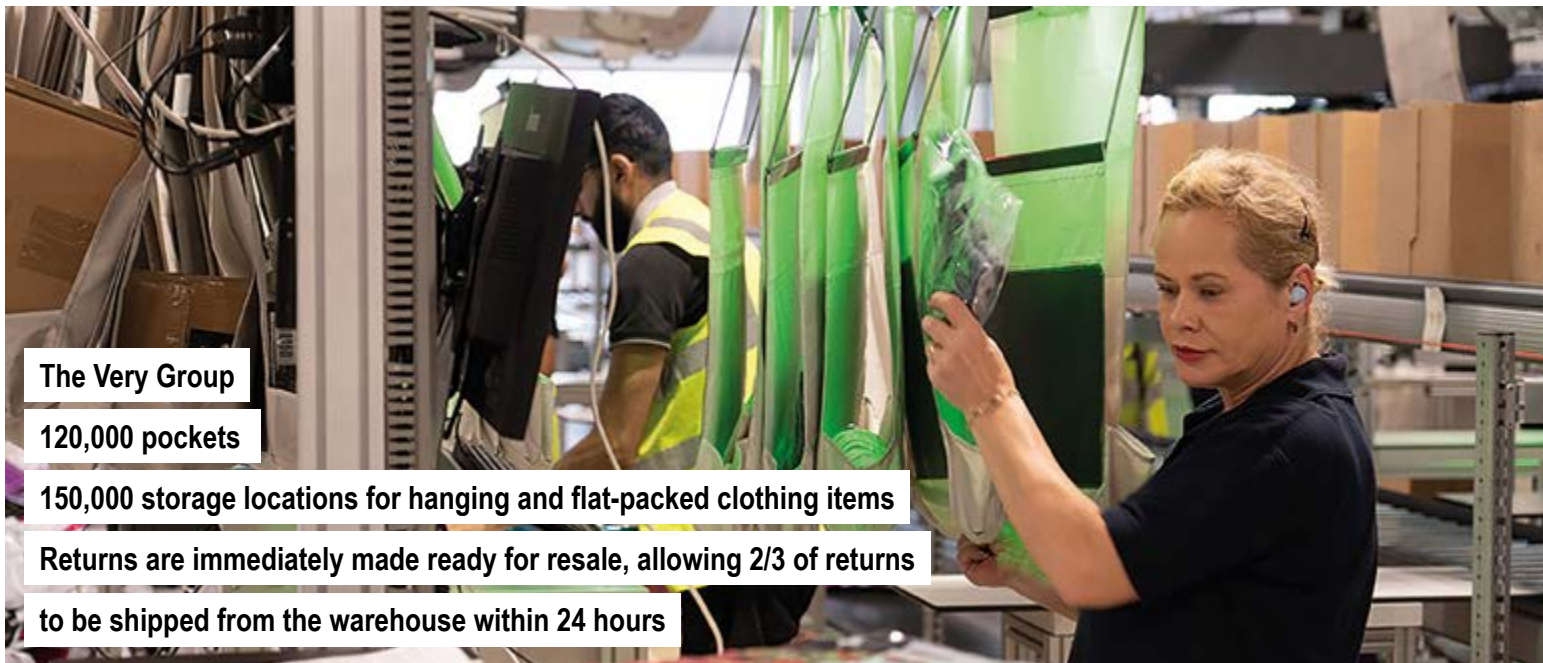
Intelligent sortation down to the smallest detail

Equipped with RFID technology, the pocket sorter really delivers with 100 percent tracking, accurate identification and access at any time to any item in the system. Intelligent matrix sortation brings order to otherwise chaotically buffered goods and provides 100 percent sequences, sorted according to freely selectable criteria. The pocket sorter systems and matrix sortation form the basis for today's omnichannel fulfillment.

