Integrated Intelligence

knapp.com

**Shaping the
value chains of the future**

LogiMAT 2022
May 31 to June 2, 2022
Hall 3, Stand B05
Stuttgart

#ValueChainTechPartner

Contents

Scan here to see what our technologies can do when tailored to your value chain.

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

In the past two years, we all have been very busy tackling the impact of the COVID-19 pandemic. Just as we thought there might be a light at the end of the pandemic tunnel, the crisis in Ukraine is bringing new challenges on an unprecedented scale. The humanitarian side is the most pressing one, but the impact on global supply chains is also very concerning. Prices for raw materials and energy are skyrocketing, many components are hard to come by and transport capacities are limited.

To stay successful in light of these events, we have to find alternatives quickly, find new ways to adapt and address these challenges with novel, intelligent approaches. *Intelligence* is commonly defined as the ability to use all the means and capabilities available to solve a problem. Despite the definition's simplicity, if we apply it to the notion of *intelligent* value chains of the future, which adapt to fundamental changes flexibly and handle disruptions successfully, one thing becomes clear: To overcome these challenges in an environment that continues to be volatile, companies will have to take action.

Without a doubt, increasing the level of automation will play a decisive role in this. The demands for ever greater speed and efficiency paired with the current problematic labor market make automation the only option. For automation technology to generate the desired results, however, it needs to be infused with intelligent software. The software landscape must be future-oriented, covering all aspects of machine learning and artificial intelligence to be able to process and use the data generated in the automation and digitalization processes.

Using this data not only includes updating the applied algorithms continually, but also preparing the data appropriately for the user. Today's users belong to a new generation that expects the interaction with the systems in their workplace to be more intuitive – far more than ever before. Only if the systems fulfill the users' expectations, and only if the data is provided in a way that helps them make the right, smart decisions anywhere along the value chain, can the desired results be achieved, supporting crisis-proof business models. Our primary goal is to take all these aspects into account and translate them into solutions that will contribute to your success. In this issue of *World of Solutions*, we provide interesting examples of how we incorporate *integrated intelligence* in our partnerships and present new, exciting technology.

The spectrum includes our latest generation of AI-equipped Open Shuttles – marking a shift away from the goods-to-person principle towards a *goods-to-robot* process – and RUNPICK, our robot automating order picking and palletizing for deliveries to supermarkets. Also part of this issue: KiSoft Analytics and KiSoft Genomix, our effective software tools that help you generate and process the right data in a smart way, as well as redPILOT, our optimization software that keeps your ongoing operations in optimal shape.

We hope to see you in person more often from now on and are looking forward to talking to you about how we can work together to develop solutions that are even more intelligent. We also hope to see you at our stand at the LogiMAT in Stuttgart,
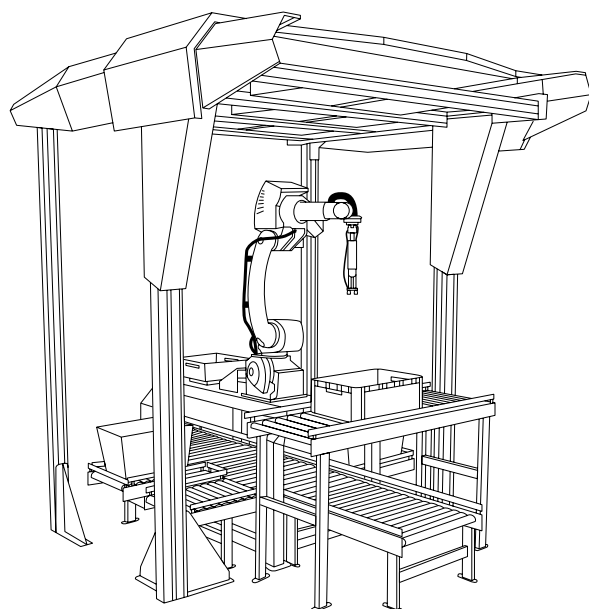
Heimo Robosch
Executive Vice President
KNAPP AG

In the Spotlight

Pick-it-Easy Robot

The industrial-grade solution Pick-it-Easy Robot is an intelligent, fully automatic robot station for order picking and loading pockets. Equipped with various grippers as well as AI-based object and grip point identification software, the Pick-it-Easy Robot can handle a broad article range, for many applications in diverse sectors.

Intelligence
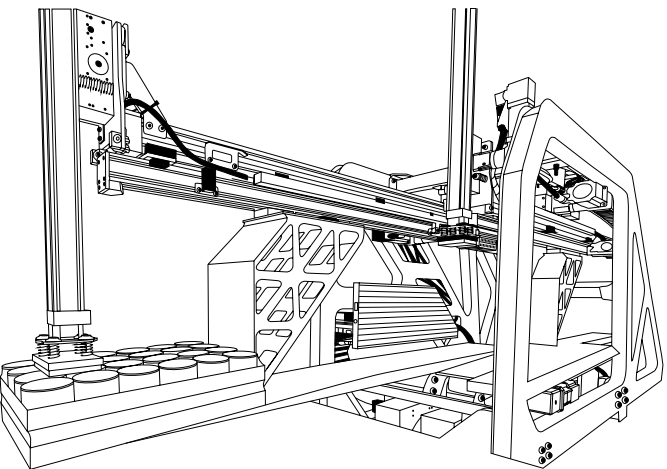The system continues to learn using AI and cloud computing for systematic, gentle handling of items

Integration
It's an intelligent, complete system, fulfilling the highest safety standards, with retrofits into existing systems possible

Performance
You get maximum performance and quality, high system availability, a proven industrial solution and 24/7 service worldwide

Video tip
Pick-it-Easy Robot

Open Shuttle Fork

The Open Shuttle Fork is the newest member of our autonomous mobile robot family. This omnidirectional robot transports pallets independently to any location in the warehouse.

Saves space
- Space-effective design, 3D obstacle detection, omnidirectional vehicle

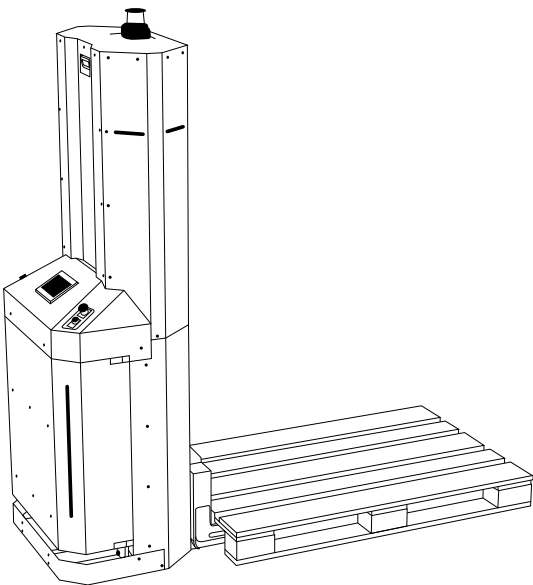**Smart control system**
- Intelligent management of transport resources, order management and smart, deterministic path planning
- Management of warehouse layout, processes and fleet thanks to KiSoft FCS (Fleet Control System)
- Easy to integrate, even into fleets with vehicles from different manufacturers

Easy to operate
- Simulation environment for the customer
- Rental model for scaling up

Recommended reading:
Würth Industrie Service

RUNPICK

Specially developed for food retail, RUNPICK fully automatically picks and palletizes cases for brick and mortar retail. As an all-in-one solution, RUNPICK brings together higher throughput, shorter order transit times and flexibility in response to changes in food retail.

Performance
- Higher performance thanks to multiple case picking
- Combine different cases in one cycle
- Easy system expansion

Scalability
- Store-specific picking
- Scalable and modular solution
- Selectable picking criteria

Reliability
- Reduces personnel costs
- No physical strain on employees

Video tip
RUNPICK

Apostore

Apostore dispensing systems can be precisely configured to the available space and the storage and throughput capacities. When the time comes, they can be expanded as needed.

