



STILL

Migros Verteilbetrieb AG

Migros inspired by the latest generation of autonomous horizontal order pickers

Due to ongoing growth in Swiss retailer Migros' online business, the company's logistics were in urgent need of development and reorganisation. In light of this, Migros Verteilbetrieb AG (MVB) automated the entire non-food area of the manual logistics operation in an extension. An optimised storage concept was devised for the entire distribution centre based on the omni-channel management of the store business and e-commerce. Items that cannot be automated are picked ergonomically, quickly and economically using efficient pick-by-voice storage systems and autonomous OPX iGo neo trucks from STILL.

Sector: Logistics (storage, packaging and distribution of near/non-food, textiles and frozen products)

Company: Migros central logistic partners. Over 1,600 employees.

Challenge: Constantly-increasing online trade requires logistical expansion and reorganisation.

Solution: Consultation and development of an optimal storage concept for the entire distribution centre. Use of a pick-by-voice storage system in combination with STILL OPX iGo neo autonomous horizontal order pickers.

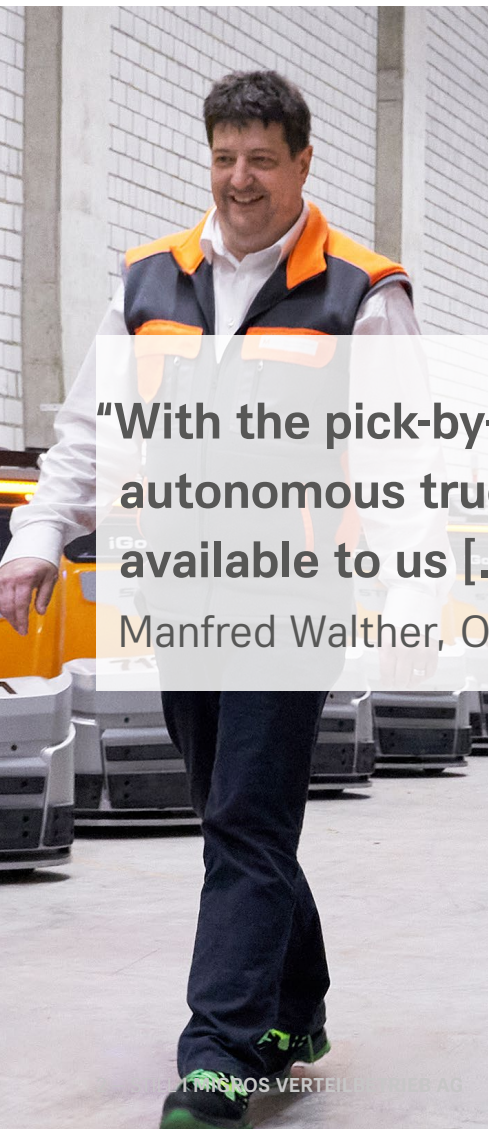
200 million transport units each year

As the Swiss retailer's largest logistics operation, MVB supplies around 900 Migros supermarkets. Online orders of products, spare parts or accessories such as the Micasa furniture range are delivered to any address by the MVB Home Service. With the expansion and reorganisation of the entire logistics platform, MVB manages around 105,000 items, including in the near/non food, frozen food logistics and textiles sectors, quicker and more efficiently. Around 200 million transport units are shipped in this way every year. Around 266,000 pallet storage spaces in the high-bay warehouses with six different temperature zones, from -26°C to 25°C, are used to store the huge range. In addition, multipacks, displays and gift hampers are collected, labelled, packaged, transferred or temporarily stored in value-added logistics and innovative solutions are developed.

Effective order picking with pick-by-voice

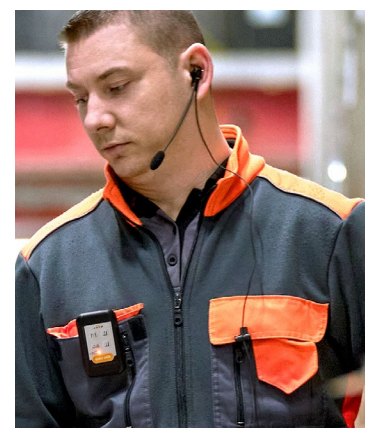
Items that cannot be automatically compiled into a consignment are assembled, picked and distributed through manual order picking. These are primarily bulky, compressible and delicate items from areas such as toys, garden accessories, electronics, detergents or toilet paper.

