WAMAS Robotics - Software Modules for Robot-Based Picking

On their own, robots lack intelligence – it has to be supplied from outside. Consequently, a robot is only as good as the software that controls it.

In particular, single-piece picking and depalletization and pallet preparation, so-called SSI case picking, require sophisticated, reliable software solutions to make robots suitable for the demanding tasks encountered during order processing. When this is done right, performance and delivery quality also improve.If you're considering robotics applications in your company, you can trust the software expertise of SSI SCHAEFER. We bundle the necessary knowledge in-house and offer you intelligent software modules from the WAMAS portfolio that you can use to make your picking error-free and more efficient. Gentle product handling is also guaranteed.

Benefits at a glance:

- Absolute process reliability: The capability of automatically detecting serial numbers, batch numbers and expiration dates with an intelligent scanning function
- A scalable software solution with a modular design, consistent performance and seamless integration into the overall logistics system
- Robotics and software underpin operation of an economical approach to Logistics 4.0

SSI SCHÄFER

Case Picking – the Optimal Pallet

Our Case Picking is practically an all-in-one solution. Even as retail units vary, the corresponding software module allows robots to automatically stack the requested number on pallets, saving time. No subsequent steps are needed in the shipping area to check for correctness or completion.

Besides palletization by branch, the solution also offers state-of-the-art robotic applications for fast and safe depalletizing. Because a significant portion of this work would otherwise have to be done manually, these applications significantly reduce human effort, preventing delays that could stall the flow of materials into the warehouse. The intelligent Pack Pattern Generator in WAMAS calculates the optimal structure of each individual pallet with sophisticated algorithms on the basis of the data from the so-called teach-in station, which records all packaging-related data, such as the dimensions, orientation, compression factor, contents and packaging type. It also incorporates information provided by state-of-the-art image processing systems in real time. Different criteria can be weighted for the specific needs of the customer. Automated robotic order picking with WAMAS Case Picking offers enormous advantages, especially for sectors with a differentiated range of articles when picking and constructing order pallets. This primarily concerns food wholesalers, but also non-food segments or areas with sensitive merchandise.

Customer-specific optimization:

- **Stability optimization:** For long transport routes over bad roads, the pallet is optimized beyond the usual necessary stability.
- **Volume optimization:** To reduce transport costs, the pallet is optimized in terms of volume. Special conditions of premises, means of transport and personnel at the point of sale can also be taken into account.
- **Store optimization:** Packing sequences adapted to the store layout reduce search and run times during shelf replenishment and increase the availability of goods at the point of sale.
  Particularly in large shops, this saves walking time when replenishing goods, reduces the workload for staff and optimizes processes.

Advantages for the customer:

Highest performance
with complex
order structures

Cost reduction
along the supply chain

Can be operated as a
fully integrated software module

WAMAS®

Piece Picking for Single Items

Picking single items into a shipping container – also known as piece picking – is one of the most cost-intensive processes in logistics and demands maximum concentration from employees. If you want to make the process easier for your staff while increasing handling efficiency, your first choice should be a combination of picking robots and intelligent software.

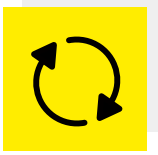
The e-commerce, cosmetics and healthcare sectors in particular need to optimize single-piece picking. In the pharmaceutical sector specifically, a large number of drug safety regulations intended to protect patients must be taken into account. In this context, state-of-the-art piece picking robots with integrated image processing and a scanning function not only ensure efficient picking; they also allow precise product identification and legally compliant product verification as part of tracking and tracing. The piece picking application is particularly suitable for slow and medium movers and can be combined with a variety of conveyor systems to form intelligent overall systems. Commonly used in e-commerce, cosmetics and healthcare due to its high system reliability.

Functions:

- The Piece Picking Software can be operated as a fully integrated component of a WAMAS installation, and it can also run as a stand-alone solution, seamlessly coupled with third-party ERP and material flow systems.
- The Vision software module included in the standard WAMAS logistics software acts as the "mastermind" of the industrial image processing solution. This process uses both state-of-the-art image processing algorithms and artificial intelligence (AI).
- 3D cameras that model the content of the containers are the software's eyes on the real world. The data thus generated is transmitted to the robot's controller, where it is processed in real time.
- To optimize the picking processes, the system also accounts for the robot's mobility and the physical properties of its gripper. As such, the software is integrated into a highly complex system of sensor and robot technology.

Advantages for the customer:

Smart robotics solutions for high **system availability with constant performance**



Highest process reliability and picking quality

Optimized gripping and product-specific robot accelerations

WAMAS®