Smart
- Gripper technology
- Parts generate little to no heat
- Greenline Technology

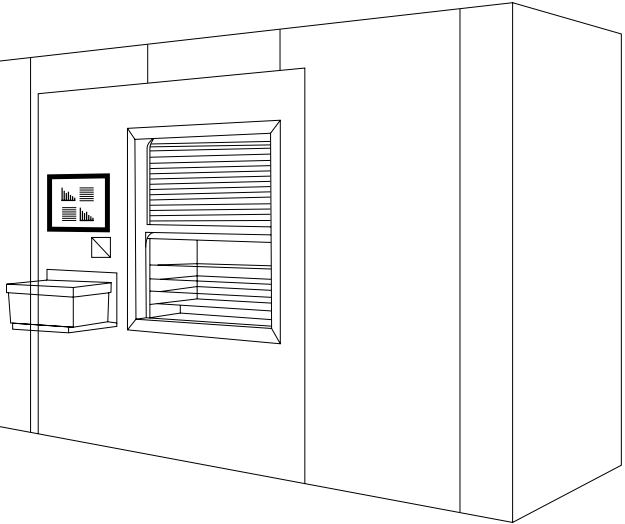**Durable**
- High-quality industry components
- Spare parts supply guaranteed
- General overhaul during ongoing operation possible
- 400 V system technology

Customized
- Higher storage capacity in the same floorspace
- Placement in the basement or on top floor is possible
- Eliminates overstock storage in warehouse and basement spaces

Recommended reading:
Apostore

Logistics Needs Hearts and Brains

Success thanks to integrated value chains

We are connecting the world, and our technologies stand behind the thriving value chains of many companies. With our passion, innovative spirit, industry expertise and strategic foresight, we create successful solutions for our customers. Hearts and brains is a metaphor that not only describes our passion and expertise for logistics, but also the function of the hardware and software in our solutions. It stands for *integrated intelligence*. This refers to the perfect interplay between automation technology and software intelligence for optimal processes.

Production

Open Shuttle Store – a new storage system offering high flexibility

The demand for automated storage systems in production companies is definitely on the upswing. In existing production companies especially, limitations on space and height are common. For companies involved in production, intense time and cost pressures only aggravate the situation. Our new storage solution Open Shuttle Store is especially designed for the requirements of production. With a standardized system design, the Open Shuttle Store can be ideally adapted to available space and is ready for operation in a very short time.

- **Rapid availability** within 3–6 months; flexible space requirements
- **Autonomous mobile robots** increase efficiency and quality
- **Low infrastructure requirements** thanks to the standardized design
- **Reduced risk in live operation** as modifications can be simulated first

Intelligent fleet management using KiSoft FCS

Autonomous mobile robots (AMR) are a key feature of the Open Shuttle Store. They automate the rack system, store and retrieve goods and transfer containers to any work zone, such as work stations and conveyors. However, brains are needed so the flexible AMRs know what to do and where to go. The KiSoft FCS software provides the necessary intelligence. Only a few clicks of the mouse are needed to create and change individual routes. In simulations, the effects on operation can be tested without risks. System performance is easily tailored to requirements through the number of robots used – more robots, more performance.

A breath of fresh air for production processes.
Open Shuttle Store and KiSoft FCS bring higher flexibility, efficiency and quality to production processes.

Distribution

Smart automation technology for dynamic order fulfillment

For years, the order volumes in online retail have been significantly rising. Furthermore, annually occurring peaks such as Black Friday or Valentine's Day must be planned for and successfully managed. Changes to the collection, flash sales or sudden changes in shopping behavior such as during the pandemic additionally increase the demand on the system. Innovative automation technology allows dynamic order fulfillment and gives online and fashion retailers the performance and flexibility they need in their logistics processes. By combining a fast, automatic storage system, goods-to-robot picking, dynamic pocket sorters with pockets that open automatically and ergonomic goods-to-person work stations, orders can be processed in record speed and to the highest quality, leading to satisfied customers and employees.

OSR Shuttle™ Evo
High-performance automated storage system; all goods are stored in the same way, no ABC analyses required

Pick-it-Easy Robot
Robot picking station using artificial intelligence; ideal for handling item ranges that change quickly

AutoPocket
New generation of sorter pocket; automatic transfer to targets without performance loss

Pick-it-Easy
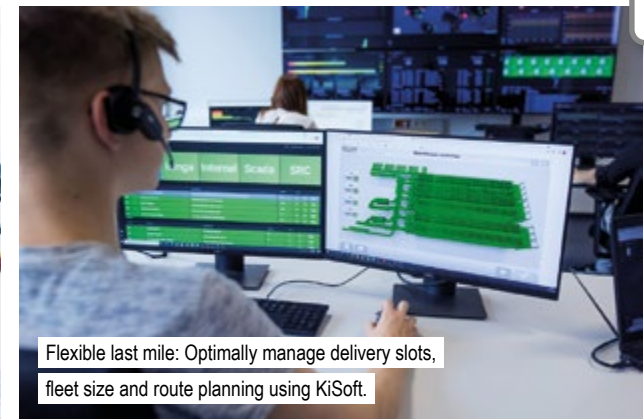Ergonomic goods-to-person picking; efficient workflows; intuitive user guidance

KiSoft & KiSoft Analytics
Intelligent end-to-end software for machine control, warehouse control and warehouse management. Decisions are made based on data.

Great performance and flexibility in online retail with the OSR Shuttle™ Evo.

Customized strategy for online retail: short delivery times, perfect quality, maximum profitability with E-Grocer.

Flexible last mile: Optimally manage delivery slots, fleet size and route planning using KiSoft.

Ideal for e-commerce fulfillment and textile logistics.
High performance and optimal operation at all times. Gain foresight and master the peaks with data logistics.

Keep track of what's going on across all levels with KiSoft

Data and digitalization play a very important role in our value chains: Every step of the logistics chain creates data in every second. This data is a gold mine and is used to optimally control goods flows and plan in advance, with a positive outcome on the profit margin. Our software KiSoft is in charge of controlling, monitoring and optimizing all processes and procedures in a warehouse, vertically integrating it all. Furthermore, the versatile KiSoft software uses information from every link in the value chain providing horizontal integration. The result: The perfect use of data to ensure the perfect flow of goods. The business intelligence tool KiSoft Analytics makes the most of the available data and offers clear dashboards and KPIs.

Find out more about our technology portfolio

Last mile & store automation

E-Grocer – intelligent automation for online food retail

E-commerce also plays an important role in food retail. More and more consumers are buying their groceries online and expect a wide selection, perfect service and flexible solutions for the last mile. Our product E-Grocer offers online food retailers a range of different tailored solutions for processing online orders. These cover the entire food network and can be adapted according to the e-commerce strategy and the area to be supplied. Food retail processes can be optimized and brought up to speed using intelligent combinations of proven technologies. For example, the OSR Shuttle™ Evo can be combined with Pick-it-Easy work stations or with innovative robot solutions such as the Open Shuttle or a Pick-it-Easy Robot. Innovative software packages provide a harmonious and systematic interplay between all the components.

- Made-to-order solutions for each e-commerce strategy
- Ideal planning and sequencing ensure the cold chain is maintained
- Flexibility and profitability
- Semi- and fully automatic solution concepts
- Short delivery times thanks to fast order fulfillment
- Picking perfectly coordinated with departure times

From the last mile to the fast mile.
Efficient order fulfillment for fast delivery to the consumer's doorstep with E-Grocer and KiSoft.

Optimal route planning with KiSoft

Flexible last mile concepts are a central element of every online fulfillment strategy. There is a variety of models for home delivery, collection from a pick-up point or in-store pickup. The software for intelligent route planning considers different parameters in the supply of the ordered goods such as delivery time windows, size of the fleet and efficient route planning. The system retrieves the orders in a defined sequence so the goods can be brought to the end customer in a timely and cost-effective way.

Our e-commerce solutions

Central Belt System:
Complete automatic picking solution for high throughput

Pocket sorter system: e-commerce solution for processing orders and making returns available for resale at top speed

The KNAPP ABCs of Logistics

A primer on technical logistics terminology

The ABCs of logistics cover it all: Central Belt System, lifecycle management, retrofit and X- or cross-docking. We explain terms from the complex world of value chains and illustrate them using pictures. No query is left behind!

