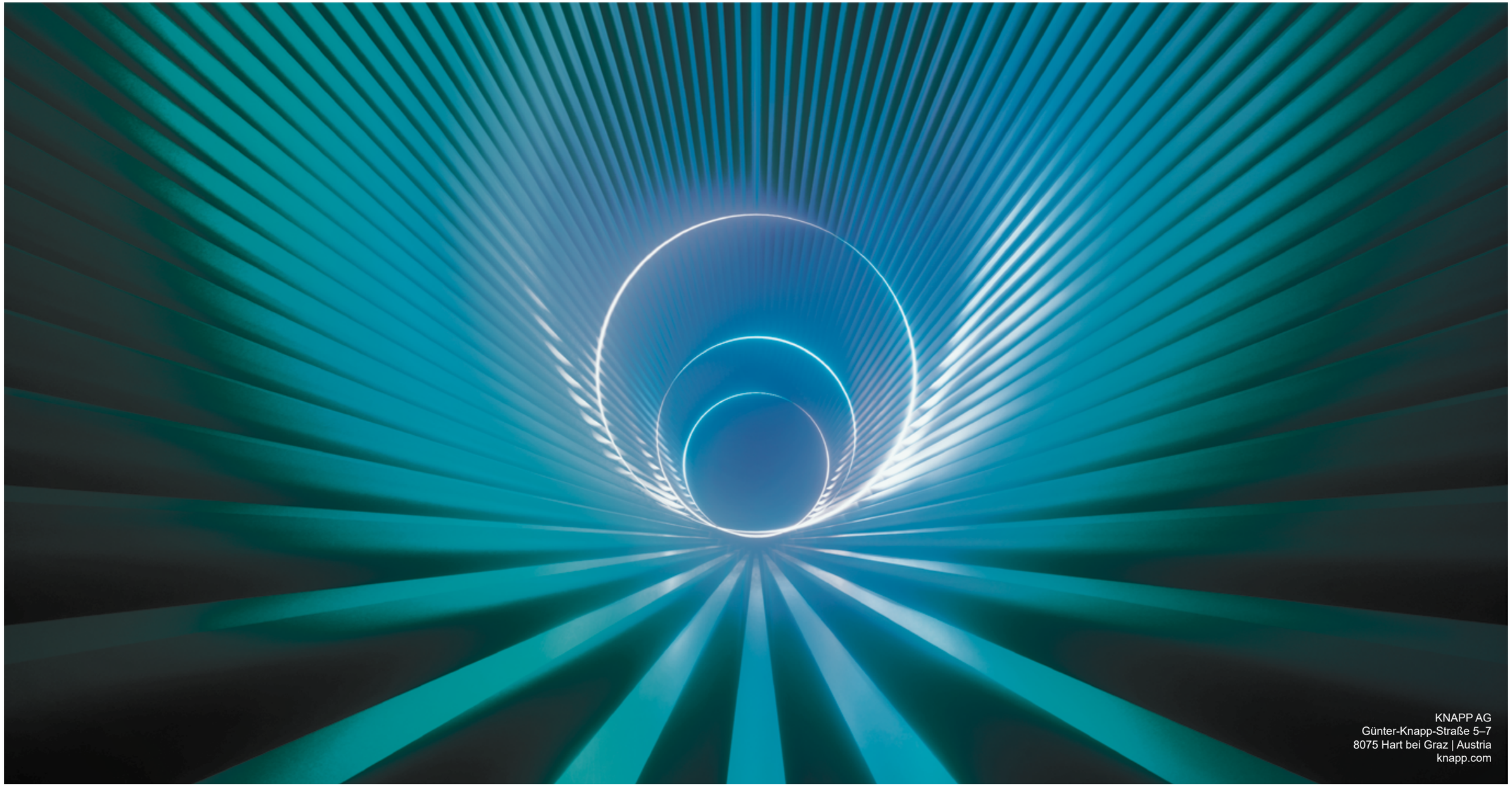


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knapp.com

WORLD OF SOLUTIONS

new dimensions of performance

Edition **66** | 2026 | EN

KNAPP



Dear valued customers and partners,

Looking back on the peaks of the last season and the Christmas rush in all the industries we serve, we can be proud of ourselves. We have set new records in availability and performance for both new and existing systems, making a significant contribution to our partners’ success.

Our strategy of being a value chain tech partner has reached a watershed because we are now connecting the most advanced automation with intelligent software and thus raising the performance capabilities of logistics systems to a whole new level. Central to this strategy is our KNAPP Brain – a layer of AI that integrates data, processes and machines into an overall system that can learn. KNAPP is now positioned clearly as an AI company, connecting technological excellence with broad strategic foresight.

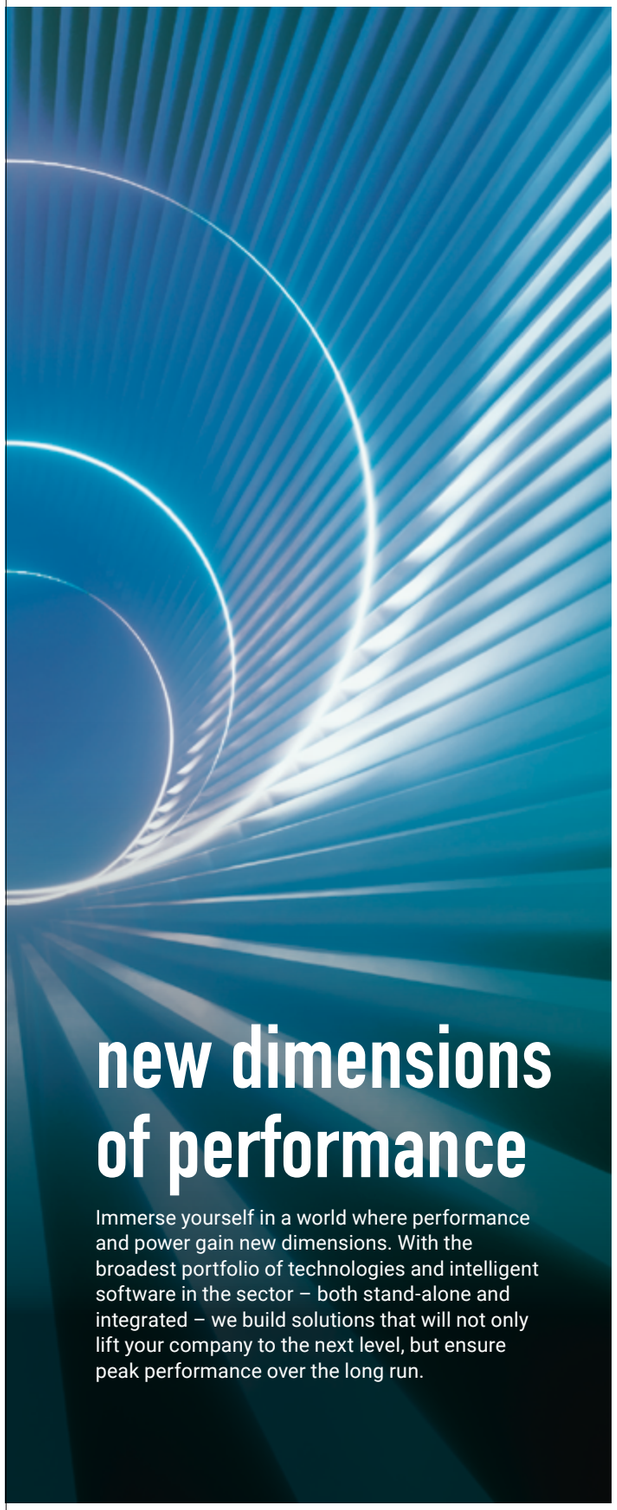
The comprehensive KNAPP software portfolio KiSoft forms the digital backbone of this development. Whether it’s warehouse management, the warehouse execution suite, robotic control, business intelligence analytics or predictive maintenance, we provide a harmonized digital ecosystem that creates valuable transparency, speeds up the decision-making process and continually optimizes the performance of every system.

KNAPP is setting new standards in warehouse technologies as well. The AeroBot and Evo Shuttle are two best-in-class solutions redefining speed, flexibility and energy efficiency. A new bot-based high-performance system – the Multi Grid Bot – will be rounding out this unique portfolio in the near future.

From robotics, sorting systems, picking systems and AMRs to B2B, B2C and multi-channel solutions for the entire value chain – KNAPP is your reliable partner for innovation.

