WHITE PAPER

Independent consultation to find the right SPW solution

Storage and retrieval machine or shuttle?

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Content

1 Introduction

The automation of logistics systems offers companies numerous advantages. Simplified order picking is the special focal point of this process, as it can be designed based on the stock-to-person principle. Software-controlled warehouse and conveyor technology removes stock from one or multiple storage locations and transports it to the person at the picking station. The question of which automation solution is more effective triggers some controversial discussions in the logistics industry: should companies focus on storage and retrieval machines? Or is a shuttle solution better? Both approaches can best be discussed from a perspective that is neutral toward all manufacturers.

In times of multi-channel distribution and inventory reduction along the complete supply chain, order picking has become much more complex and smaller-scaled in many companies. A great and ever-changing variety of products in the warehoused products and a trend toward ever decreasing order volumes results in a plethora of individual orders and picking jobs. In light of this situation, the integration of an automated small-parts warehouse (SPW) is preferable to reduce employees' traffic patterns. We should focus on two possible solutions here: a classic small-parts warehouse with aisle-bound storage and retrieval machines (SRMs) or a shuttle-based warehouse promising higher flexibility. Shuttles are level-bound storage and retrieval vehicles that are significantly smaller than classic SRMs. Usually, multiple vehicles are deployed in one aisle.

Stock to person picking generally requires an automated small-parts warehouse (SPW). ©Unitechnik

2 Parameters for a fact-based analysis

Both approaches - SRM or shuttle - have advantages and disadvantages.
The solution that reflects the processes and frequencies as best as possible can be verified based on the individual case and the individual logistic strategies of each user. It's worth noting that manufacturer-independent general contractors can offer customized solutions. They are ultimately not forced to market specific (proprietary) systems or to introduce a new solution on the market. And they can simulate both approaches beforehand, then describe the respective advantages and disadvantages of each approach from a technical and commercial aspect. The decision process is generally determined by three central parameters. They are:

1. **The flexibility of the logistics processes**
2. **The average and maximum expected throughput**
3. **The possible expandability of the logistics system**
4. **The space available on the premises**

Planning and simulation of various solutions for a logistics center. ©Unitechnik