Automation
The aim of automation, for example in a warehouse, is to make repetitive tasks more efficient using technology, thereby relieving strain on employees and increasing productivity. This can be achieved by combining intelligent technologies, such as automated warehouse systems, robots with AI, pocket sorter systems and automatic picking systems, and the right software solution.

Batch picking
Order picking method in which a warehouse worker picks several items of the same SKU for multiple orders at the same time. The items are later consolidated for the individual final customer orders in a central work zone. Our semi-automatic solutions use Pick-to-Light or Put-to-Light technologies as well as voice-directed picking to assist employees during picking.

Central Belt System
The Central Belt System is an all-in-one solution for automatic item picking which is typically used in pharmaceutical wholesale and in the cosmetics retail sector. The solution is especially suited for high throughputs and high delivery quality. By the way, our company founder, Günter Knapp, invented the first automatic picking machine and precursor of the Central Belt System.

Decanting
Decanting refers to the process of repacking goods into storage containers in the goods-in area before the containers are put away in a storage system such as the OSR Shuttle™ Evo. Repacking is carried out either by hand or automatically using our Pick-it-Easy Robot.

E-commerce fulfillment
The logistics for e-commerce retailers are often very complex. In a warehouse, it's important to bring order to the chaos. The pocket sorter system is the perfect solution. It transports hanging as well as flat-packed goods as single items in a system and allows fast handling of a large number of customer purchase orders and returns.

FIFO
Stands for First In, First Out, meaning that items that are stored first are retrieved first. This principle is mainly used in the food retail and pharmaceutical sector, where items have a date mark.

Global Trade Item Number (GTIN)
Formerly known as the European Article Number (EAN), the Global Trade Item Number is a globally unique identification number used to label articles. It is often equated with the bar code.

Healthcare
Together with fashion, retail, food retail, wholesale and industry, healthcare is one of our core business areas. This is where our roots lie. We initially gained our expertise in single-item picking in this sector. Today, we provide technology and support to more than 1,400 pharma companies along their value chains.

Italy
The first KNAPP subsidiary abroad was founded in Italy in the 1990s. In the meantime, we now have 53 sites and more than 6,000 employees all around the world providing the best service to our customers.
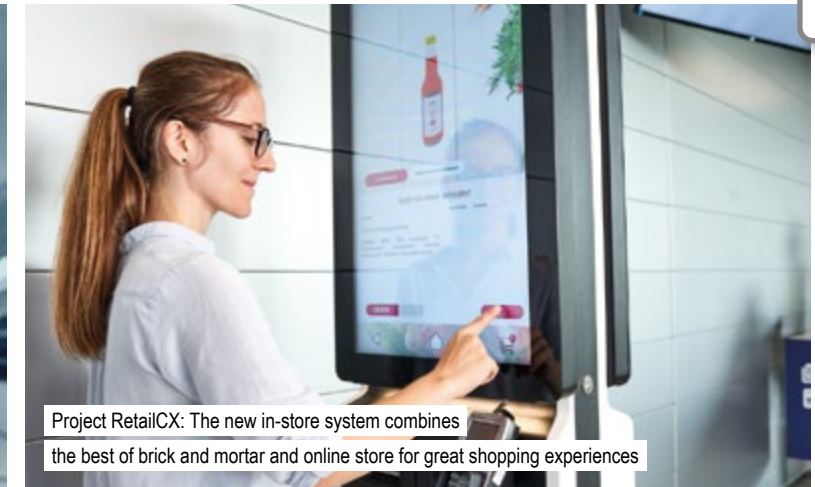
KiSoft: All-in-one logistics software covering warehouse management, warehouse control and machine control

Lifecycle management: Continuous adaptation, optimization and modernization of existing systems and services.

Pick-it-Easy Robot: Our fully automatic picking robot infused with artificial intelligence grips various articles reliably

Project RetailCX: The new in-store system combines the best of brick and mortar and online store for great shopping experiences

Just in time delivery

Just in time delivery is the delivery of goods at a pre-arranged time to be used in production precisely when they are needed without being stored beforehand. By this, producing companies can greatly reduce their own warehouse stock.

KiSoft

Thanks to the logistics software KiSoft, KNAPP can provide tailor-made software solutions for all business processes. KiSoft doesn't just cover vertical integration, such as machine control, warehouse control and warehouse management. It also makes horizontal integration possible along the entire value chain, all the way to the point of sale or end customer and all supported with analytics and transport management.

Life cycle management

This means ongoing support for our customers' installations. We document the life cycle of the installed components by actively monitoring the KNAPP systems and keep our customers up to date. To meet new requirements, we adapt and optimize existing systems and services. This type of agile partnership ensures the long-term success for our customers.

making complexity simple

We make meeting the complex demands of value chains easy using digitalization and intelligent automation. *making complexity simple* is more than a slogan, it's part of our philosophy and guides us in all our activities.

Network

Intelligent end-to-end networks ranging from production to distribution right up to the end customer create new ways of interacting with customers and new opportunities for profitability. Smart technologies and processes will be the critical factors in making this success possible.

OSR Shuttle™ Evo

Our Order Storage & Retrieval system, an automated storage and picking system, has forever changed the face of intralogistics. The first OSR was put into operation in 2002. Initially scoffed at, it soon became state of the art. Shuttle systems are ideal for extremely high throughputs and bring new energy and ideas to order fulfillment

Pick-it-Easy Robot

Our picking robot can be used in a variety of industries. Using its artificial intelligence, the Pick-it-Easy Robot is able to see and grip items (almost) like a human, so it can handle a broad item range gently and reliably, including items wrapped in film, glass bottles and floppy items such as socks.

Quality assurance

No more production errors. Within a fraction of a second, the ivii.smartdesk checks each work step, thus ensuring that everything is done properly. Even better than the human eye, digital vision allows the ivii.smartdesk to detect the smallest deviations as the system learns what the ideal looks like. Employees receive prompt feedback and can work confidently, knowing that they haven't made any mistakes

Retrofit

Retrofit is more than just the replacement of outdated components and installing technological innovations: We make our customer's installations fit for the future. Besides the modernization through upgrades for mechatronics and software, it's also important to closely re-examine the system design. When based on the customer's current and future business requirements, a retrofit ensures maximum sustainability and performance.

(Open) Shuttle

The autonomous mobile robots connect different areas within facilities quickly and efficiently, bringing goods, raw materials and components to where they need to be. This way, every work station can access every item in the central storage system, including work stations located at a distance and temporary work areas.

Twenty-four/seven (24/7)

Shop around the clock – this service is rapidly gaining value among consumers. Our solution for this is RetailCX. Central to this solution is an automated picking system that handles the extensive range of items intelligently, storing them securely in minimal space.

Usability

Usability is important to us. The graphical user interfaces of our KNAPP software are designed according to our easyUse concept, allowing ultramodern human-machine communication. easyUse quickly guides the user through the individual work steps in an error-free process. Uniform colors, simple symbols and precise instructions raise the quality in order processing for motivated and satisfied employees.

Value chain tech partner

This is the kind of partner we want to be for you. A strong partner for the long run who provides you with the right technologies for digitization, digitalization and automation, and who links all steps of your value chain in a profitable way so your business can continue to grow.

Weighing technology

Weight, width, length and height are important master data and form the basis for smooth logistics processes. With the automatic and reliable capture of dimension (height, width, length) and weight data, KHT MultiScan delivers the master data essential to optimizing supply chains at the push of a button.

X- or cross-docking

Cross-docking describes a way of moving goods. The goods are not stored in the warehouse but are moved directly from receiving to shipping and on to the end customer. When being used successfully, it reduces costs in the warehouse.

Yard management

Yard management represents the bridge between transport and warehouse logistics. It comprises all measures and methods used for the cost- and time-optimized control of activities on the plant premises. This includes both company-owned and third-party vehicles.

zero defect

KNAPP has a zero defect philosophy, which means that we promote quality control and corrections directly in the processes themselves. The core technology in a zero defect warehouse is the intelligent image recognition and image processing system.