Our technological power is not just talk – we have made it reality time and again. More than 4,000 installations around the world strikingly demonstrate the outstanding system availability, stability and performance of the KNAPP systems. These are the expressions of partnerships based on trust, quality and innovation. KNAPP is opening the door to new dimensions in performance – where technology, intelligence and collaboration are perfectly in tune along the entire value chain.

Gerald Hofer
Chief Executive Officer
KNAPP AG



new dimensions of performance

Immerse yourself in a world where performance and power gain new dimensions. With the broadest portfolio of technologies and intelligent software in the sector – both stand-alone and integrated – we build solutions that will not only lift your company to the next level, but ensure peak performance over the long run.

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Innovation Update

Open Shuttle Fork: Safer and More Versatile than Ever

Transporting pallets in house just got an upgrade. The Open Shuttle Fork now features an obstacle avoidance function that enhances safety and efficiency throughout the warehouse. This new functionality complements the AMR's proven features such as safe stopping, 3D obstacle detection and blue light signaling – for even safer indoor traffic.
And there's more: The Open Shuttle Fork now also handles CHEP pallets with ease, making it the perfect solution for the US market.



Software

Berglandmilch: SAP® EWM Rollout to 4 Sites

Berglandmilch, one of the largest dairy processing and distribution companies in Austria, has selected SAP® EWM by KNAPP for their comprehensive WMS retrofit project at 4 sites. Designed as a template solution, the rollout to replace the current SAP® WM systems and non-SAP® WMS systems will be carried out step by step over the next few years. This way, Berglandmilch will benefit from an end-to-end SAP® system environment in the future.



Service

Coming Soon: New Online Store for Spare Parts

Need to order spare parts? What if you could access the status of your spare parts order at any time? With our new online platform, it's quick and easy, and you can also keep track of your spare parts transactions 24/7. Additionally, the online platform shows you a history of all your orders, which makes managing your future purchases even easier. Our new platform will soon be ready for you in the customer portal e-insight.

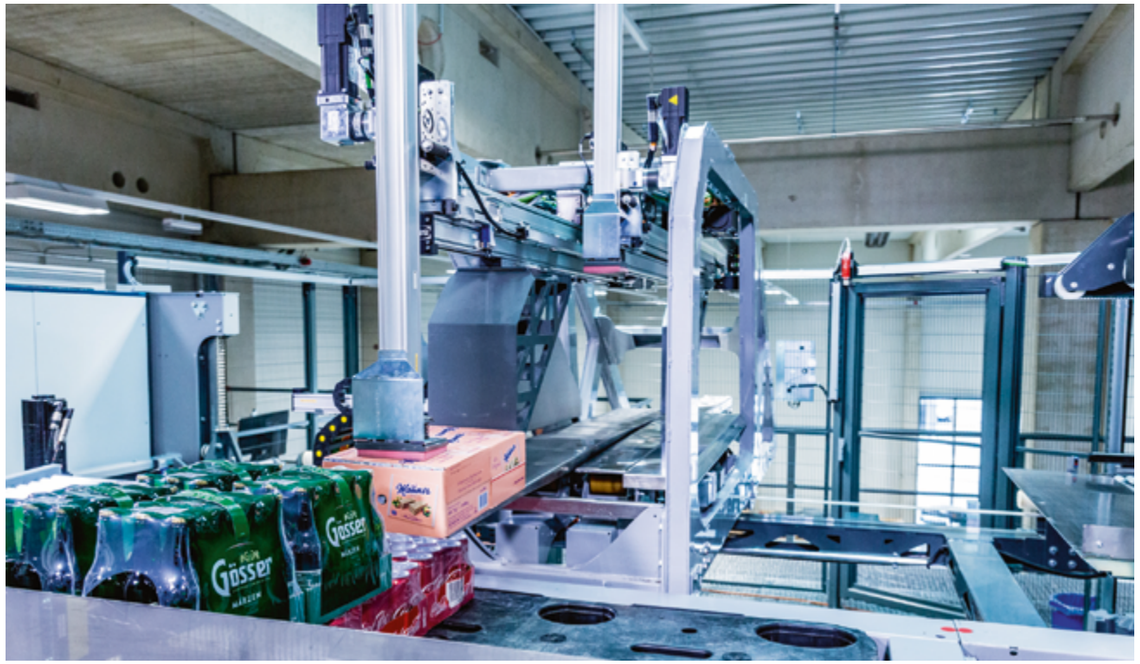


Event Tip

AeroBot in the Big Apple: Smart Integration on Display in the SAP Experience Center NYC

AeroBot has been live at the SAP Experience Center in Manhattan since January 2026, demonstrating its seamless integration with our KNAPP AeroBot app – a pioneering solution in warehouse logistics. Against the backdrop of the New York skyline, AeroBot demonstrates how different automation technologies work together perfectly. We are proud to be implementing this project together with SAP, intensifying our partnership and setting new standards in logistics.





ROBOTICS AND MASTER DATA

Combining robots and comprehensive data for successful delivery to food retailers

How does your supermarket stay on top of deliveries despite increasing challenges in the sector? Our answer: with cutting-edge automation technology and high-quality master data as a basis for powerful, economic processes along the entire value chain.

Logistics in food retail is at a crossroads: Increasing costs, expanding product ranges and changing packaging, store-friendly order fulfillment and a growing skilled labor shortage are making planning more complex, requiring new innovations. Businesses that want to be ready for the future need to combine cutting-edge automation with excellent master data management. Using powerful robots and a strong data set, you can scale processes and design them flexibly while increasing efficiency and ensuring customer satisfaction.

ROBOTICS AS THE KEY TO CUSTOMIZED STORE DELIVERY

The innovative picking and palletizing robot RUNPICK (Robotic Universal Picker) is a prime example of cutting-edge food retail automation technology. RUNPICK picks and palletizes various items fully automatically – from dry goods to fresh produce to frozen foods. Thanks to multi case picking, the robot is able to place several different units on a pallet in a single cycle, creating stable, ready-to-ship load carriers. With this technology, you need fewer people for the job and can boost throughput at the same time.



Packing pattern with KiSoft Pack Master | Evo Shuttle | Fully automatic palletization | Transport securing

The KiSoft Pack Master software brings machine intelligence into the process, delivering even more efficiency. Before the items are retrieved from the central storage system, the software calculates the ideal stack according to the store, ensuring that the items arrive at the palletizing robot RUNPICK in the right order. The items are rotated, tipped and grouped before they reach the robot, which is somewhat of a professional Tetris player, precisely placing up to six units onto the target load carrier at the same time. What's particularly clever is that the software plans for the layout of each individual store, making it easier for employees working in the various stores to fill shelves quickly.

RUNPICK



EFFICIENT STORE DELIVERY

Multi case picking
for improved performance thanks to multiple unit picking

Improves picking quality
thanks to software-driven packing pattern calculation

Automatic error handling
through integrated quality control

Loads different load carriers
for optimum density, stability and structure

More about RUNPICK

MASTER DATA

THE FUEL AUTOMATION RUNS ON

A sometimes underestimated deciding factor driving the success of automation solutions is master data. Quality master data is fundamental in all logistics sectors, especially in food retail where there is a vast range of many different types of goods. *"The best automation solution is only as good as the data it uses,"* explains Rudolf Hansl, Vice President Food Retail Solutions at KNAPP. *"Well maintained master data is a prerequisite for efficient, error-free and scalable processes in logistics."*

KNAPP has a strong tech duo to ensure master data is collected, transmitted and maintained automatically: **MultiScan + KiSoft Genomix**





MULTISCAN

A precise 3D volume measuring device for recording master data at the push of a button. MultiScan captures the dimensions and weight of items and records their packaging hierarchies and other properties fully automatically in a matter of seconds. The data is transmitted to the overall system architecture directly, making it readily available for further processing.

More about MultiScan



KISOFT GENOMIX

A complete software solution that decodes and digitalizes your items' DNA. KiSoft Genomix records all item properties required by downstream automation technologies fully automatically – from packaging type to logistics properties such as center of gravity and tilting behavior. The more attributes you collect and the higher their quality, the more efficiently your logistics solution will work. What makes this software so useful is that it records all the data for all hierarchies at once, from the pallet and handling unit down to the single item, and knows exactly which parameters the technologies in the warehouse need in order to operate in the most productive way. This leads to smooth processes, increased performance and optimized costs. In addition, the end-to-end solution provides all the properties required along the entire supply chain.