The order picker receives tasks through an automatically generated computer voice on the pick-by-voice system. A storage and retrieval machine and roller conveyor quickly transport the stored goods to the picking station via voice input. The person acknowledges completion using their voice. Keeping both arms free ensures the picker can process orders quicker and more efficiently. Manfred Walther, Head of Operations: "With the pick-by-voice storage system and STILL autonomous trucks we have the very latest technology available to us, which will be useful as we face the challenges of the near future".



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Manfred Walther, Operations Manager (MVB)



OPX iGo neo positions itself perfectly for picking

The OPX iGo neo is a truck that follows employees autonomously in the aisle during the order picking process. The intuitive remote control can be used to set the truck's ideal position for picking orders, i.e. at the start, middle or end of the pallets on the truck. The OPX iGo neo stops at the ideal position for order picking thanks to the assistance mode. STILL's truck is always positioned ideally for the operator. It allows them to concentrate entirely on their work and comfortably layer the picked items on the pallets.



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Individual order picking with autonomous trucks

Employees can individually set the truck's distance from the rack, and thanks to these specific operator preference adaptations, personalised order picking can take place. Convoy driving is possible even in heavy traffic. Employees can smoothly switch between autonomous assistance mode and manual mode at any time. As soon as the operator's platform is stepped on, the truck automatically switches to manual mode.

Increased safety in the warehouse

A safety laser scanner for collision avoidance in autonomous assistance mode and manual mode ensure improved safety in the warehouse environment. The intelligent interaction between man and machine helps prevent accidents and impact damage. In assistance mode, the OPX independently avoids non-critical obstacles and stops gently in front of critical obstacles. Christian Russo, MVB order picking employee, emphasises: "The OPX's LED signal unit is also worth mentioning. It shows all operators whether the OPX is operating in autonomous assistance mode or is being manually controlled. In addition, the movement of the laser light points can immediately identify which shelf orientation is present – left side, centre or right side. This clearly demonstrates how the autonomous truck orients itself so it is straight".





The hybrid tracking system also features significantly improved operator recognition: the combination of the motion tracking sensors on the vehicle and the radio signals from the remote control tracks employee positions one-on-one – even during heavy traffic.

Innovative commissioning thanks to autonomous side switching

One innovation is the Z order picking, i.e. switching to the correct side when picking items in the aisle. The OPX can autonomously switch the sides of the racking either by remote control or with the assistance key on the relevant truck side. Once the switch is complete, the truck orients itself to the rack shape of the selected side.

Improved motion tracking through hybrid tracking

Thanks to the Hybrid Tracking System in autonomous assistance mode, operator recognition has significantly improved. The combination of the two motion tracking sensors, one via a laser on the truck and the other via the radio on the remote control, allows the OPX to follow the employee's position on a one-to-one basis. This means that the truck reliably responds to its operator and its environment. In turn, it ensures that the use of the OPX is reliable and secure, even in heavy traffic in the aisle.

Rolf Urech, Project Manager / Industrial Trucks: "Out of all the trucks on the market that we tested, the OPX iGo neo is the most highly developed. The variety of options offered by the STILL autonomous horizontal order pickers impressed us". Following the comprehensive testing phase, 27 trucks were purchased.



STILL's autonomous truck has significantly reduced walking distances with loads and saved up to 75 per cent of ascending and descending during order picking.

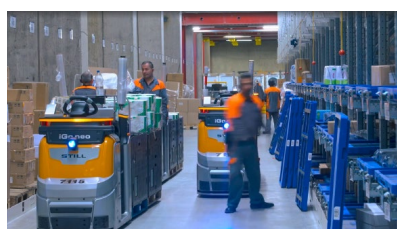
Autonomous processes save time and energy

The intelligent recognition and situational response to dynamic and static objects as well as people saves both time and energy. Walking distances with loads have been significantly reduced and up to 75 per cent of time has been saved when ascending and descending during order picking.

Summary

The seamless transition from autonomous assistance mode to manual control means that the use of STILL's OPX iGo neo is effective anywhere where a middle ground is to be struck between full automation and a traditional warehouse. Implementation efforts such as programming routes or adapting the warehouse environment, as well as an IT infrastructure such as a WiFi network, are not required.

"The OPX is tailored precisely to our requirements. The driver assistance mode has opened up a range of options for facilitating our day-to-day business. With greater productivity and fewer picking errors as immediate results," Manfred Walther emphasises. Rolf Urech adds: "A fantastic collaboration is underway at STILL that we can certainly continue to build on and recommend to others".



And action! The latest generation of autonomous horizontal OPX iGo neo order pickers being utilised at Migros Verteilbetrieb AG.

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