It's rapidly available, scales up easily and you can change your layout in a snap.

The AMRs travel with two robotic load-handling devices, called Sat Bots. These nimble little robots dash on and off the AMR to store and retrieve containers.

Intelligent and Dynamic Storage

The right technology for every requirement

The storage system is the heart of every logistics system. No matter what the requirements are, KNAPP has the right solution at hand. Our portfolio includes solutions for raw material warehouses in production supply, distribution centers for retail, small, automated 24/7 supply systems for both green and brown field projects and more.

Open Shuttle Store — the right choice when time is of the essence

What if you need an automated storage solution urgently, and one that is simple and scalable in design? Our answer for this problem is the Open Shuttle Store.

The latest addition to our storage systems

The Open Shuttle Store is a cost-efficient, automated storage solution for low to medium throughput, which – thanks to its high level of standardization – is quickly available, scalable and can be integrated into virtually any warehouse. For storage, the system includes Store Units, which are rack modules that can easily be installed in existing buildings and arranged as needed. Autonomous mobile robots (AMRs), called Store Bots, navigate in between the Store Units, storing and retrieving containers at the different levels of the Store Units. Two load-handling devices on the Store Bots rapidly move containers in and out of their storage locations. The Store Bots transport the required containers to transfer points, called Exchange Stations, where they receive further processing, either manually or automatically.

Implementing an automated system can be difficult not only because of ever-changing demands, structural limitations in existing buildings, but also because of cost and time pressure. With the Open Shuttle Store, we address the difficulties in two ways:

1. A simple product for speedy implementation

First and foremost, our Open Shuttle Store is a complete stand-alone storage system. Configuring your warehouse is fast and easy: simply pick and choose the right mix of Store Units, Store Bots and Exchange Stations. Use the system to supply your work stations. The system requires a ceiling height of only four meters (13.12 ft). Your warehouse will be ready for operation within just three to six months.

2. A customized solution connected to the automated system

Do you want to incorporate the new storage system into your overall warehouse system and automatically supply your work stations? You can easily achieve this by combining the Open Shuttle Store with conveyors and work stations or autonomous mobile robots. Customized solutions can be implemented as well, but they require a little more time.

Create your own scalable system

The system can be easily controlled using the KiSoft One and KiSoft FCS software tools. With just a few clicks, you can make changes to your processes and layout. The simulation feature means you can test how these changes affect your system in advance. This is a fool-proof way to adapt your warehouse to new demands.

OSR Shuttle™ Evo — efficient order fulfillment can be so easy

As a hub for automated processes, our automated storage system OSR Shuttle™ Evo gives you easy and flexible order fulfillment in next to no time.

Storing all goods in the same way for more flexibility

Are you racking your brains in the goods-in area trying to figure out where to store your goods? Scrap the ABC analyses. In the central OSR Shuttle™ Evo storage block, all goods are stored in the same way with stock and overstock all in one system. Containers, trays and cartons with loads weighing up to 50 kg (110.23 lb) can be stored multi-deep in the system. With the intelligent KiSoft software, you always have a complete overview of your stock, and with all the data at hand your delivery processes become faster.

Smart and fast processes

Fast delivery in online retail is crucial for customer satisfaction. The special design of the OSR Shuttle™ Evo means fast order processing. Every work station connected to the shuttle system has access to every item in the system. This gives you maximum flexibility and efficiency in order processing.

Think big to achieve profitable growth

Make the best of your available space when building your system. The OSR Shuttle™ Evo is scalable both in length and width and can be more than 30 m (98.43 ft) high. What's more, the OSR Shuttle™ Evo can be expanded simply by adding more shuttles or rack line systems.

Our systems are operating reliably worldwide

The OSR Shuttle™ Evo is characterized by reliability and versatility. Across the globe, more than 450 systems are in operation at companies in various industries. Even under extreme conditions, the shuttle system performs well – whether at 40°C (104°F) in a coastal climate, in deep-freeze applications at -28°C (-18.4°F) or in earthquake prone areas – thanks to the high-quality and stable design including a fire protection concept, the system can be implemented virtually anywhere.
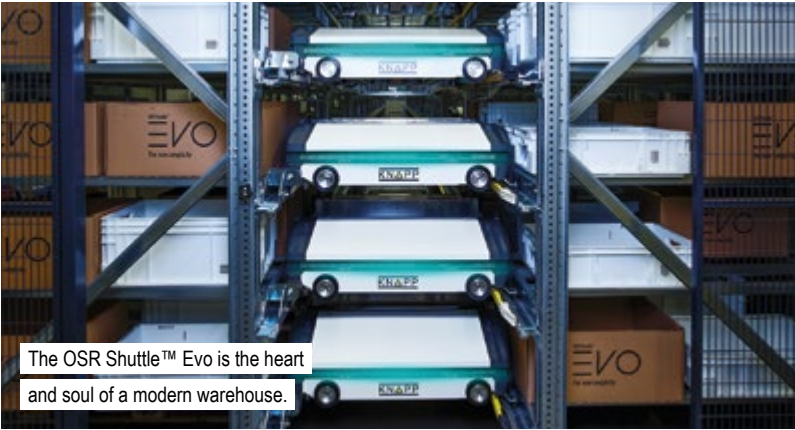
The OSR Shuttle™ Evo is the heart and soul of a modern warehouse.

The Open Shuttles form the link between the storage system and temporary or other kinds of work stations, no matter where these are located.

OSR Shuttle™ Evo+ combined with autonomous mobile robots for more flexibility

Order peaks on Black Friday, micro fulfillment in online food retail or integrated production? We have an answer. Our system solution, the OSR Shuttle™ Evo+, combines an automatic storage system, autonomous mobile robots and intelligent software. To cover peak loads, for instance before Christmas, the warehouse can be expanded by temporary work stations. Our autonomous mobile robots handle transport orders and supply the work stations with goods from the OSR Shuttle™ Evo. During off-peak times, the Open Shuttles can be used for special and urgent transport jobs, returns handling, value-added services or quality checks.
Another challenge facing manufacturing business is the high level of customization in production. Now more than ever, it's vital to be able to connect production cells and processes flexibly. Raw materials and other materials are centrally stored in the OSR Shuttle™ Evo+ and brought to production cells by the Open Shuttles. The Open Shuttles then bring semi-finished or finished products back to the OSR Shuttle™ Evo+ for temporary storage.

Space-efficient storage and efficient handling of small items in the INDU-Store.

The INDU-Store is the ideal storage solution for jewelry production. The storage and sequenced retrieval of small items is no problem.

INDU-Store — intelligent storage item by item

Are you in need of a storage solution that efficiently stores and handles a wide range of single items securely and space-effectively? Then the INDU-Store might be just what you are looking for.

How can we manage our stock more efficiently?

The challenges for efficient stock management are considerable. The warehouse is bursting at the seams und there's not enough floor space for value-added services. Due to manual picking, time spent for searching and booking goods and the like, personnel costs are going through the roof. Additional problems include inventory shortages and discrepancies, and process or shipping delays due to unavailable production material. Businesses that are particularly affected by these problems are manufacturers handling small products and brick and mortar retailers who keep stock in their back rooms, such as watch retailers, jewelers with workshops or electronics manufacturers.

Stand-alone warehouse or part of an overall solution

The INDU-Store can be used either as a stand-alone storage solution or simply be integrated in existing warehouse structures. At a work station connected to the system, the orders are picked, packed and labeled. The INDU-Store can also be combined with upstream or downstream processes, thereby forming part of an overall solution.

Integration into the automated processes of watch and jewelry production

In the manufacturing of jewelry, very small products must be handled reliably. These items are often located in different types of containers of different dimensions. In jewelry production, the sequenced supply of parts also plays an important role. All this is possible with the INDU-Store. For optimal manufacturing processes and balancing peak loads, several INDU-Stores can be filled with different products or parts and integrated with each other.