More about KiSoft Genomix



INTELLIGENT E-COMMERCE FULFILLMENT

Faster. Smarter. eMAG.

Today's e-commerce is evolving and requires new standards. At KNAPP, we're making sure we have our finger on the pulse. Together with eMAG, we've set a new benchmark for efficiency: e-commerce fulfillment that is automated, powerful and focused on customers. As the leading e-commerce platform in Romania, Bulgaria and Hungary, eMAG offers a vast range of goods: From electronics to fashion to furniture, customers can order virtually anything they want online. To keep pace with growing demands for service and efficiency, eMAG built a state-of-the-art logistics hub near Bucharest featuring KNAPP technology.

FROM MANUAL ORDER PREPARATION TO ZERO-TOUCH FULFILLMENT

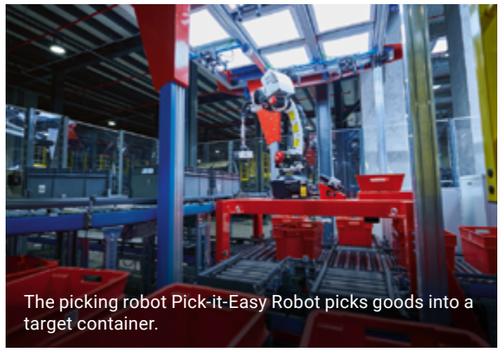
At eMAG, the customer experience is paramount to all strategic decisions, with a particular focus on rapid, reliable and accurate delivery. Originally, picking was a completely manual process, but as order volumes grew, the company found themselves increasingly at their limits, especially during peak periods. At the heart of the e-commerce fulfillment center is the Evo Shuttle 1D: an advanced storage system using shuttles and robots designed to meet the highest demands for throughput and storage density. The system features 18 aisles with 24 levels in which 432 shuttles process up to 12,780 containers per hour across 131,088 storage locations.

Picking supported by technology

Upon order receipt, the required containers are automatically retrieved from the Evo Shuttle 1D and conveyed to one of the 29 highly ergonomic goods-to-person work stations of the Pick-it-Easy series. Containers flow in and out of the work stations to maximize capacity utilization and minimize waiting times.

Fully automated picking

For even more efficiency, eMAG relies on the Pick-it-Easy Robot which operates fully automatically and picks the single-item orders typical for online retail with high accuracy and at speeds of up to 600 picks per hour. Thanks to AI-supported object recognition and grip point calculation, the robot can gently pick a broad array of items with very different shapes, from clothing to sensitive cosmetics.



The picking robot Pick-it-Easy Robot picks goods into a target container.

eMAG FACTS

Automated storage area
44,600 m² (480,070 ft²)

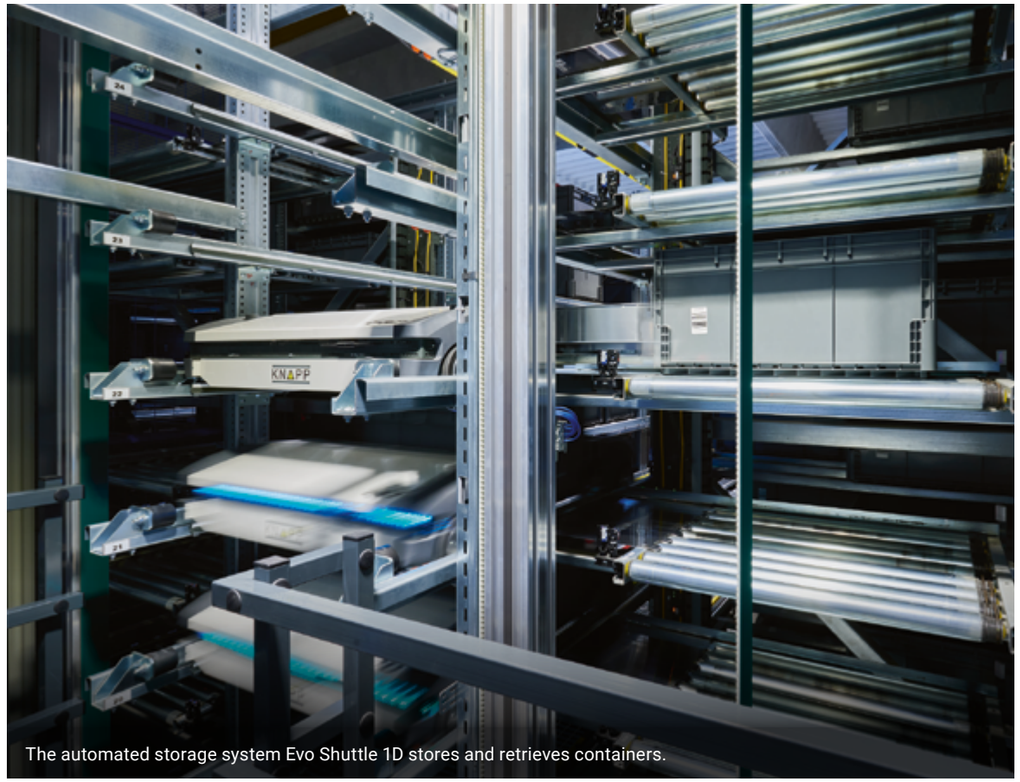
SKUs
1 million

Storage locations in automated storage system
131,088

Automatic picks / hour
up to 600

Orders/hour
up to 15,000

Delivery window
Focus on same-day and next-day delivery

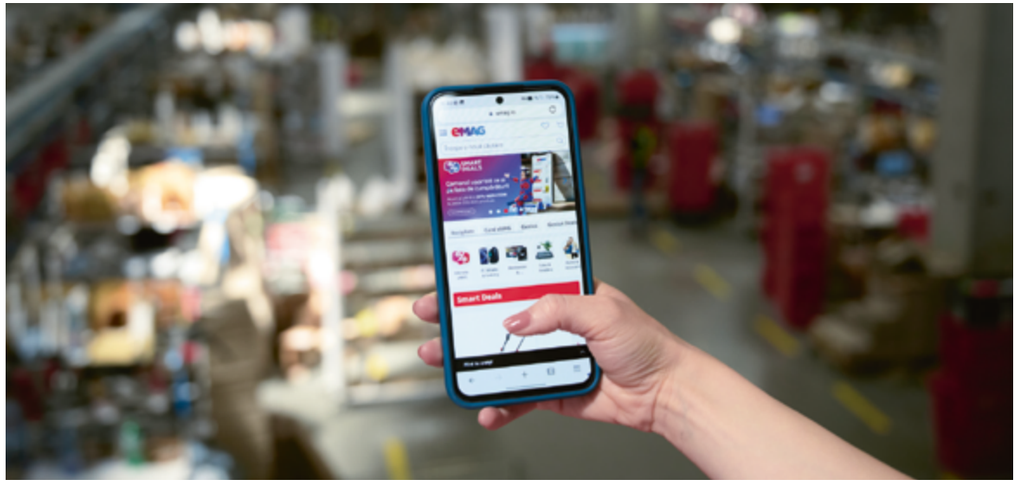


The automated storage system Evo Shuttle 1D stores and retrieves containers.

HOW THE BENEFITS OF AUTOMATION REACH THE END CUSTOMER

For eMAG customers, efficient logistics processes translate into faster delivery times, greater product availability and a consistently high service level, even during peaks such as Black Friday. Faced with growing demand for speed and flexibility, it was clear that only an intelligent, scalable system could live up to expectations. The Evo Shuttle 1D combined with the Pick-it-Easy Robot as an additional performance booster is exactly the e-commerce solution eMAG was looking for to equip them for the future.





6 STANDOUT QUALITIES OF THE E-COMMERCE SOLUTION

Fast order processing
Perfectly coordinated interplay between the automated and manual warehouse areas: throughput of up to 15,000 orders per hour

Error-free order processing
Significantly increased picking precision using Pick-it-Easy Robot and Pick-it-Easy work stations

High storage capacity
Sufficient capacity for a growing range of goods: 131,088 containers in the automated storage system

Continuous system operation
The KNAPP Resident Engineers on site can make adjustments where needed, ensuring ongoing system operation

Flexibility for future growth
The modular system makes future extensions possible, paving the way for long-term flexibility and growth

Employee-friendly work environment
Ergonomic Pick-it-Easy work stations providing visual feedback make employee onboarding easier and reduce physical strain

Learn more about eMAG's e-commerce fulfillment hub.