3 reasons to choose the pocket sorter

- Space-saving system
- Handles a large range of items
- Allows rapid delivery times





The Very Group
120,000 pockets
150,000 storage locations for hanging and flat-packed clothing items
Returns are immediately made ready for resale, allowing 2/3 of returns to be shipped from the warehouse within 24 hours

“The pocket sorter is the ideal technology to handle the profile and volume of e-commerce orders and returns with the speed and efficiency required by The Very Group. Combined with KNAPP’s OSR Shuttle TM Evo, the pocket sorter enables us to meet peaks such as Black Friday with relative ease.”

*Jag Collier
 Head of Site Operations
 The Very Group*

NEXT increases capacity using innovative system solutions

British retailer NEXT is selling clothing, home accessories, furniture and more on their platform. Their new, automated e-commerce distribution center is still under construction and will go live in about two years. KNAPP automation technology – a shuttle system combined with a state-of-the-art pocket sorter solution – will ensure short transit times and maximum flexibility at NEXT.

Next-generation pocket sorter solution

Specially designed for high throughput, the pocket sorter solution AutoPocket will be implemented to ensure short transit times. What distinguishes AutoPocket is that the pockets open automatically and, if required, the pockets can be filled or emptied manually or automatically using robot technology. The solution was specifically designed to simplify high-throughput processes in warehouses and to reduce the time needed for processing customer orders. At NEXT, the AutoPocket pocket sorter is a system within a system, being connected to our shuttle technologies and goods-to-person picking. AutoPocket can automatically and precisely drop goods off anywhere in the warehouse, without slowing down or stopping.

Stay calm, it’s peak time: The Very Group

At The Very Group, a large British online retailer selling fashion, lifestyle products and financing services, peak periods are where it’s at. These are periods during which a particularly high number of customer orders must be processed such as Black Friday, Single’s Day, the Christmas season or peaks resulting from promotions. Handling returns is another extremely important factor today. Customers expect a quick and smooth process, which means the right fulfillment solution must be able to manage peaks easily as well as work efficiently throughout the year.

The sky is the limit at the Skygate fulfillment center

The new, state-of-the-art 80,000 m² (860,000 ft²) fulfillment center Skygate was built to process and ship orders placed online on the sites very.co.uk and littlewood.co.uk. Every year, 48 million customer orders are processed in this fulfillment center, usually ready for shipping in just 30 minutes after receipt. By using the latest technology, the company wants to offer their customers even better service and position itself for continuous, sustainable growth. Which system is the perfect addition for these requirements? Naturally, a flexible and efficient pocket sorter system.

Retail-ready with one-touch returns handling and precise sequencing

One of the core technologies in the Skygate fulfillment center is a KNAPP pocket sorter system providing transport, sorting and sequencing of hanging and flat-packed goods in a single system. The pocket sorter is not only great for picking clothing items and accessories, it also has an extraordinary talent for handling returns – a significant factor in today’s e-commerce business. Returns are prioritized, which is why two thirds of them leave the warehouse again within 24 hours. With the dynamic buffer, one-touch returns processing and pre-picking of orders is a cinch, even on peak days. Containers required for order processing are automatically retrieved from the connected OSR Shuttle™ Evo storage system and conveyed to the work stations.

At The Very Group, the key to the rapid packing of customer orders lies in the sequencing. Pockets equipped with RFID are sequenced using matrix sortation, redirected to the right overhead conveyors and conveyed onwards for further processing. This is how our pocket sorter systems ensure smooth processing and maximum efficiency. Our suite of intelligent KiSoft software includes a warehouse management system (WMS), warehouse control system (WCS) and machine control systems so the solution can be seamlessly integrated into the existing installation.

Sport fans pumped up by DECATHLON

DECATHLON offers more than 35,000 items for over 70 different types of sport. The Schwetzingen location in Germany processes online orders and supplies stores all across Southern Germany. As the brand offers items for over 70 types of sports, the item range is naturally huge, from sportswear to camping items packed in cartons.