Automatic retrieval of tools and consumable goods

Without requiring any human intervention, the INDU-Store automatically retrieves tools and supply materials for employees around the clock in a controlled fashion. The interface to the WMS allows you to continually check your stock and reorder goods in good time. There is no waiting time for the employee and the space required is noticeably reduced as the items are stored in minimal space.

Robotics Review
Successful tech teams

KNAPP offers their customers a wide selection of robot technology for the different processes along the value chain. By combining multiple robotic system solutions and components to form smart tech teams, we broaden the scope of application for robots. Equipped with our tech teams, your warehouse processes are economical and productive. Find out in this section which robots hit it off right from the start.

RUNPICK is a system specifically developed for food retail.

Our OSR Shuttle™ Evo is part of our RUNPICK solution.

KiSoft Pack Master calculates the optimal packing pattern.

A congenial companion: Pick-it-Easy Robot

Pick-it-Easy Robot is the right choice not only for automatic single-item picking but also if items need to be moved from pre-picked batch containers to overhead or sorting systems. This reliable robot station skilfully handles a broad range of items with different features thanks to its various grippers, AI-based object recognition and grip point determination.

Dream team – PiE Robot and Pocket Sorter

Combining the Pick-it-Easy Robot with our powerful pocket sorter system results in an efficient solution for omnichannel applications, especially in the fashion and retail sectors. The Pick-it-Easy Robot fills sorter pockets fully automatically, opening up new avenues in the design of intralogistics processes. The combination of this AI-controlled robot, fast pocket sorter system and efficient storage system translates into a cutting-edge automation solution for e-commerce and omnichannel fulfillment. The benefits for customers are obvious: With this tech team, you can handle a wide range of goods,

automatically identify codes, ensure high performance 24/7 all year round, and have lower costs including reduced error costs.

In action at GXO Logistics

The newest generation of robot station is running at GXO Logistics, one of the world's largest logistics service providers.

"Our goal is to offer our customers ground-breaking technologies to help them gain a competitive edge in logistics and e-commerce fulfillment. We are excited to use the first Pick-it-Easy Robot for fashion logistics in our warehouse in the Netherlands," says Mauro Ungheretti, Managing Director Netherlands, Belgium and Germany, GXO Logistics.

🔗 Recommended reading: Pick-it-Easy Robot

Keeping the flow of foods running: RUNPICK and comrades

RUNPICK, our Robotic Universal Picker specially developed for food retail, processes and palletizes large handling units fully automatically. The big advantage that RUNPICK offers is that it can handle a variety of packaging types, processing them fast and efficiently by picking multiple items at once. This significantly increases performance compared to existing systems.

The scalable and modular system also adapts its performance flexibly to future growth and market demands. As an all-in-one solution, RUNPICK brings together higher throughput, shorter order transit times and adaptability to changes in food retail. What's more, the system takes the strain off employees and can be easily expanded if necessary.

The golden trio: RUNPICK + OSR Shuttle™ Evo + KiSoft Pack Master

Thanks to an intelligent packing algorithm, selectable picking criteria and the ability to handle different pack unit types, RUNPICK is an ace at store-friendly delivery. But what would the robot do without its software partner's perfect support? Infused with KiSoft Pack Master, the robot calculates the ideal stacking pattern as early as during goods-in. Our central picking and storage system, the OSR Shuttle™ Evo, retrieves the handling

units in the sequence calculated by KiSoft Pack Master. Optimally supplied with handling units, the robot knows exactly where to place each item on the pallet or in the roll container.

The Kroger Co. modernized

The largest US food retailer The Kroger Co. decided to expand its Great Lakes Distribution Center in Delaware, Ohio, to ensure the efficient and fast supply of the stores in the region. Two of our innovative technologies, the OSR Shuttle™ Evo and RUNPICK, play an integral role in the expansion.

"We felt like not only were we buying today's automation and one of the best partners out there, but we were also buying into a roadmap and a future that allows us to leverage this major capital investment for years and years and years to come," says Zach Riggs, Director of Fulfillment, Pickup Strategy & Product Manager, Kroger.

🔗 Video tip RUNPICK

With the Open Shuttle Fork, automated pallet transport is as easy as ABC.

In a fully automatic process, two robots place small load carriers on shipping pallets in the right sequence.
Open Shuttle Fork takes care of pallet transport.

Feeder OCR makes it possible to fully automatically store medicines in the Apostore.

Products can also be stored in the Apostore semi-automatically through an opening.

Apostore dispenses the desired medicines fully automatically.

Thanks to automated processes, the pharmacy team has more time to devote to customers and carry out other value-generating tasks.

Making pallet transport as easy as ABC:
Open Shuttle Fork plays on a powerful team

With our newest autonomous mobile robot, the Open Shuttle Fork, automated pallet transport is super easy. The Open Shuttle Fork has many advantages. It carries out transport orders quickly, uses little space, has numerous functions and many different applications.

An omni-potent team: our intelligent technologies cover everything from goods-in to goods-out

Our Open Shuttle Fork is suitable for any application involving the transport of pallets around the warehouse. The autonomous mobile robot can move pallets from the goods-in area to software-aided work stations and is ideal for combined use with palletizing robots and automated high-bay racking systems.
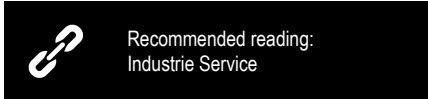
Let's see what this tech team can do starting from goods-in: Once the pallets arrive in the goods-in area, Open Shuttle Fork transports them to the software-aided goods-in work stations where employees record the goods in the system and pack them into containers. The containers are then stored in a small parts warehouse. Sometimes, depalletizing is skipped and the entire pallet

is stored in a high-bay racking system. Serving as the link between the goods-in area and storage system, Open Shuttle Fork transfers the pallets directly to the Powerline pallet conveyor system or brings them to the end of the rack line for storage.

In the goods-out area, our robot works together with a palletizing robot, providing it with containers or cartons filled with picked orders from the small parts warehouse. The palletizing robot receives the different load carriers and stacks them on the pallet according to the smart pattern calculated by our KiSoft Pack Master software. Once the pallet is ready, Open Shuttle Fork picks it up and takes it to the shipping area.

"Our new Open Shuttle Fork can pick up and put down pallets located not only on the warehouse floor but also on the pallet conveyor system. The autonomous mobile robot ensures maximum flexibility, is installed quickly and is suitable for a range of different applications," says Gregor Schubert-Lebernegg, Product Management and Sales, KNAPP Industry Solutions.

Recommended reading: Industrie Service

More time to tend to customers:
Apostore and automatic goods replenishment make it happen

Our Apostore dispensing systems for pharmacies can be precisely configured to your requirements regarding space as well as storage and throughput capacities. When the time comes, you can expand it as needed. The dispenser provides the pharmacy team with the right products quickly and reliably. But who replenishes the system? This is where the Feeder OCR comes in.

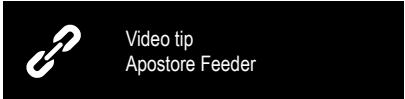### A symbiotic relationship: Feeder OCR and Apostore

When it comes to relieving pharmacy teams of monotonous tasks that don't generate any value, the Feeder OCR from KNAPP Smart Solutions is top of the class. The automated replenishment system stores up to 200 packages per hour in the Apostore dispensing system. With only 0.45 m, or less than 1.5 ft., in width, it's the ideal solution for many pharmacies as it requires little space.

Feeder OCR is equipped with precision technology, enabling it to separate different packages of medicine of any size and weight. It scans the package barcodes to identify the products and uses optical character

recognition to recognize date marks and lot numbers. The captured data is transferred to the dispensing system together with the medicine.

All this ensures a high level of automation. Despite being separate systems, the feeder and dispenser work together as if they were one. This ensures fast, safe and effective processes. All Feeder OCR needs is a wholesaler's box full of unsorted medicines and it will do the rest, minimizing manual labor during goods-in and relieving pharmacy staff. And if you already have an Apostore dispensing system, you can expand it with our space-saving Feeder OCR whenever required.