FULLY INTEGRATED STAND-ALONE

Why logistics software is so much more than lines of code

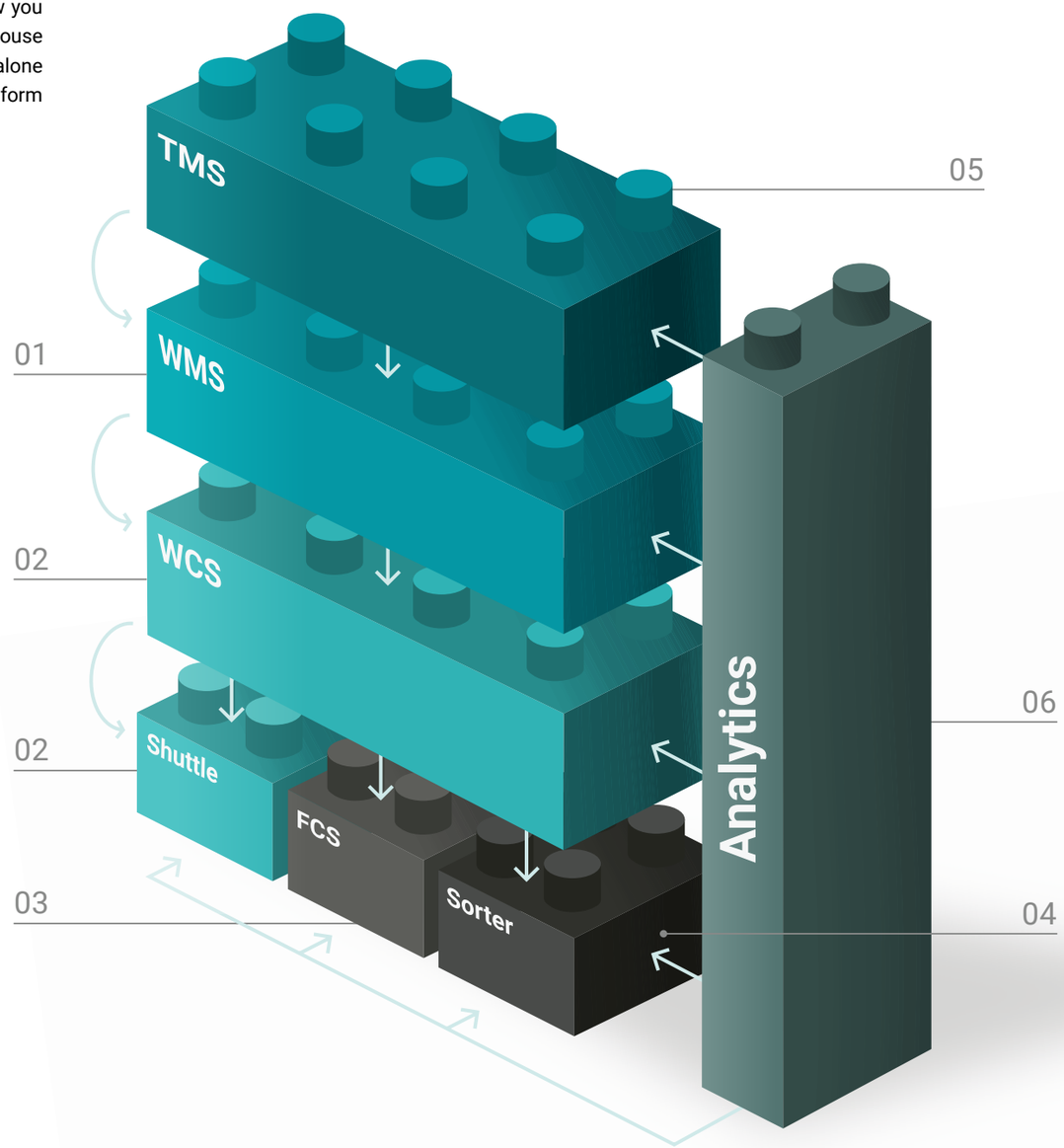
Have you ever been in this situation? You're in a meeting room and want to get set up for a presentation you will give in a few minutes. You want to connect your laptop to the monitor, but you notice that the inputs have been changed! Great, when did that happen? But as much as being unable to connect at work is frustrating, having trouble with the software interfaces in your warehouse can be catastrophic and lead to standstills, delays in delivery, interrupted goods flows and data loss. Getting all your warehouse systems seamlessly integrated will result in smooth operations and consistent data – and fewer headaches.

The market for logistics software is like a well-equipped tool box: You will find the right tool for every task. For example, there are tailored solutions for warehouse management, goods transport and analysis. They are stand-alone solutions and fulfill tasks reliably. However, this means they also have "stand-alone" interfaces, which means more development costs and higher risk for operations. Another important question to consider: Will these solutions be compatible with each other? Real added value is created when all software components can communicate with each other without interruption and work together as an integrated system. This ensures smooth processes across all solutions and increases efficiency significantly.



FROM MANUAL WAREHOUSE TO SMART LOGISTICS PLATFORM – A JOURNEY IN STAGES

What can you integrate into your overall system? We will show you by taking you through the transformation of a manual warehouse into a digital logistics platform. Step by step, we will add stand-alone components and software solutions and interconnect them to form an intelligent network of systems.



1. The digital foundation:
WMS as the central starting point
The first step towards digitalization is having a powerful warehouse management system (WMS). A WMS manages all the goods and orders in a single system, even in manual warehouses. The WMS is a solid basis for further software integration. It can be extended by additional modules and can communicate with other solutions.

2. Optimized storage and transport:
shuttle systems and conveyors
When order volumes grow, it's time for an automated storage solution consisting of a shuttle system and conveyor system. The network of conveyors is controlled by the warehouse control system (WCS), while lower-level software controls the shuttle system. If both systems are compatible with the higher-level WMS, you can store and retrieve goods in the warehouse automatically once an order has been placed or goods have been received.

3. Mobile and autonomous:
AMRs and fleet control in unison
To transport goods throughout the entire warehouse, autonomous mobile robots are the right choice. They are controlled by the fleet control system (FCS) that is connected to the higher-level WCS. Transport orders are automatically distributed amongst the robots, which navigate the warehouse intelligently, picking up containers or cartons from the conveyors and dropping them off where needed.

5. Extralogistics under control:
TMS for smart transport planning
Transport logistics downstream is optimized using a transport management system (TMS), which schedules routes and assigns them to the trucks available, while taking orders and routes into account and communicating with the WMS. The result is optimum order distribution, punctual delivery and transparent processes along the way, including the last mile.

6. Effective data:
Analytics as your strategic control unit
To be able to evaluate the performance of a solution, you need high-quality data from all systems. This is where having all your solutions integrated pays off the most. Thanks to their seamless interconnection, you can collect data from all systems and visualize key figures to help you make strategic decisions based on good data.

4. Systematic sorting:
integrated sorter technology
To accommodate growing demand, goods-out processes need to be enhanced too. For this reason, a sorter for outgoing goods is integrated into the system. The sorter is controlled using a dedicated sorter control system that communicates with the WCS and diverts orders ready for shipment to the sorter ramps in real time.

INTEGRATION IS VITAL TO MAXIMUM EFFICIENCY

Stand-alone solutions are effective when it comes to performing straight-forward tasks or adding simple extensions. But if your goal is to optimize your entire system, integration-ready solutions are key. This is where KNAPP's software solutions come into play. All solutions from the overarching KiSoft logistics software platform and SAP® by KNAPP are 100 % compatible across all levels, allowing you to create an intelligent whole from individual smart modules that grows with your business.



SENSORS FOR AUTONOMOUS NAVIGATION

Efficient just-in-time logistics for SICK

How can you handle increasing production requirements flexibly and efficiently? The way our automation solution for SICK's Hungarian location did: with 27 Open Shuttles working hand in hand with an automated small parts warehouse and an end-to-end SAP® EWM solution. Thanks to this combination, storage and retrieval are fully automatic, goods flows are seamless and all logistics processes are operating with maximum transparency.