Innovation is the driving force at DECATHLON’s strategy, a mindset that is evident throughout the company. At the Schwetzingen location, a talented new member has been playing on the team since late 2017 – a pocket sorter system that sorts flat-packed goods for customer orders.

Most of the items are identified using RFID at the loading station. From there, the pockets are automatically conveyed to the dynamic pick buffer, followed by the sequence sorter, where the customer shipments are prepared before they move on to the pack area. This saves precious time so that sport-loving customers can receive their desired items as quickly as possible.

“AutoPocket, the new generation of pocket sorter systems, helps us greatly reduce the transit times for orders. I’m very pleased that this innovative solution from the KNAPP group contributes immensely to the future development of NEXT.”



*Sigurd Völker
 Managing Director
 Dürkopp Fördertechnik GmbH*



E-Grocer MFC	E-Grocer SFC	E-Grocer CFC
<ul style="list-style-type: none"> Decentralized micro warehouse located close to the customer that supports a profitable last mile strategy 	<ul style="list-style-type: none"> Stand alone fulfillment center supplying densely populated urban areas and surroundings 	<ul style="list-style-type: none"> Large distribution center that can supply major cities as well as surrounding suburban markets
<ul style="list-style-type: none"> Supply end customers in radius of a 3-5 store network 	<ul style="list-style-type: none"> Supply to customers in the immediate vicinity 	<ul style="list-style-type: none"> Supply end customers and/or smaller distribution points within a large radius
<ul style="list-style-type: none"> Up to 1,000 orders per day 	<ul style="list-style-type: none"> More than 1,000 orders per day 	<ul style="list-style-type: none"> More than 3,000 orders per day
<ul style="list-style-type: none"> Orders filled within 2-4 hours, delivery several times a day 	<ul style="list-style-type: none"> Same day delivery 	<ul style="list-style-type: none"> Next day delivery
<ul style="list-style-type: none"> Implementation: 18 weeks 	<ul style="list-style-type: none"> Implementation: 10 to 18 months 	<ul style="list-style-type: none"> Implementation: 18 to 24 months

In the market, it's becoming more and more important to think in terms of networks. By intelligently combining fulfillment centers of different sizes, you get a network that opens up many new opportunities for online food retail. With our **E-Grocer**, we have several solutions to offer online food retailers: large central fulfillment centers (CFC), medium suburban fulfillment centers (SFC) and even small micro-fulfillment centers (MFC). Combined, our concepts provide even more flexibility in terms of purchase and order quantities and cover the entire network.

Networks for Online Food Retail

Different-sized fulfillment centers in smart combination

We are designing the value chains of the future for the food retail sector with customers such as Woolworths and Migros Online. Our designs for automation in cyber commerce place the shopping experience where the customers really are. Our New Urban Logistics initiative is all about solutions specially designed for urban areas that form the connection between the online and the local store.

Online Fulfillment Center at Woolworths

Woolworths, the largest grocer in Australia, relies on our e-commerce solutions. Currently, the company is operating three MFCs. To provide even better service to their online customers, the supermarket giant is planning a new automated online fulfillment center.

options and extra windows to choose from", says Amanda Bardwell, Managing Director of WooliesX, part of the Woolworth Group.

"We've seen an extraordinary acceleration in online grocery shopping over the past year. To keep pace with the demand, we need to innovate with new technology to boost our capacity. This fulfillment center will significantly change our online offer and we'll be able to pick many more orders – offering our customers faster delivery

Customers enjoy many advantages

Using our innovative technologies, the *Woolies* personal shoppers can fill and ship 50,000 orders a week. The orders arrive at the customer's home even faster and more conveniently. The CFC in Auburn is based on the same technologies used in the MFCs that are now operating,

“Even as we invest in new fulfillment centers, local stores remain the heart of our online operation. We can offer our customers faster same-day and on-demand delivery options, as well as convenient pick up solutions.”