"Apostore carries out many laborious tasks that we were forced to do manually, such as checking the date marks and stocking medicines in drawer cabinets. The dispenser automatically optimizes our warehouse, freeing up time we can devote to our customers," says Sophia Telesko, owner of the Lind pharmacy.

Video tip Apostore Feeder

Consumer shopping habits and expectations are moving towards convenient, easy shopping – 24/7 if possible. Consumers want a great user experience and top selection of goods. They should be able to have this wherever they are and with rapid delivery thanks to flexible last mile concepts.

Together with our customers, we work to create solutions that address these modern consumer needs across all business sectors. From contactless in-store experiences at the point of sale, to pickup points or home delivery, to dynamic route planning for the brick and mortar retailer – the concepts are many and varied.

Maximum convenience thanks to the RetailCX in-store solution.
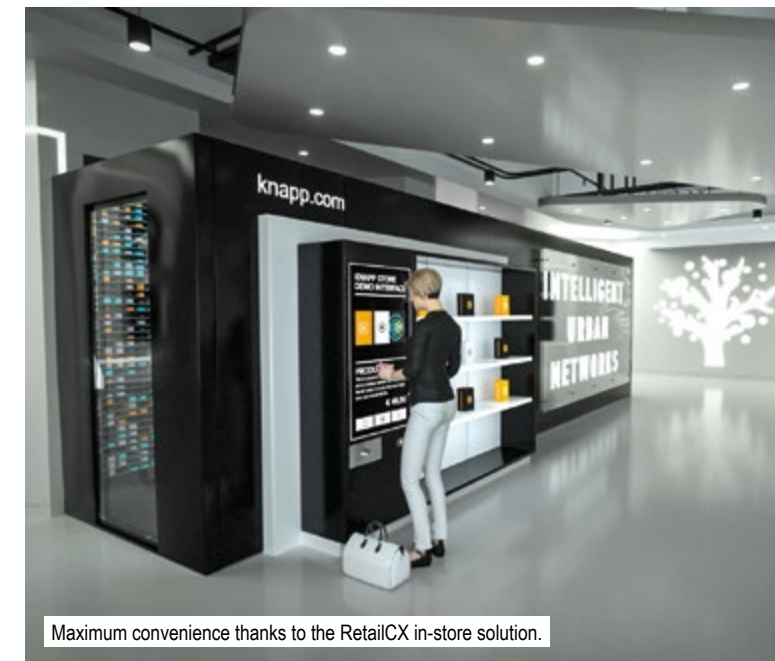
Solutions for the Last Mile

Any place. Anywhere. Any time.

The last mile is all about the last stretch of the journey made from the warehouse or store to the hands of the consumer. Though not longest distance, it's still the most challenging. Solving the problem requires more than just flexibility and creativity. You need to combine the advantages that e-commerce offers with the strengths of brick and mortar retail. Sounds complex? That's because it is. Everything has to mesh perfectly: flows of goods, people, processes and information. For this to happen, the logistics systems running behind the scenes must be adapted perfectly. This is our area of expertise. It's what we do. At KNAPP, we are *making complexity simple*.

Flexible. Customizable. Networked.

From the receipt of the order to the arrival of the goods at the consumer – all processes must mesh perfectly with each other. Our solutions cover the entire value chain. Our technologies and the KiSoft software running behind the scenes link things together and form the foundation for the optimized flow of goods. As a result, the consumer receives what they want, when and where they want, all in perfect quality.

In the following, we use selected solutions from various sectors to show how we help our customers optimize the last mile for all their distribution channels.

Recommended
reading: RetailCX 🔗

The online shop around the corner

Our in-store solution RetailCX provides customers with a one-of-a-kind experience directly at the point of sale and can be used in many sectors. The solution centers on an intelligent storage and picking system that can store a broad assortment in very little space. Depending on what's needed, the solution can be integrated into the local store or implemented as a complete stand-alone solution.

The automated picking system at Würth, for example, is utilized successfully as a connection and vending element for the store. The consumer can find the important information for the article on the interactive touch screens and select the article directly. The goods are immediately issued, fully automatically. The advantages are a large number of storage locations, high performance, a small footprint and the customer receives their item quickly, thanks to automation.

Innovation at the *point of care*

More and more digital services are becoming available for the healthcare sector. From sick notices per phone and video consultations, to getting medicines delivered through a digitalized messenger service or being able to pick them up at any time. In this area, adaptations to the logistics are needed to operate rapidly, efficiently and profitably. Our integrated Apostore solutions offer an ideal customer health journey with 24/7 terminals and consulting screens. Night or day, evenings or holidays, medicines are dispensed around the clock. Our reliable technologies give a much needed boost to local pharmacies, significantly raising the service quality for consumers. Our customers are better able to meet the needs of the consumers they serve for greater consumer satisfaction.

Filling patient orders fully automatically

The hub and spoke solution is an optimal service for pharmacies. A semi-automatic order processing system assembles orders for individual patients automatically, rapidly and safely. The patient receives a prescription and hands it to the pharmacist. Next, the prescription is forwarded to a hub where it is then assembled and packed. Finally, the orders continue to the pharmacy or are delivered directly to the patients. The intelligence behind this system is provided by the KiSoft software package. Modern image recognition technologies make it possible to trace lots and serial numbers.

Your daily dose

For the last step before the actual point of care, we create optimum efficiency at blister centers and pharmacies. Our Daily Dose Dispenser is a comprehensive solution including software, service and consulting. Customized weekly blister cards are created from the original blister packs. All the necessary information can be viewed from a cloud and is digitally networked.

"The Daily Dose Dispenser is the first system worldwide to allow filling prescription orders by repackaging the medicines from the original blister packs. For doctors, pharmacies and nursing staff, this means more transparency and more control. For patients, this translates into more freedom and a better quality of life," says Jürgen Gessner, Vice President Healthcare, KNAPP AG.

Your daily dose of value
- Autonomous and convenient medicine supply for patients
- Digital network provides information for individual patients to be accessed from a cloud
- Profitability and highest quality through repackaging from original blister packs
- Optimum data transparency for doctors and pharmacists
- Increased medication quality achieved with a zero-defect strategy whereby each dispensed pill is checked four times.

Micro Fulfillment Center (MFC) boosts online retail

For creativity around the last mile in micro fulfillment, the sky's the limit. An order can be picked up at the shop around the corner or delivered conveniently to your door. Here, almost anything goes. MFCs use the infrastructure in a local store and connect them to the advantages provided by e-commerce. Our solution makes online retail faster, smoother and less prone to errors. With an ideal combination of manual and automated processes, an order can be ready in just 30 minutes. Numerous companies are now using our concept. In food retail, the Australian supermarket giant Woolworths is one of them. They already have three MFCs in operation.

"Micro fulfillment provides unrivalled speed and precision. At the same time, we're close to our customers so we can deliver to their homes in a faster and more flexible way," says Amanda Bardwell, Managing Director, WooliesX.