INTELLIGENT INTERNAL LOGISTICS

The SICK AG, headquartered in Waldkirch im Breisgau, Germany, is a world leader in intelligent sensor solutions for automating factories, logistics and processes. The Kunsziget plant and its 800 employees are the centerpiece of the SICK AG's manufacturing network. To lay the groundwork for future growth at the location, SICK significantly expanded the infrastructure by adding three new halls: one for goods-in, one for manufacturing (for a total of four manufacturing halls) and one for the small parts warehouse and picking. These additions provide the basis SICK can rely on to handle increasing order numbers, with the end-to-end automation solution by KNAPP connecting the individual halls, optimizing the goods flow and ensuring that the location's production logistics are efficient.

FROM SENSORS TO TECHNOLOGY PARTNERSHIP

KNAPP and SICK are two leading technology companies connected by more than just the power of their innovation. SICK sensors have long been an integral part of KNAPP's automation solutions, providing greater precision and performance. This makes the latest project in Kunsziget, Hungary, all the more significant, as – for the first time – only sensors by SICK will be used in the automation. Integrating the Open Shuttles in an SAP® environment represents another milestone. The entire logistics system is designed so that additional manufacturing halls can be added if necessary, with the foundation for fast, efficient upscaling in the future already laid by the KNAPP automation solutions and the SAP® EWM system landscape.

" The new system has fully automated storage and retrieval processes and provides goods to manufacturing just in time. "

Laszlo Varga
Supply Chain Manager
SICK Kft.

SICK FACTS

Location
Kunsziget, Hungary

Automated small parts warehouse
Stacker crane serving 52,000 storage locations across 4 aisles and 28 levels, 12 meters high (39 ft)

Work stations
2 Pick-it-Easy work stations for repacking in picking, 2 pack stations in goods-in

Autonomous mobile robots
27 Open Shuttles handling production logistics

Software
SAP® EWM in S/4HANA as WMS and WCS

Implementation
2025





GOODS-IN

Small parts needed for production arrive in cartons or containers on pallets. Most incoming parts are repacked into containers, registered in the system and transferred to the conveyor system by the employees at the 2 pack stations. Parts that are not repacked are transported away after being registered. An integrated scale checks the weight of the containers. The containers move along a spiral conveyor to the suspended conveyor, which conveys them to the small parts warehouse.

- Seamless connection between goods-in and the small parts warehouse
- Ergonomic packing stations increase efficiency

STORAGE AND PICKING

The automated small parts warehouse features 52,000 storage locations across four aisles and 28 levels, forming the central point of supply for manufacturing. Three different container types are stored double and quadruple-deep, ensuring maximum use of space, while the stacker cranes put away and retrieve items fully automatically. At the 2 connected Pick-it-Easy work stations, items are picked according to the goods-to-person principle, reducing the strain on employees. Each container holds just one item type, which ensures unmixed picking. About 50 % of the items stored in the small parts warehouse are processed at the picking stations; the rest are conveyed directly to production by the Open Shuttles.

- Fully automatic storage and retrieval
- Space-effective storage and maximum use of space
- Highly efficient and ergonomic goods-to-person picking





PRODUCTION SUPPLY

Twenty-seven Open Shuttles run between the small parts warehouse and production areas in the four halls. The AMRs pick up the containers from specially designed spur conveyors and transport them to the production area. There, they are transferred to one of 30 flow racks, which employees can take containers from as needed. The flow racks are also where semi-finished goods are placed to be picked up by the Open Shuttles and returned to the small parts warehouse. The AMRs are able to navigate safely through one-way as well as two-way traffic, sharing the paths with people and tugger trains. On their way, the Open Shuttles must pass through rapid action doors. A control module communicates with the Open Shuttle to open and close the doors automatically.

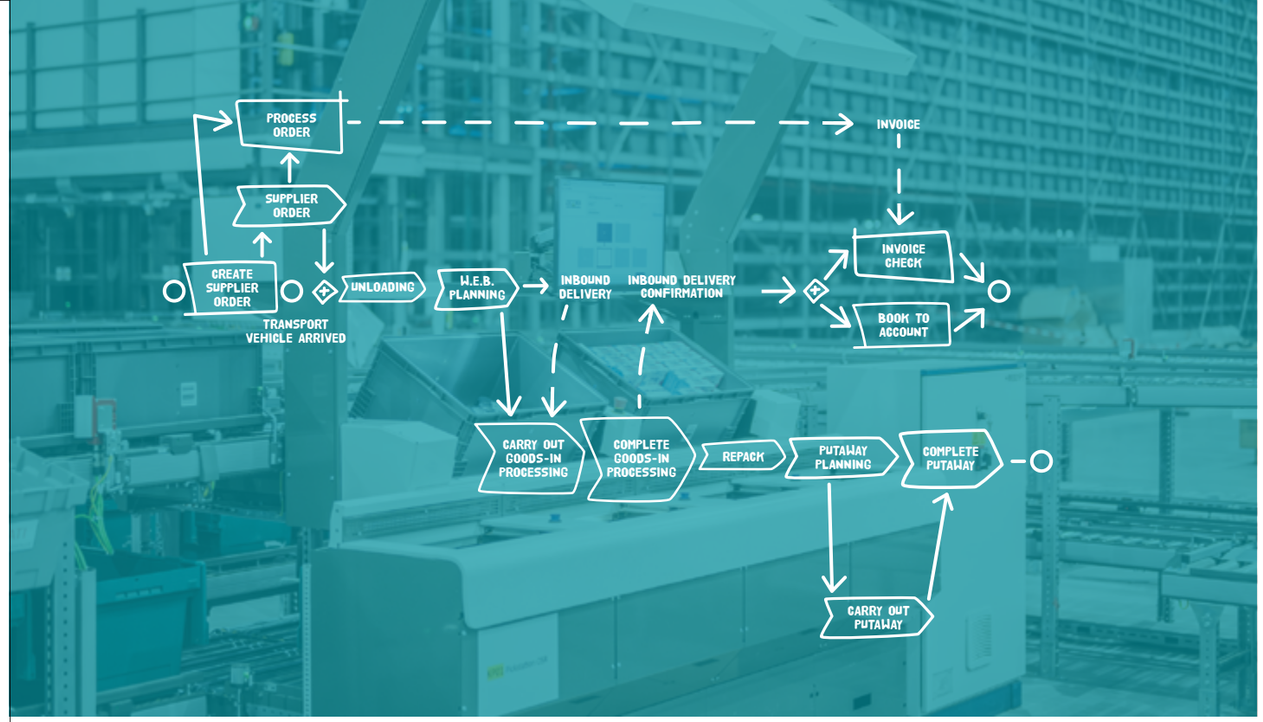
- Goods reach production automatically and just in time
- Flexible connection to manufacturing via flow racks
- Flexibly adaptable paths and processes

END-TO-END SAP® SYSTEM LANDSCAPE

The decentralized SAP® EWM on S/4HANA serves as a warehouse management system (WMS) and warehouse control system (WCS). It controls all goods flows and processes the logic of all the automation technologies. The new software solution, which includes a material flow system (MFS), precisely controls the load-handling device in the automated small parts warehouse with quadruple-deep storage. Additionally, KiSoft Fleet Control System (FCS), which controls the Open Shuttles, is integrated directly into SAP® EWM MFS through a REST interface. The well-connected SAP® EWM controls all storage and retrieval movements, including different methods of supplying goods to production, from planning a complex tugger train path to allocating individual rush orders to individual manufacturing stations. User-friendly interfaces, including the ones on the goods-to-person work stations, round out the SAP® EWM by KNAPP solution.

- All logic for all automation technology all in one place
- Direct integration to fleet control in SAP® EWM MFS
- User-friendly interfaces

[1] A standard connection through SAP® for exchanging automation data relating, for example, to orders or status information



SMART VISUALIZATION FOR COMPLEX PROCESSES

How BPMN visualizes complex automation processes, making them readily understandable

Automation alone doesn't create value – it must always align with the company's objectives. But how can complex requirements be structured clearly to develop automated solutions and future-proof processes together with customers and partners? At KNAPP, we rely on a visual approach using BPMN notation to make processes transparent, minimize misunderstandings and involve all shareholders in the project early. This clarity provides the foundation for successful automation projects.

FINDING A COMMON LANGUAGE

At KNAPP, processes are at the heart of every automation solution. We've experienced many times how BPMN fosters true collaboration in the workshops we hold with our customers. Its graphical notation creates a shared understanding – whether participants are technical experts in the field or not. But BPMN is more than a visualization tool for complex workflows – it's a means of communication that structures discussions and facilitates decision-making. Our solutions aren't developed behind closed doors – they are created step by step, together with the customer. The result? A carefully designed process tailored to the needs of the customer providing the foundation for efficient, future-proof automation.