Amanda Bardwell
Managing Director
WooliesX

but at a much larger scale. Scaling up makes grocery e-commerce faster and more efficient, opening up new potential for growth for Woolworths. Startup of the new system is planned for 2024.

bag. Fresh fruit and vegetables as well as meat and deli products are still picked by employees in the supermarket. Thanks to the combination of manual and automated processes, Woolworths is ensuring fast home delivery.

MFC – the game changer

The Woolworths MFCs are in Auckland, Carrum Down, Victoria, Moorehouse, Christchurch and Penrose. The rapid growth in demand in the online segment in Melbourne, Victoria, was the driver for the newest MFC project. Our solution makes the processes faster, smoother and less prone to errors. The 4,000-square meter (44,000 ft²) MFC is directly connected to the Woolworths supermarket and processes five times more orders as conventional online stores that use manual picking.

“Microfulfillment provides unrivalled speed and precision in online order picking and we can stay close to our customers for faster home delivery”, says Amanda Bardwell. Woolworths customers southeast of Melbourne can select from more than 15,000 items. The goods for an online order are automatically retrieved from the OSR Shuttle™ Evo and conveyed to the employee at one of the ergonomic Pick-it-Easy work stations. With system guidance, the right item always lands in the right shopping



Woolworths is the first Australian food retailer to have three automated MFCs – located in Australia and New Zealand. ©Woolworth

Urban food networks

Along with our solutions for grocery e-commerce, our initiative New Urban Logistics also forms the connection between the online shop and the local store. Food retailers can adapt their urban fulfillment network to the demands of their area. Furthermore, the concept is expandable and flexible enough to respond quickly to changes in the business.

Point of sale shopping experience with Project RetailCX

In-store concept Project RetailCX combines the best of brick and mortar and online stores. We create a unique customer experience right at the point of sale. The concept revolves around the INDU-Store, an intelligent storage and picking system for single items that fully automatically stores and dispenses a comprehensive assortment. Interactive screens colorfully complement the storage and picking system. The INDU-Store can also be integrated into a larger overall concept.

Space-effective storage for a wide variety of items at Migros Online

Migros Online is the leading Swiss online supermarket. Their existing distribution center was beefed up with an INDU-Store solution with four modules in a second round of expansions. This fully automatic solution is now connected to the Migros Online work stations and supplies them with perfectly sequenced groceries. As a fully automatic small products warehouse within the distribution center, it holds 7,000 storage locations in which single items can be stored and rapidly accessed when needed. “In terms of space and speed, the INDU-Store system provided by KNAPP is the ideal solution for our currently available space,” states Thomas Wusem, Lead Project Manager at Migros Online.



Migros Online expands its solution in Pratteln with four INDU stores.

Look at the Project RetailCX of Kreisler.



ASICS Stays Fit for the Future

Up to 100,000 running shoes delivered to stores in 20 countries per day

Founded in 1949, ASICS is a sports brand on a mission to champion the benefits of movement on the body, and the mind. It's why the company is called ASICS which stands for 'Anima Sana In Corpore Sano', or a Sound Mind in a Sound Body. Its automated distribution center in Garons in Southern France helps the company to deliver on this mission: Up to 55,000 pairs of shoes leave the distribution center every day, helping to keep the world moving. With the new automated distribution center, ASICS is keeping its supply chain fit for the future, automation The scalable solution leaves plenty of room for ASICS to grow in the future.

„We were looking for a reliable automation solution that is easy to maintain, very stable, and flexible enough to support us as we grow. The KNAPP system ticks all the boxes.“

*Maidier Thicoipe
Operational Support Manager
ASICS*

Automation for perfect service, happy employees and business growth

ASICS stands for innovation and accountability, towards both customers and employees. The goal behind the new automation project was to optimize customer service and create ideal working conditions for warehouse employees. Another challenge was to ensure that the logistics system works efficiently year-round, while making it possible to double performance during peak periods in spring and around Christmas time.

