Case Study

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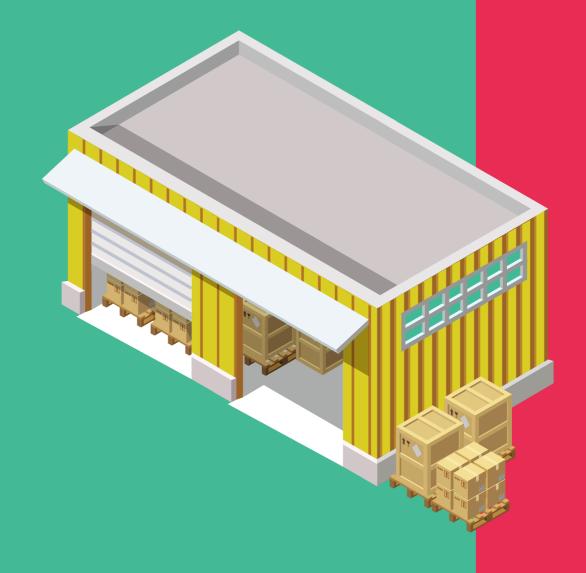Augmented reality drives efficiency in logistics

The Client

KNAPP AG develops and markets automation technology and software solutions for logistics and production facilities. The company serves the core areas healthcare, textiles and fashion, trade, e-commerce and omnichannel retail, food retail and production.

The KNAPP group has a network of 40 locations worldwide and more than 4,200 employees. More than 1,800 systems are in operation around the globe.

Their warehouse management system KiSoft controls and organizes all processes, from goods-in to goods-out, handling effortlessly huge and unequal workloads within the warehouse.

KNAPPs advanced warehouse automation systems are used in companies around the world and are recognized as the pinnacle of technology. Some of their most respectable customers are John Lewis, Marc Cain, Marks&Spencer, Migros, Weisser, Teva and Spar.
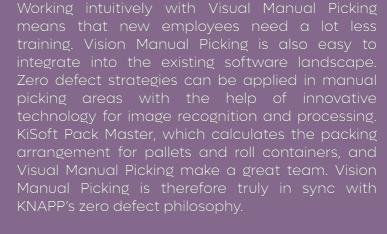
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Challenge
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KNAPP started a project to develop a Visual Manual Picking system. Picking is a basic warehousing process and has an important influence on productivity and customer satisfaction. It consists of taking and collecting items in a specified quantity and order before shipment to satisfy customers orders. This makes order picking one of the most controlled logistic processes.

Vision Manual Picking is a visual, paperless picking system that can be used in a variety of ways, opening new dimensions in terms of mobility, flexibility and quality. Visual Manual Picking includes a sturdy headset with an integrated camera and augmented reality technology especially designed for intralogistics.

Fast, simple and accurate picking with Vision Manual Picking:

•	Items and items data (e.g. 1D and 2D codes) captured simply by looking at them
•	Vision Manual Picking displays the information for each step of work directly in the user's field of vision
•	Navigation system guides the user along the quickest route to the item
•	One last look: Vision Manual Picking checks the completed orders

Working intuitively with Visual Manual Picking means that new employees need a lot less training. Vision Manual Picking is also easy to integrate into the existing software landscape. Zero defect strategies can be applied in manual picking areas with the help of innovative technology for image recognition and processing. KiSoft Pack Master, which calculates the packing arrangement for pallets and roll containers, and Visual Manual Picking make a great team. Vision Manual Picking is therefore truly in sync with KNAPP's zero defect philosophy.

For a special customer application, the Visual Manual Picking system had to be adapted and developed further. For this purpose, a lot of research work was necessary. KNAPP found in Serengeti a reliable partner for the support in this innovative and challenging project.

"Serengeti Engineers have a high level of expertise, which can be seen through their broad technical knowledge and domain knowhow, resulting in a highly efficient performance."

Manfred Weiß

Head of Project Development at KNAPP System integration GmbH

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Service

Together with KNAPP, Serengeti provided full cycle service from development and testing to maintenance. Server-side is modular and extensible as required by particular project and is powered by Java EE and EJB behind which is relational database.

A combination of experienced team members from of KNAPP and Serengeti were responsible for integration of augmented reality glasses and warehouse management system (WMS). On top of WMS, the solution includes various methods, which provide all necessary information for warehouse operators.
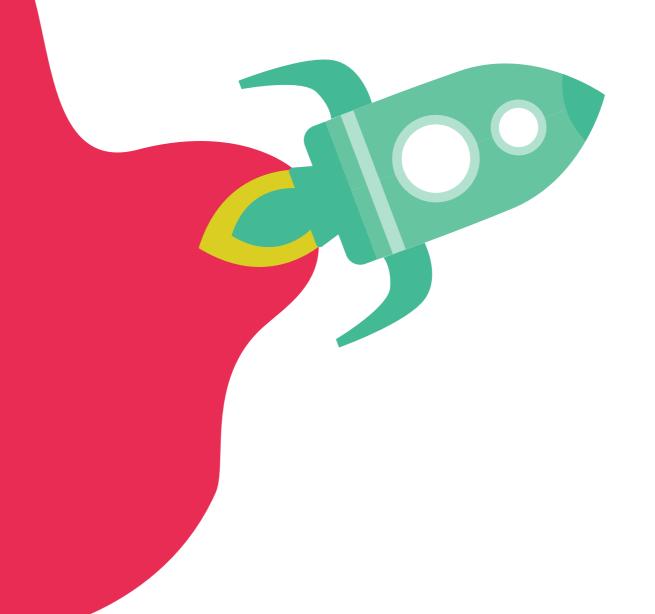
Solution

To support KNAPP during this important project the best possible way, it was important that Serengeti team consists of very competent, experienced and research oriented engineers. With our team extension engagement model, we had the possibility to ensure a quick increase of staff during critical phases. With additional experienced developers and technical knowledge, the right skillset was added to the team and enabled KNAPP to finish the project successfully and on time.

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Result

KNAPP is growing business rapidly by providing complete warehouse management solutions to its customers. Part of their product portfolio is also augmented reality enabled Visual Manual Picking system. With help of Serengeti team and by using proven Serengeti team extension engagement model, KNAPP got the right support in terms of capacity and skillset. Result was the on-time delivery of this ambitious and innovative project that improved KNAPPs market position. New technology was successfully tested and implemented to increase efficiency and precision of warehouse workers. It was an important contribution to reducing complexity and possibilities for human errors in warehouses operations.

Accelerating business transformation through innovative technology

Serengeti d.o.o. is a software development near-shoring and consulting company. For the past 20 years, we have been partnering with our clients to reinvent their business models using innovative information technology. We work according to the principles of DevOps, implementing disruptive trends in our specializations. Our experience and business acumen comes from successfully working on over 300 projects.

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