WHAT IS BPMN?

BPMN stands for Business Process Model and Notation and is an internationally recognized standard for graphically representing business processes. With BPMN, even the most complex workflows become easy to visualize and understand – whether they involve manual tasks, automated processes or IT systems. From goods-in to delivery or from customer order to invoicing – every process can be mapped end-to-end using a few standardized symbols. This creates a shared understanding of processes across all stakeholders.

ADVANTAGES OF BPMN

CLARITY AND TRANSPARENCY
Complex workflows become clear and comprehensive. This allows you to identify weak points, bottlenecks and potential for optimization at a glance.

CO-CREATION
As a customer, you are an active part of the development process. Your expertise shapes the solution's modeling, ensuring trust and strengthening identification with the solution.

AGILITY AND FLEXIBILITY
You can experiment, and compare and adapt different variants. Decisions are made only when the perfect concept is found.

GOAL-ORIENTED EFFICIENCY
Structured process analysis makes improvements measurable. Technical solutions can be tailored to your requirements – without detours or loss of momentum.



Left to right: Bogdan Solomon, Project Manager (eMAG),
Lenka Neuhold, Director Sales and Engineering Osteuropa (KNAPP AG)

MARKET PERSPECTIVE

Growth, digitalization and automation in Central and Eastern Europe

Central and Eastern Europe (CEE) is rapidly becoming one of the most economically exciting regions in Europe. Poland, Czechia, Slovakia, Hungary, Romania, Bulgaria, the Baltic states and the Balkan peninsula are all experiencing above-average growth, outperforming the Eurozone. Above all, the boom is being driven by private consumers, while local value creation, increasing digitalization and automation are transforming CEE markets for the long term.

DYNAMIC RETAIL AND HEALTHCARE BUSINESSES

"Central and Eastern European countries are investing more and more in automation," explains Lenka Neuhold. She's Director of Sales and Engineering at KNAPP for Eastern Europe and has been active in the region for many years. KNAPP has had a strong presence in CEE for about two decades, with a large network of KNAPP offices set up across the sprawling region in order to be close to and provide the best support for their customers.

Consumer goods and e-grocery businesses are particularly interested in investing in efficient logistics solutions. "*Same-day and next-day delivery are already standard in many countries. At the same time, global players such as Amazon are hardly present in Eastern Europe,*" continues Neuhold. This opening in the market has allowed local retailers such as eMAG in Romania to establish themselves as e-commerce providers offering a high level of service.

> **"We were convinced by KNAPP's e-commerce expertise and the tailored solution."**
>
> **Bogdan Solomon**
> Project Manager
> eMAG

In addition to the innovative logistics solutions, customers such as eMAG appreciate the mutual trust in and smooth teamwork with KNAPP. What started out as a project in the middle of the COVID-19 pandemic quickly developed into a success story. Commitment and understanding were the name of the game as the two companies worked together to implement a highly automated e-commerce solution in Bucharest in two project phases.

Retail and omnichannel strategies are also becoming more important, as Czech retailer HP Tronic can confirm. Their distribution network, centered on Prague, supplies HP Tronic stores while also fulfilling end customers' online orders. Meanwhile, KNAPP is one of the pioneers of pharma distribution in Poland, where they boast a strong customer base. "*We currently have around 20 running installations for different customers, all of whom are investing in highly automated solutions for medication distribution,*" explains Daniel Kusak, Managing Director of KNAPP Polska.

Why automation is booming in Central and Eastern Europe

Rising wages and local value creation are strong driving factors behind automation. More and more Western European companies and logistics providers are also outsourcing production and distribution to Eastern Europe. "*But the major reason for automation is still the skilled labor shortage. In urban areas like Prague, you can hardly find any workers,*" says Lenka Neuhold. All together, these factors lead to high demand for automation solutions in the region.



Left to right: Magdalena Najmanowicz (Radial), Mark Wilkinson (doTERRA), Tomasz Okowiak (Radial)

PARTNERSHIP
AT THE HEART OF BUSINESS

Logistics solutions with sophisticated technology aren't the only factor behind successful business relationships in Central and Eastern Europe. Focusing on trust and teamwork is just as important. At KNAPP, we offer more than just our industry expertise and customized automation solutions – we understand the challenges the market faces today.

"Personal relationships are the key to success," says Lenka Neuhold, speaking from experience. Direct contact to customers is an important factor for success, as is cooperation that doesn't just end with the go-live. It's important for us to continuously work on improvements and, together with our customers, think outside the warehouse. We have a long history of success behind our philosophy. Projects such as the e-commerce solution for eMAG in Romania, the groundbreaking multichannel solution for Lithuanian healthcare company Limedika and the sorter solution for Polish fashion retailer Best Secret all show how to implement a shared vision. Third-party logistics providers such as Radial, who operate a distribution center for online retailer doTERRA, have also placed their trust in KNAPP as a technology partner.

Opportunities and outlook

In some regions of Central and Eastern Europe, over 80 percent of KNAPP's business over the past three years has been with new customers. Daniel Kusak sees a lot of potential in e-grocery: *"New business models are emerging, such as daily catering, which requires fast delivery and high-quality service. This trend started during the pandemic and is continuing to grow in popularity. Companies that invest in automation early enough are sure to win valuable competitive advantages."*

Central and Eastern European markets present exciting opportunities for growth shaped by digitalization, automation and e-commerce. Our personal commitment and our robust network of subsidiaries accompany local and international companies in successfully implementing their growth strategies as an innovative, competent and reliable partner.



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INTELLIGENTLY INTEGRATED

AeroBot showcases seamless integration of technology, software and service

When it comes to flexibility and scope of application, our new AeroBot storage system is unrivalled. The system's height, rack layout, number of storage locations as well as throughput can be tailored to suit sector requirements and the use case at hand. How is this possible? It's all thanks to the perfect integration of technology, software and service into the whole of the warehouse structure. In the following, we will shine a spotlight on how this integration works and which advantages it delivers.

INTEGRATED INTO THE WAREHOUSE

AeroBot is a great gateway to the world of automation. It's ideal for taking the first steps in automation, but it's just as suitable for expanding existing warehouse capacities. What makes the AeroBot system so special is its simplicity and flexibility, creating a future-proof solution that grows with your business.

Every inch a space organizer

Every warehouse solution is as unique as the building it's integrated into. From inclined walls to irregular floorspace and different ceiling heights, AeroBot works ideally in all these environments. Its racks can be flexibly adapted to the surroundings to use space effectively in warehouses with complex layouts, maximizing use of space and storage density even in buildings that don't feature conventional lines. Thanks to their autonomous navigation capabilities, the smart AeroBot storage robots are ideal for both new buildings and for existing warehouses.

An allrounder from production to e-commerce

Whether you are active in e-commerce, production or wholesale, AeroBot is your go-to system. It supports a number of warehouse processes reliably, from picking to storing stock and overstock to replenishing production lines and buffering orders. Value-added services, quality checks and packing can also be easily integrated, all the while allowing for scalability and future growth. You'll stay agile and will be able to adapt your processes to new market requirements.

Flexible interfaces

The AeroBot system can be combined with any solution from the KNAPP portfolio. Thanks to its flexible construction and intelligently designed interfaces, AeroBot is compatible with almost any current warehouse technology, including goods-to-person picking stations, transfer stations for autonomous mobile robots, robot cells, sorter technologies and overhead conveyor systems. The scope of application creates an end-to-end, highly automated system perfectly tailored to your requirements.

SYSTEM FACTS

System height	Max. system width/length	Maximum load	Load carriers	Number of AeroBots
Up to 12 meters (39 ft)	**Unlimited**	**35 kg (77 lb)**	**Containers, trays**	**Unlimited, at least 1**

INTEGRATED INTO THE SOFTWARE LANDSCAPE

Any automation technology is only as good as its ability to fit into the overall software landscape. With AeroBot, you can be sure that it will fulfill its full potential once it has been seamlessly integrated in an existing or new IT infrastructure. With our two worlds of software, KiSoft and SAP® by KNAPP, we provide suitable solutions for seamless integration. By eliminating unnecessary interfaces, our solutions ensure smooth processes and maximum warehouse efficiency.