Wanted: Reliable partner offering a one-stop solution

How is high performance and customized service for B2B customers in 20 European countries made possible? By combining tried and tested automation technology, tailor-made software and efficient processes exactly matching ASICS' requirements. A key aspect of the project was that everything needed to be compatible with ASICS' WMS system. Maidier Thicoipe, Operational Support Manager at ASICS, explains why they chose KNAPP: *“KNAPP, that's software and automation technology expertise plus professional project management. They worked with us to create the perfect solution.”*

The challenges



Optimizing the service for B2B customers



Shipping capacity of up to 100,000 items per day during peak periods



Efficient operation during the rest of the year



Compatible with ASICS' Warehouse Management System (WMS)



Comfortable and ergonomic working conditions for employees



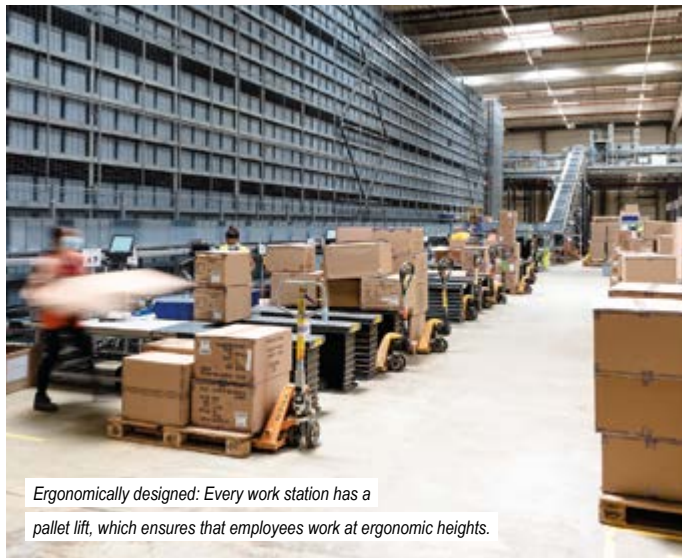
Boosting sustainable solutions and reducing the carbon footprint



Scalable and stable basis for future growth



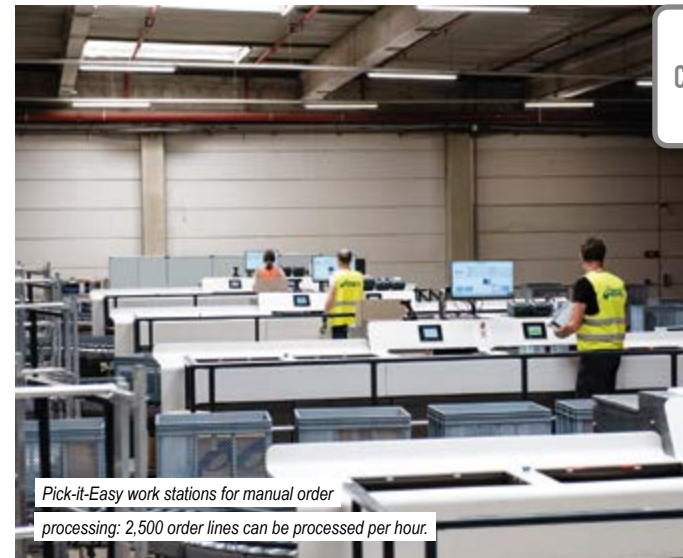
Goods-in: 30,000 pairs of shoes are delivered every day, along with other sports gear.



Ergonomically designed: Every work station has a pallet lift, which ensures that employees work at ergonomic heights.



The automatic storage system OSR Shuttle™ Evo boasts top performance, system stability and storage density. At the moment, ASICS' shuttle system has 38,000 storage locations.



Pick-it-Easy work stations for manual order processing: 2,500 order lines can be processed per hour.