Optimized, individual store delivery

In brick and mortar retail, food retailers have adapted their solutions to changes in consumer behavior. At our customer EDEKA Nord, the trend with packaged sausage and meat products is towards smaller quantities. Smaller package sizes means that the warehouse needs more capacity. Furthermore, EDEKA stores located in metropolitan areas receive deliveries twice a day and can request individual quantities. KiSoft software is busy running in the background helping with the necessary organization. It figures out the optimal storage strategy, checks all the available stock and plans a dynamic route. The local EDEKA stores profit from receiving store-friendly deliveries, and so does the consumer at the point of sale.
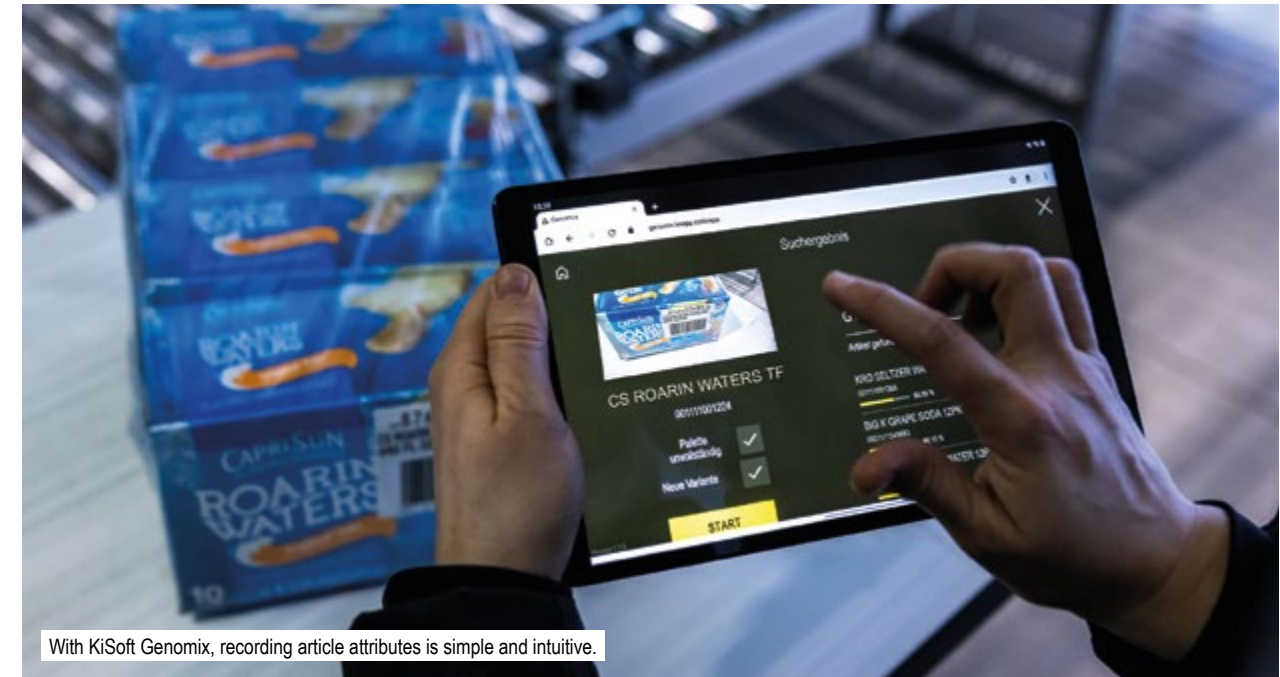
"EDEKA had many specific requirements, but KNAPP was happy to deviate from the standard, creating the ideal solution for us," says Matthias Biermann, Manager, Meat Production, EDEKA Nord.

Experts talk about micro fulfillment

Recommended reading: New Urban Logistics

With KiSoft Genomix, recording article attributes is simple and intuitive.

A GOLDEN ERA

Use data intelligently with KiSoft Genomix and redPILOT

When you use data in the right way, it provides a solid basis for digitalization, opening up fantastic opportunities. Today, we have access to vast amounts of data. It takes skill to identify patterns in this plethora of information and to derive strategies from it. When data has the right quality in the right context, it gives you the right answers. And this is where our two software solutions, KiSoft **Genomix** and **redPILOT**, come into play. Both run on smart data and add value for our customers along the entire value chain.

Is this all about big or smart data? It's more about a combination of both. Big data refers to vast amounts of data, which become smart data when they are correctly processed and refined. Only then can their full potential be unleashed and additional benefits gained. Our intelligent software solutions run on smart data. And they run especially well on automation master data.

Efficient automation thanks to high-quality master data

To function efficiently, automation solutions need well maintained master data. Today, data is usually collected manually, a process that takes time, is costly and prone to error. Often times, important information on items is missing – attributes are either available in poor quality or not at all. So, what's the magic formula? The more attributes you collect and the higher their quality, the more efficiently the automation solution will work. This minimizes the error rate and boosts performance. In short, you need a system that automatically collects, extends and distributes article master data, and keeps it up to date. Is there a system that can do all this? Oh yes, we proudly present: **KiSoft Genomix.**

KHT MultiScan automatically records size, weight and volume.

The modern ivii iriis vision system performs a quality check.

KiSoft Genomix: decoding the DNA of items

Our innovative self-learning software solution collects and manages all the relevant attributes of items. You could even say that KiSoft Genomix decodes their DNA, from their weight, dimensions and packaging type to their contents, center of gravity, tilting behavior and much more. With this information, automation technologies such as robots in an automated warehouse know exactly how to handle and process the items. Our all-in-one solution also adapts to the degree of automation in the warehouse. KiSoft Genomix knows exactly which parameters are required for the technology to run like clockwork.

Optimized processes increase efficiency
During the goods-in process, our KHT MultiScan fully automatically captures 100% of all the parameters required in an automated warehouse environment. Our KiSoft Genomix app helps the warehouse worker to easily record all relevant attributes by intuitively guiding them through a simple set of questions. KiSoft Genomix registers all the article hierarchies from the single item (UNIT) to the pack unit (CASE) to the logistical unit (PALLET). The end-to-end solution provides all the data centrally for the entire supply chain, it manages and distributes it, and keeps it up to date. High-quality data is not only important for automated item handling but also for all the upstream and downstream processes in the warehouse. Our modern vision system, ivii iriis, is also part of the overall solution and carries out additional quality checks. The system verifies whether the recorded master data matches the item, which optimizes the entire process chain. Last but not least, self-learning algorithms continually improve the quality of the data.

Integration into any automation solution possible
KiSoft Genomix can be used across sectors, warehouses and solutions. The system is therefore suitable for any automation solution, including the systems of retailers with omnichannel concepts. In retail, master data is usually only available from one area – full cases or single items. What makes KiSoft Genomix so useful is that it records all the data for the entire hierarchy at once, from the pallet and handling unit down to the single item. All the required automation data becomes centrally available and accessible for all technologies and warehouse areas. For retailers, for instance, this means that nothing stands in the way of an efficient omnichannel concept.

> Video tip
> KiSoft Genomix

At a glance
- Self-learning and flexible end-to-end system
- Fast, automatic recording of all article master data in less than 30 seconds
- Perfectly adaptable to customer-specific requirements
- Central provision and management of automation master data
- Significant improvement of data quality for the entire item hierarchy
- Data can be used across warehouses
- Increased efficiency and performance

redPILOT: intelligence for Operational Exellence

redPILOT Operational Excellence Solution is a software solution that integrates data in a way that allows logistics systems to be optimally operated at any time. With the software, you can locate bottlenecks, which increases transparency and improves processes for the long term. It also helps companies achieve higher performance by using the resources available in the best possible way.

redPILOT optimizes logistics systems sustainably through intelligent use of data.

As an all-in-one solution comprising different modules, its purpose is to support you in areas such as planning, optimization, self-learning systems and servicing.

We designed redPILOT with *decision intelligence* in mind. Decisions are modelled so that they can be reproduced, making decision-making more efficient and improving value creation. Based on this principle, the *Operational Excellence PLANNER* module allows you to create shift schedules with a simple click and to automatically determine how many employees are needed to cover the work load at hand. You can save employees' competences and preferences regarding working hours, car pools and so on in the system. The system automatically takes them into account when shift schedules are created. Another feature of the solution is *teamAPP*, which provides employees with the flexibility that is increasingly demanded nowadays, granting them a certain degree of involvement in planning. With this smartphone app, processes such as announcing available shifts and change of shifts are standardized and automated, which significantly facilitates and accelerates communication in the team.

The *Operational Excellence OPTIMIZER* module reveals whether there is unused potential during ongoing operation. For instance, it suggests alternative actions for dealing with bottlenecks and overcapacities. This means the decision-maker is not only provided with information but also with recommendations for how to reorganize resources. Combined with *teamKIOSK*, all the time and performance data, even that from other systems, is exported and processes are analyzed. The module

detects irregularities immediately, minimizing risks and making operation more efficient and resilient for the long term. *Operational Excellence IMPROVER* links big data with artificial intelligence. This way, redPILOT continually learns and improves prognoses as well as planning accuracy, allowing it to master complex operational challenges.