KiSoft – the brain of the AeroBot system
Our KiSoft Fleet Control System (FCS) provides AeroBot with the gray cells required for controlling every individual AeroBot and ensuring warehouse tasks are fulfilled. Integration is especially easy in a system landscape mainly driven by KiSoft where KiSoft covers warehouse management as well as warehouse control. For warehouse operators, this means fewer manual interventions, more transparency and a control system that can handle things on its own.

AeroBot meets SAP BTP
To seamlessly integrate the AeroBot system into an SAP® landscape, we have decided to deploy a special app solution, SAP Business Technology Platform (SAP BTP). As a cloud-based innovation platform, it allows you to establish a standardized connection between SAP® and non-SAP® systems and various other solutions – from your own developments to different automation technologies to solutions for data analysis, integration and AI.

The major advantage is that the existing IT infrastructure stays the same; it's just connected in a smart way. The extension is embedded as the KNAPP AeroBot app in SAP BTP so that your SAP® landscape is not burdened with extra code. The app communicates between the AeroBot's KiSoft machine control and the SAP® system using standardized SAP® APIs. Putaway and picking processes are controlled and monitored through the app, which provides a user-friendly interface and dashboards featuring an SAP® Fiori design.

The result: Integration that doesn't affect the existing software architecture, which minimizes risks and accelerates implementation. This makes project planning as well as testing easier, boosting process reliability. By strategically integrating the AeroBot system using SAP BTP and KiSoft, your warehouse processes are interlinked and become intelligent, increasing the transparency, flexibility and innovativeness of your logistics.

The best thing is: It forms the basis for the future integration of smart services. Let the next step of innovation begin!

"By strategically integrating the AeroBot system using SAP BTP and KiSoft, your warehouse processes are interlinked and become intelligent."

Gerald Lassau
Managing Director
KNAPP IT Solutions

SOFTWARE STACK

WMS/WCS functions
KiSoft / SAP® EWM incl. MFS by KNAPP or KNAPP AeroBot app built with SAP BTP

Fleet control
KiSoft FCS as an integrated KiSoft module

Visualization
KiSoft SCADA

Data analysis
KiSoft Analytics

Maintenance management
KiSoft CMMS

INTEGRATED SERVICE CONCEPT

To summarize what we know so far, the AeroBot system can be easily embedded into the existing warehouse thanks to its flexible construction. As your value chain tech partner, we take care of the seamless integration into the software landscape. But what about maintenance? When it comes to servicing, you can rely on the AeroBot system's simplicity too.

Maintenance: straight-forward and simple
The AeroBot system has a servicing platform where maintenance is carried out. The AeroBots find their way to this separate area independently, which facilitates servicing and minimizes impact on ongoing operation. To ensure that maintenance is carried out only when necessary, the AeroBots' conditions are monitored using data coming from the integrated sensors and software.

Any maintenance work that requires humans, such as visual inspections of the wheels and charging contacts, can be carried out by your in-house technicians or by our KNAPP technicians. The recommended maintenance cycles are saved in the maintenance management tool KiSoft CMMS, which provides valuable support during servicing. If wear parts such as wheels, belts or batteries need to be replaced, you can access a spare parts package available at your location. Should the need arise, our technical experts at the KNAPP Service Desk are happy to help around the clock, any time of year.

Real-time monitoring using Remote Control Center
Alternatively, you can embed your AeroBot system and all other KNAPP storage systems into our Remote Control Center (RCC), which provides the following advantages:

- Trained KNAPP experts provide monitoring and support around the clock
- All logistics and technical processes as well as software and hardware are monitored using helpful dashboards, providing comprehensive information
- Deviations are recognized quickly thanks to real-time monitoring
- Downtimes are reduced
- Proactive all-round service

Compared to the reactive services provided by the Service Desk, the RCC team can see what's happening live thanks to real-time monitoring and take quick action where needed. Depending on the size of your warehouse and the complexity of your processes, integrating your KNAPP storage system into our Remote Control Center can save you time and effort. If you have any questions, your account manager is happy to assist.

A NEW DIMENSION OF STORAGE ROBOTICS

The AeroBot system's smart design combined with seamless software integration and simple maintenance reflects our company philosophy of making complexity simple, opening up new dimensions in efficient order fulfillment and setting new standards in warehouse robotics.

MAINTENANCE FACTS

Impact of maintenance on your daily operations
Reduced to a minimum thanks to the separate maintenance platform

Maintenance effort
Regular visual inspections, replacement of wear parts

24/7/365 support
Our Service Desk is happy to assist; alternatively, integration into our Remote Control Center

KNAPP BRAIN: REBOOT YOUR VALUE CHAIN WITH AI

How artificial intelligence adds value to logistics

Until recently, humanoid robots and artificial superintelligence were the stuff of science fiction films, and industrial applications were not yet on the horizon. In recent years, the hype surrounding AI has ballooned, but where does the hype stop and where does the real added value begin? Peter Puchwein, Vice President of Research & Development at KNAPP, talks about what is currently being done with artificial intelligence for value chains, what the applications for the future are and brings us up to date on KNAPP Brain, KNAPP's own AI platform.

What are the challenges and opportunities presented by the use of AI?

Peter: Today, there are AI tools for every stage of life which is of course fantastically impressive, but their genuine value is questionable. From my perspective, this is the real challenge for industrial application – to not see AI as just a cool gimmick. There has to be a clear use case and it has to pay off. When AI is used in a targeted manner you can save costs, run your systems optimally, increase customer satisfaction and much more. Without a clear use case, AI is just a toy.

Is AI really the magic bullet for improving every process?

Peter: (Laughs) Even though we like to think it is, AI is no panacea. A bad process becomes an AI-supported bad process. And anyway, not every process needs AI to function really well. The fundamental question that we ask as a value chain tech partner is: "Where are we going to get real added value when we use a particular technology?" This is the philosophy we apply when it comes to using AI.

Which use cases and processes in the value chain can benefit from AI?

Peter: Right now, we know of four major areas of application: Forecasting – meaning everything to do with making precision predictions of orders and goods flows. The result is more reliable planning, fewer bottlenecks and optimally functioning systems. In order fulfillment, AI increases the output of automated systems. In image processing and in combination with robotics, AI identifies products and calculates packing patterns to improve delivery quality and reduce returns. For the last mile, AI can optimize transport routes and the loads in the delivery vehicles. This reduces costs, lowers the CO_2 footprint and ensures that customers are satisfied. At KNAPP, we use AI-supported applications in all of these areas. These apps form our AI platform, which we call KNAPP Brain.
Furthermore, coding has been developing really well in the past months. We've accomplished a lot and the new models are quite useful for shortening the time needed to develop. We are laser-focused on our work process and using various models efficiently.

What makes KNAPP Brain different?

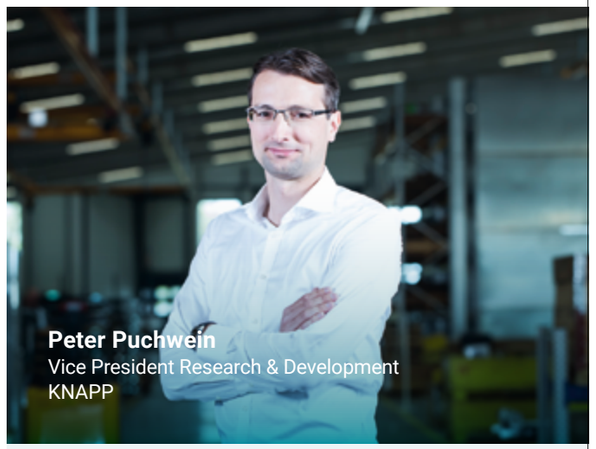
Peter: With KNAPP Brain, we are offering the first AI platform that is specifically tailored to the requirements of value chains. What makes the platform special is that we develop and train our own AI models. Our customers benefit from a high level of independence as well as data security. By using KNAPP Brain, companies' data is more usable and connected to help them make better decisions and design faster, more flexible and more reliable processes.

Where does KNAPP Brain fit in the KNAPP world of software and solutions?

Peter: Right where added value is created. Many parts of our all-in-one logistics software KiSoft use AI from KNAPP Brain, such as KiSoft Analytics or Delivery Management. Order start and slotting also benefit from AI support. AI applications are a permanent part of many of our solutions – for example, our AMRs navigate with the help of AI.

In what specific applications is the KNAPP Brain currently being used?