A sports shoe taking a trip through the DC Garons

How do the processes in the new ASICS distribution center work? Where does a pair of sports shoes go, and what happens to it on its way from goods-in to store delivery? Let's join in the journey.

Delivery and goods-in

The goods are delivered in bulk in outer cartons and are stored on a static high-bay racking system. 30,000 pairs of shoes are delivered every day, along with other sports gear.

Decanting | Repacking into storage containers

There are 6 goods-in work stations, where employees repack the shoe-boxes and sportswear into storage containers, ready to be stored in the automatic storage system. Each storage container holds 8 pairs of shoes – this makes for perfect storage density.

- Ergonomically designed: Every work station has a pallet lift, which ensures that employees work at ergonomic heights.
- Tidy data: Regarding the software, the goods-in work stations are integrated in ASICS' Host system. The inventory control system records each item in detail.

Storage in the OSR Shuttle™ Evo

The OSR Shuttle™ Evo is the latest generation of our shuttle systems and boasts top performance, system stability and storage density. The central storage system currently has four rack line systems with 64 levels and 38,000 storage locations. If required, another rack line system with 9,500 storage locations can be added. The containers are stored double-deep to make the most of the available space: The system is filled to 97 percent of its capacity.

KiSoft brings transparency

In which of the 38,000 storage locations is our sports shoe? How many are in stock, and which sizes? Can all orders be filled as planned, and what is the status of each shuttle? Is the workload distributed evenly between the work stations? The intelligent all-in-one software KiSoft knows all this, and more. All performance data and other information is readily available both at the control station and on portable tablets.

Order start | Carton erector

Two carton sizes are used in the warehouse for different order sizes: Two carton Erectors prepare the cartons and make sure that the picking area never runs out. The machines erect 800 cartons per hour.

Ergonomic order processing

Work smarter, not harder. This is the slogan for our Pick-it-Easy work stations. Orders are processed according to the goods-to-person principle: The work stations combine ergonomic design with optimal performance and error-free order processing. ASICS uses 5 of these high-end Pick-it-Easy work stations for a pleasant work environment. Every hour, about 2,500 order lines can be processed simultaneously at these work stations.

50 %
Performance increase per employee

90 %
Less errors

98 %
System availability

100 %
Faster order processing for express orders

Value-added services

After picking, the shipping cartons receive the finishing touches in the value-added service area. Advertising material or customs documents are inserted here, and bulk cartons from the high-bay warehouse are consolidated with the delivery.

Document insert station | Carton closer

Delivery notes and packing lists are also printed automatically and added to the last carton belonging to a delivery. An automatic carton closer closes the shipping cartons; tall cartons are shortened, if necessary, which saves space in the delivery vehicle.


Shipping

In the shipping area, each ramp is assigned to a target country. The waiting shipping cartons are distributed to the ramps and loaded into the vehicles. And off they go to one of 10,000 stores in one of 20 countries.

Thanks to a strong partnership

Our secret for successful projects? Collaborating as partners and open communication. Thanks to our close collaboration, we were able to implement the project and put it into operation despite the disruptions caused by the COVID-19 pandemic. *"We really enjoyed working with Asics as partners, in a spirit of open collaboration. As project manager, I'm always delighted when a system starts operation and everything works just as the customer wanted"*, enthuses Philipp Jaklin, Senior Project Manager at KNAPP. Asics Logistics Manager Cyril Leblonde is equally happy with the collaboration, and particularly with the results he sees in daily system operation: *"Working with KNAPP means working with professionals. We were able to reach our goals faster than anticipated and have exceeded our performance goals. With the new solution, we can react to market requirements much better."*

Asics is staying fit for the future with intelligent automation and is ready to keep growing.

 Take an in-depth look at the Asics distribution center in this video.