The *Operational Excellence MAINTENANCE* (KiSoft CMMS) module optimizes mechanical resources in the warehouse. Using intelligent data, the system helps our customers better plan servicing tasks for machines and optimize availabilities, which prolongs the life of installations.

The key to all this is merging all the relevant and available information. Our redPILOT Operational Excellence Solution makes this possible by intelligently using the data in the warehouse, ensuring that your logistics system runs optimally for years to come.

> About redPILOT
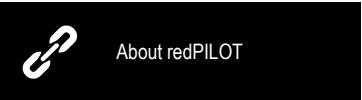
Still collecting data?
The data needed for optimization is usually already available. But what KiSoft Genomix and redPILOT do is provide data in a way that helps you improve value creation in the warehouse over the long term, from planning to process optimization, to the store and the consumer.

Erik Gutmann
Vice President International Customer Service,
KNAPP AG

Mr. Gutmann has been with the company since 2005 and has participated in the development of the Customer Service division which today has more than 1,500 employees.

Walter Ochensberger
Process & Business Intelligence Manager,
AVL List GmbH

Mr. Ochensberger deals with data analyses and process mining from the perspective of data science.

Berndt Jesenko
Head of the study program Service Engineering & Management, CAMPUS 02

Mr. Jesenko is responsible for the research, transfer, teaching and organization of data-driven and smart services.

Round–table Talk

Perspectives on the services of the future

Customer service is a central element across the entire value chain. How are innovative and intelligent solutions created for customer service? To answer this question, we invited three experts to a round-table discussion and asked them to share their views and experiences on the topic of integrated service intelligence.

What is your connection with *integrated service intelligence*? What does it mean in your area of responsibility?

Walter Ochensberger: My job is all about value flows, value-creation processes and data analyses. With the knowledge we gain, at AVL we can make the right decisions and take appropriate action for our customers. In our minds, service goes beyond project start and project completion. We extract knowledge from the experience users make during the use phase. We need service intelligence to create both added value and room for innovation. In the Styrian Service Cluster*, we come together regularly to exchange ideas and views and can see that service is gaining importance in all the companies.

Berndt Jesenko: To me, integrated service intelligence means controlling and managing areas of customer service based on data and key indicators. Since I'm in close contact with the local economy and, as part of my research activities at CAMPUS 02, I try to integrate data-driven innovations and services in my courses. The Styrian Service Cluster made it possible to establish the Master's course in Service Engineering & Management, which is a milestone in the education sector. I am convinced that, eventually, service will have a place in every technical study program.

Erik Gutmann: For me, the keyword is vertical integration. When talking about intelligent service networks, the customer is where it all comes together. We at KNAPP are solution providers – we want to understand how our customer's business model

works and how it can change. As a partner for our customers, we look into their business characteristics, critical factors for success and the service level they offer to their end customers. For us to be able to proactively adapt the support we provide, our service portfolio needs to be very agile.
A huge amount of data can be acquired from machines and sensors. But what makes the data useful are people: In Customer Service, we are the experts in interpreting data for specific purposes. By aggregating data and putting it into the right context, we get a value-creating process. In customer service, consulting is the key for developing a strategy together with our customers. We want to provide services which make our customers' campaigns even more successful. This is what integrated service intelligence is to us. The goal is to form lasting partnerships with our customers.

How and where do you apply the service value chain?

Walter Ochensberger: If you visualize the life of products or installations as a cycle, the largest part constitutes the consumer use phase. This is the phase where customer service comes into play. Having a "service" point of view means seeing the bigger picture and having a listening mindset. Listening to the customer but also providing them feedback are important elements in preparing for the next step, such as for the next system.

Erik Gutmann: That's right. In the use phase, customers need tailored services and support. For

the customer, whatever the data generated or processes derived, they have to deliver real added value. The key to this is the ability to adapt, with the CIP, continuous improvement process, playing a crucial role. The bottom line is that the customers' profits have to increase, otherwise they won't invest in customer service. Nowadays, strategies can't be planned for more than five years because the market is far too dynamic. Our response to this is having an agile service portfolio.

Walter Ochensberger: The dynamic market environment not only includes shifts within the use phases, we're also observing that the service value chain cycles are becoming shorter. A data scientist can help overcome these challenges – and this is what we do. We detect and quantify the dynamic changes of the market and environment and make suggestions for how the processes can be adapted and made more flexible. Today, ten year old processes and lengthy product development cycles don't stand a chance anymore.

Co-creation is a feature of the service value chain and an important element as it covers the customer's needs. How can working university students be prepared for this?

Berndt Jesenko: We include recent technical knowledge in our courses to ensure that students receive practice-oriented training. We analyze use cases together with our students to explain what data-driven co-creation is all about. Here is an example: There are insurance providers out there that use technology to track the driving behavior of road users. Both parties

CONTENTS

benefit from this: Road users who follow the traffic rules pay lower premiums while the insurance company pays less because there's less damage caused. Our students also discuss potential use cases from the companies they work at..

What are the benefits of incorporating and further developing customer service right from the beginning?

Berndt Jesenko: Including the customer in the development process just makes perfect sense. At the end of the day, it's all about service quality, customer satisfaction and, finally, customer loyalty. By involving customers in the development of services early on, feedback loops and requirement assessments can be carried out more efficiently. This has an immediate impact on service quality, allowing us to achieve higher margins and gain a competitive edge. For this reason, the areas of customer service are growing and constantly gaining in importance. It's impossible to stop this trend.

Walter Ochensberger: We conducted a value flow analysis that showed that face-to-face interaction with the customer, who ideally had one dedicated contact person, a personal agent, is a deciding factor in how long it takes to find a solution to a problem. This means that if the personal agent efficiently communicates with the customer and has really understood the customer's problem, the time required to solve a problem is halved. Moreover, we regularly evaluate how the customer works with the product and make suggestions for how they can use the systems more productively. Customer service has a consulting function too, it's always part of the package – whether in the form of

training, education or for operational support.

Erik Gutmann: Another added value for our customers is the positive effect our integrated service solutions have on performance and quality – the KPIs that we evaluated prove it. Using condition monitoring, we monitor the actual state of installations and help customers save costs. Whether reactive or preventive maintenance, our customer service is oriented towards the state of the installation and is extremely efficient, reducing customer's costs and consumption of spare parts.

Berndt Jesenko: Service quality is directly linked to communication quality. Human interaction cannot be replaced – not in education either. Robots won't be replacing teachers any time soon. The focus will always be on people. Most of our students are service experts from different sectors with special skills and interests. They have high expectations of the study program. One of the key messages we want to communicate in the program is: I need to understand who my customers are and how their business model works. To achieve this, communication and networking skills are indispensable.

How will customer service change or influence future products and business models? Have you observed any trends or visions?

Walter Ochensberger: You have to be a good match for service. It's a talent you cannot "automate". To be a good customer service provider, we also need people with extensive skills in data science, not only in the area of data description but also in machine learning and AI. These
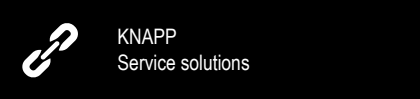
skills are essential, as we'll be using more digital tools to support our integrated services in the future.

Berndt Jesenko: Products can be copied easily. However, good, one-of-a-kind customer service can only be provided by people. This is what really binds the customer, there's no way around it.

Erik Gutmann: Everything is changing and this is equally true for the KNAPP software portfolio. We already offer our customers software as a service and pay per use models. SAP's business model serves as a prime example. They have a core product and integration partners from all over the world who then adapt the product to the individual customer. Our KiSoft One software suite is another example. We're taking a similar approach by intensifying collaboration with partners over the medium term. In addition to our digital services such as KiSoft CMMS and KiSoft Analytics, we've started rolling out our first cloud solutions, our first SaaS products so to speak. Another example: My car is telling me when the next servicing date is due, and my laptop is suggesting an update. At KNAPP, we're also going to provide automatically triggered updates, offering our customers new, improved and, above all, safe functions.

Erik Gutmann: *"When we talk about intelligent service networks, the customer is the essential interface in them."*

🔗 KNAPP
Service solutions