Peter: Using AI-supported camera systems, we were able to reduce customer complaint rates by more than 60 percent. What this demonstrates is that using AI doesn't have to be complicated or expensive – a small change to the right process is often sufficient. For many years, we have been using AI with our picking robots. Depending on the sector, we can process between 80 and 99 percent of SKUs fully automatically, increasing productivity around the clock. Through intelligent route optimization, company fleets can be reduced on average by 25 percent while increasing the service rate for end customers. With AI, shift schedules can be rapidly and precisely created with ease – all of which saves logistics supervisors time and headaches.



Peter Puchwein
Vice President Research & Development
KNAPP

> " Without a clear use case, AI is just a toy. "

More about
KNAPP Brain

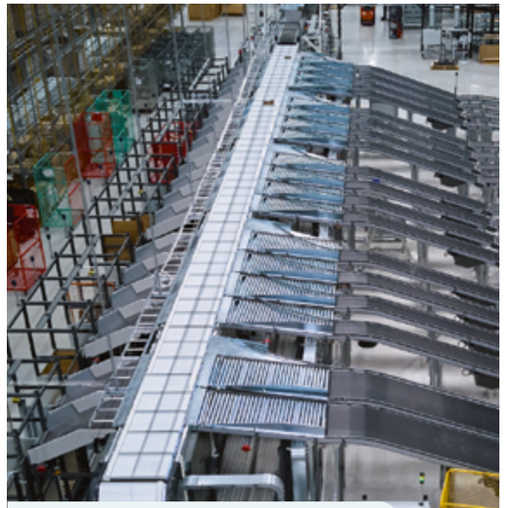
What's your take on the future? How will AI be used in logistics?

Peter: We are only at the start of the journey, that much we know. The technology is rapidly developing, especially in the area of humanoid robots equipped with AI. We are working on exciting applications, for example, on logistics chatbots. In the coming years, AI will be a matter of course in the modern value chain. Our goal is making our KNAPP Brain the best-in-class application for AI in logistics.

A NEW DIMENSION IN SORTING

Intelligent sorting systems for efficient fulfillment

Automated, high-performance sorting systems play a central role in modern material flow systems. Thanks to our precise sorting technology, everything finds its way, whether it's a package, goods or production materials. KNAPP's curated sorter portfolio ensures smooth, high-performance sorting and optimally meets the requirements of e-commerce, pharma, CEP and industry. Whether you sell flat items, a range of mixed goods or clothing articles on hangers, we have the right sorter solution for you.



Find out more about the Push Tray SorterVertical at KICKS here.

VERTICAL PUSH TRAY SORTER – MAXIMUM PERFORMANCE IN THE MINIMUM SPACE

The vertical variant of the push tray sorter provides highest efficiency in a minimum of space. Thanks to the bilateral arrangement of the sorter exits, the solution is ideal for compact layouts as every square meter is optimally used. In just one process step, the machine reliably sorts items with different sizes, weights and characteristics. The innovative technology ensures particularly gentle sorting of mixed items, including delicate items.

> **" The high-speed performance and space-saving design of the vertical push tray sorter gives us a tremendous advantage. "**
>
> **Magnus Persson**
> Site Manager
> KICKS

SPLIT TRAY SORTER – TOP PERFORMANCE IN SORTING

Our split tray sorter is designed to sort flat items such as textiles, books or medicinal products. Its modular design and proven components allow a three-dimensional conveyor layout. The trays open precisely at the target, transferring the items to a container, carton or chute. In order to achieve the highest possible sorting performance with different item sizes, different tray sizes with single or double trays are available.

> **" We are very pleased that the sorter still works as well as it did on day one. "**
>
> **Gérald Le Boulaire**
> Warehouse Manager
> Celio



CROSS BELT SORTER – MAXIMUM RELIABILITY FOR COMPLEX DEMANDS

The cross belt sorter is the future-proof technology for modern logistics processes with a wide range of items and increasing requirements for speed and precision. The layout of the modular system can be designed extremely flexibly in three dimensions, with inclines, declines and curves on both sides. The sorter can also be seamlessly integrated in various building layouts to provide scalable and powerful sorting.



AUTOPOCKET – HIGH-SPEED SORTING WITH BUFFERING

The innovative AutoPocket system revolutionizes sorting and sequencing processes all along the value chain. AutoPocket precisely and automatically releases items at full speed, which opens new opportunities for the precise, efficient automation of logistics processes. Whether used in goods-in, e-commerce fulfillment or shipping logistics, AutoPocket offers a modular, scalable solution that can be tailored to your individual requirements.



THE STAR PLAYER IN YOUR WAREHOUSE

Sign Work Scheduler to your team
for top-tier performance with intelligent order release

What do the Super Bowl, the Champions League and the Alpine Ski World Cup have in common? Those who go home with a trophy have laser focus, perform well under pressure and can adapt quickly. To reach their goals, top athletes analyze their performance data, tailor their training, and adapt their strategies in real time. Work Scheduler does the same thing for logistics, functioning as a top-class playmaker leading the team to the win.

COORDINATING COMPLEX PROCESSES

In a logistics center, thousands of orders go through various stations such as goods-in, picking, packing and shipping. Each station has limited capacity and a specific performance level. The warehouse manager needs to balance available personnel, the condition of machines and changing priorities, just like a coach balances players' skills and endurance.

A conventional warehouse system usually releases orders according to rigid predefined criteria, such as time slots or station capacity. But that's like substituting players at random, without considering who is exhausted and who is fresh, or how the game is going – it's just not a good strategy.

TACTICAL GAMEPLAY: INTELLIGENT ORDER RELEASE

Work Scheduler boasts tactics that are aiming for gold. Responding to the current situation, the application uses real-time data, AI-powered simulations and continuous learning to release orders in the perfect sequence. To balance the workload, Work Scheduler juggles varying processing times per station, employees' skills and workload, machine servicing requirements, as well as order priorities and shipping deadlines. Work Scheduler is your strategic playmaker in the warehouse, adapting and responding dynamically to every situation, ensuring top performance right to the final whistle.

A TRAINING CAMP FOR YOUR PROCESSES

Athletes boost their skills by using performance tracking devices, getting feedback from coaches and practicing their moves over and over to perfect them. Work Scheduler does the same in automated or semi-automated warehouse environments with complex processes determined by cycle times and technical interdependencies. The application synchronizes the work of humans and machines, using AI-powered simulation to learn from various cues. The system learns continuously, becoming faster and more precise.

- ✚ Detailed process data
- ✚ Availability and performance of machines and employees
- ✚ Incoming order data

PROVEN STRATEGY FOR SUCCESS

The results speak for themselves: Order release is automated – the warehouse manager can monitor the process but no longer needs to intervene. With resource use optimized and the system responding to changes in real time, critical bottlenecks are a thing of the past. Processes are completed faster, making lead times shorter. As your flexible, efficient and strategy-smart playmaker, Work Scheduler straightens out complex processes with transparency, agility and intelligence. Whether your game is manual warehouses or fully automated systems, Work Scheduler will help your team win.

WORK SCHEDULER: SMART OVERSIGHT FOR EXISTING WMS/WCS SYSTEMS

Continuous analysis and simulation
Monitors all warehouse processes in real time

Decisions supported by AI
Optimizes every action

Self-learning
Improves and learns continuously

OUR SOFTWARE. YOUR OPPORTUNITIES.

KiSoft connect: Partner program with potential

Smart software is the driver of modern logistics. The partner program **KiSoft connect** opens KNAPP's proven software portfolio to selected integrator businesses and customers and creates new ways of working together. Whether a startup or an established business, partners are granted access to the powerful **KiSoft software suite** of products and benefit from training courses, certificates and direct support without the need for their own product development.

WHY BECOME A KISOFT CONNECT PARTNER?

KiSoft connect combines technological excellence and entrepreneurial freedom. KiSoft connect partners can independently market and implement the software. Customers with their own IT resources can extend existing installations or independently equip new locations. This creates new business models and digital services along the entire value chain.
Three partners demonstrate the program benefits:

Kypse Solutions in Panama, Threelogi in Türkiye and Veeloo Logistics in the Netherlands use their market expertise and networks to ideally make use of the benefits our technology has to offer. This arrangement allows for easy-to-implement solutions and enables partners to fulfill the region's specific requirements.

With KiSoft connect, software becomes a strategic resource. Become a software partner now!

KiSoft connect

> " The KiSoft connect partnership enables us to use the high standards of the software and offer the best service for our customers. "
>
> **Mauricio Rojas**
> CEO
> Kypse Solutions S.A.

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