Zero Defect Strategy for the Entire Value Chain

Software, smart technologies and service cover everything

To err is human, built-in checks are wise. In the logistical value chain, a single error can have a huge impact on costs, delivery times or customer satisfaction. Smart technologies and services can help us to prevent errors by monitoring 100 percent of all the processes, thereby allowing us to make the right decisions. Let's take a look at this idea from three different perspectives along the value chain.

The main players are the software solution **SAP®EWM by KNAPP** for the serialization of pharmaceuticals, the **ivii.smartdesk**, a thinking work station for assembly and our **Intelligent Service Networks** for exceeding expectations in customer service.



A prescription for software for pharmaceutical serialization

Worldwide, regulations requiring serialization have been put in place to ensure the seamless authentication of pharmaceutical products in the pharmaceutical supply chain. A unique, individual serial number is assigned, tracked and verified and deactivated against a national database before being given to patients. The process of publishing and later deactivating serial numbers prevents patients from receiving falsified medicines. What may sound easy in theory, is actually quite difficult in practice. After all, pharmaceutical distributors need to coordinate a tremendous number of serial numbers in compliance with different national regulations and process return messages of different text formats. Without a sophisticated and integrated warehouse management system, mastering all this would almost be impossible.

Adaptable to different national regulations

SAP® EWM by KNAPP provides solutions that are based on the SAP® EWM standard solution and provide the necessary process flexibility and regulatory compliance. For instance, continuous tracking of serial numbers in the supply chain is not required in all countries. In SAP® EWM by KNAPP, the master data of the relevant pharmaceutical products is extended to include the attribute *obligatory pharmaceutical serialization* and the process steps required for each country are included. Should any requirements change, the customer can update this information themselves. In addition, an interface layer makes communication with the national databases possible using a web service and maps both the process integration of all message types and the required measures for error handling.



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Hard-thinking work station: ivii.smartdesk

The ivii.smartdesk is an assembly work station made especially for production which is equipped with image recognition and processing system technology. All assembly work is supported by software. The work station has an integrated real-time feedback system that monitors every work step. This makes the zero error strategy and end-to-end traceability for the assembly process possible. The image recognition and image processing system records all the components required for assembly. Each work step is checked and validated. The user can only move on to the next work step when the image processing system has confirmed the previous one as OK. This way, all components are assembled in the right sequence and quality. Thanks to this real-time feedback system, the employee receives immediate feedback on the quality of each work step.

Expected versus actual in real time

Monitors provide an optimal overview of the work in progress at the assembly work station. While one of the monitors displays the theoretical status of a product, the other monitor displays the actual camera image. The components need to be assembled so that the theoretical and actual images match. As soon as the assembly process is completed, the employee presses a button to begin the final check by the feedback system. One of the monitors shows the result to the employee. This is how error-free production becomes a reality.





Customized service solutions by KNAPP

We speak service

Moving on to KNAPP's Customer Service, zero-defect is reflected in a strategy best described as always one step ahead. Our goal is to always exceed our customers' expectations. By providing preventive and predictive services for the entire value chain with our Intelligent Service Networks, we become the go-to partner for tactical and strategic planning. How do we do this?

We know our customers. By developing relationships with our customers, we learn about their needs, their expectations and their preferences. Fulfilling the basic requirements such as on-time delivery, cost-efficiency, and transparency in project management are, for us, simply a matter of course. What makes us unique is that we address the individual expectations, for example, communication in the customer's native language. Our Service Desk provides support in nine languages 24/7, with work handled according to the follow-the-sun concept.

We know what's going on at our installations. Working with our customers, we develop the right service solution for the respective system. We use the available data which provides us with reliable information on user behavior, peak and off-peak phases and the availability, reliability as well as performance of the system. Using our software KiSoft Analytics or KiSoft CMMS, we analyze and interpret the data and provide a sound basis for decision-making.

Service by KNAPP.



Intelligent Service Networks
for the Future Value Chain



knapp.com

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ivii.smartdesk

100 percent quality control in
production and in goods-in & goods-out

BEST PRODUCT 2021 at LogiMAT