

Successful Logistics Concept

“Order Picking System (OPS)”

- ▶ High cost-effectiveness and efficiency
- ▶ Optimal picking accuracy
- ▶ Maximum flexibility
- ▶ Broad coverage of industries
- ▶ Ergonomic workstations

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OPS – Successful Logistics Concept

What is OPS?

Cost-efficient picking of very broad article ranges by means of pick-by-light and pick-to-tote

The automated picking system OPS represents the integration of an automated small parts warehouse (AS/RS), a distribution loop, and upstream picking workstations. The articles used at the OPS picking workstations are provided for picking according to the goods-to-person principle – order-related and in the right sequence. Storage and retrieval is de-coupled from picking by means of integrated sequence buffers. OPS enables storage and order picking in one system. It has proven to be very cost-efficient and effective for the automated handling of very broad article ranges in many different branches in installations across the globe. In fact, OPS installations are handling up to 100,000 different articles. OPS is especially interesting for spare

parts distribution, as the system supports various picking variants.

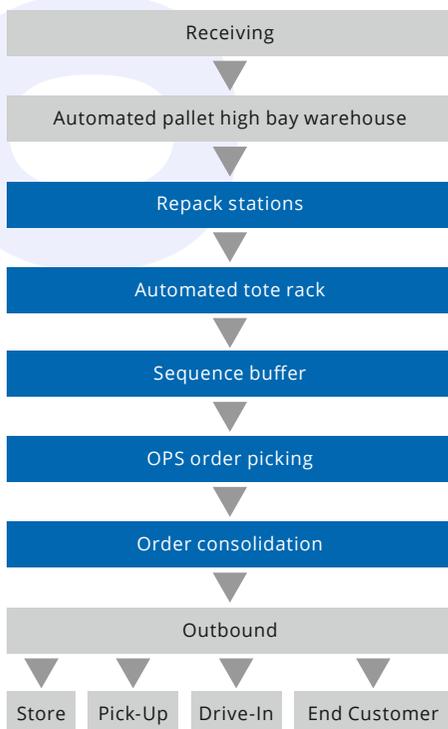
Besides a serial 1:1 order picking, OPS also allows for parallel picking into several order totes or directly into the customer carton. WITRON has already realized systems that enable picking up to 20 store totes per pick workstation at one time.

Another OPS version is the use of segmented storage and order totes. It enables the handling of a considerably broad article spectrum that consists of very small articles without any problems.

Pick and pack functionalities can be integrated into all system versions.

Through the use of innovative software functionalities for volume calculation and order consolidation, high cost-efficiency is also guaranteed for transportation.

OPS Material Flow



E-Commerce and Multi-Channel Logistics

The intra-logistics provider will have to face new challenges, as mail order business requires creative solutions on an almost daily basis and trade companies must react very quickly to current and future developments. The customers' needs change rapidly. Therefore, logistics and picking systems require very high process flexibility throughout the entire material flow – and especially at workstations. The workstations in OPS are de-coupled from the stacker cranes that retrieve from storage through the use of sequence buffers. This enables maximum flexibility at the pick and pack workstations so that every customer's need can be implemented quickly and individually. Even the so-called „pink ribbon“ around the package is possible. The consequence: OPS is optimal for state-of-the-art distribution channels like E-Commerce or Multi Channel logistics.

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Customer Benefits System Benefits

High cost-effectiveness and efficiency through:

- ▶ Optimal handling of very broad article ranges
- ▶ Consequent implementation of the „goods-to-person“ picking principle
- ▶ Nearly complete elimination of travel distance for picking (depending on workstation configuration)
- ▶ Complete picking and packing of an order tote or a customer package at one pick workstation
- ▶ Integration of sequence buffers in front of each pick workstation for high system and pick performances
- ▶ Integration of multiple functions like pick & pack into dispatch cartons, customized packaging design, and packaging
- ▶ Use of practically proven programs for volume calculation and order consolidation
- ▶ Conveyor system related integration of Order Consolidation Buffer
- ▶ Ergonomic workstations with numerous functionalities

Optimal picking accuracy through:

- ▶ Parallel picking of several store totes (by means of pick-to-light)
- ▶ Guidance of the picker using terminal visualization, pick-by-light displays, or light beam (depending on workstation configuration)
- ▶ Confirmation of every picking process
- ▶ Possible integration of scanners and scales at the workstation

Maximum flexibility through:

- ▶ Scalability of the system and modular expansion during running operation
- ▶ Flexible use of employees depending on workload
- ▶ De-coupling of picking and storage processes by means of integrated distribution system and sequence buffers
- ▶ Every pick workstation has access to every storage tote
- ▶ Space-saving storage based on the ability to use multi-compartment storage totes (multiple SKUs in one storage tote)

Extensive coverage of industries through:

- ▶ Use in many branches like spare parts distribution, office, electronics, media, fashion, general merchandise, and much more
- ▶ E-Commerce
- ▶ Multi-Channel Logistics

Possible Store Totes



Selected OPS References

Customers

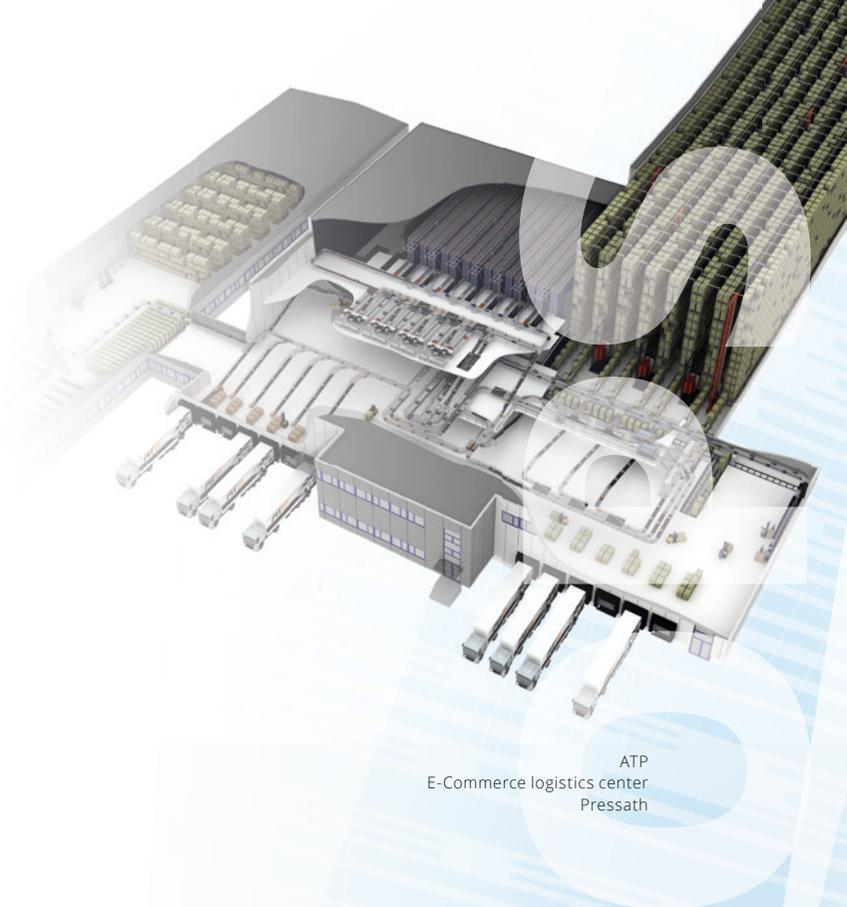
AUDI, A.T.U, ATP, ATRIA, BMW, CARDINAL HEALTH, FEBI, FESTO, FUTURE ELECTRONICS, HEIDELBERGER DRUCKMASCHINEN, PEPPERL + FUCHS, PHOENIX CONTACT, PORSCHE, SIGMA ALDRICH, SKODA, STAEDTLER MARS, VOLKSWAGEN, WEISHAUP

Industries

Automotive spare parts, automation technology, chemical / pharmaceutical products, E-Commerce, electronic components, healthcare products, heating technology, food production, mechanical engineering, office products, sensor components

Regions

Europe, North America, Asia



About WITRON:

WITRON Logistik + Informatik GmbH, established in 1971 (headquarters Parkstein, Bavaria, Germany), designs, realizes, and operates customized logistics and material flow systems that generate sustainable competitive advantages for its clients. WITRON has all the decisive key elements of a successful project under one roof: logistics design, information and control technology, mechanics design and production, as well as functional responsibility as general contractor for logistics.

The WITRON Corporate Group has 5,100 employees worldwide. WITRON's annual revenue in 2021 amounted to 1,05 billion Euros. Other WITRON branches are located in Rimpar (Germany), Arlington Heights, Illinois (USA), Toronto (Canada), Venray (The Netherlands), Stoke-on-Trent (UK), Madrid (Spain), Strasbourg (France), Singapore and Sydney (Australia).

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