

CASE STUDY

COMPETEC LOGISTIK,  
WILLISAU, SWITZERLAND



## E-COMMERCE AUTOMATION: CONTINUOUS EXPANSIONS MAXIMIZE THROUGHPUT AND MINIMIZE OPERATING COSTS

The Competec Group includes e-commerce companies BRACK.CH AG and Alltron AG and sells more than 80 000 items directly from its warehouse. The range of products covers items from more than 1 000 manufacturers in the areas of IT, electronics, home and garden, family and leisure. Since demand for these products – and customer requirements for fast, on-time delivery – have been increasing continuously, the Competec Group installed one of the world's largest and most advanced AutoStore systems in its 55 000 m<sup>2</sup> distribution center in Willisau near Lucerne. The facility went into operation in mid-2015.

### BACKGROUND

Until 2012, Competec had four different locations where products were stored and picked. The ordered products had to be consolidated in the main distribution center through a cumbersome process.

In light of the constantly growing demand, the existing logistics capacities were quickly reaching their limits. "Because our customers expect all orders received by 5:00 pm to be shipped the same day, we promise them this level of service. As a result, we came to the conclusion that centralizing and automating our logistics operations was the only way to go," explains René Fellmann, CEO of Competec Logistik AG.

After comparing different goods-to-person concepts, the Competec Group decided in 2011 to go with the new Click&Pick® solution from Swisslog. AutoStore enabled them to achieve a high storage density. Robot vehicles quickly and efficiently handle the storage and retrieval processes for the items stored in bins. The new, scalable and highly advanced system enabled Competec to quickly and efficiently process a growing number of small batch sizes.

### A SCALABLE CONCEPT

"Two factors were particularly important to Competec," explains Rolf Gutjahr, project manager at Swisslog. "They wanted to easily expand the concept and they also wanted to make full use of the existing space without any construction work. The Swisslog concept – Click&Pick®, based on the AutoStore system – was able to fully meet both expectations."

"Efficiency in an e-commerce fulfillment center can be maximized by optimizing the use of space through reducing travel distances and increasing storage volume," Gutjahr says.



2012

**Initial Click&Pick project**  
with 70 AutoStore robots and a  
600 m conveyor system go into operation

2015

**Second AutoStore system**  
with additional robots is integrated;  
picking processes are optimized for  
maximum efficiency

2016

**165 robots**  
are in operation

## CONTINUOUS EXPANSION OF THE COMPETEC SYSTEM

2013

**20 additional AutoStore robots**  
allow the capacity to be increased  
without additional construction

2015

**20 additional robots**

2017

**400 m added to the conveyor system**  
to speed up the packaging process

## EXPANSION DURING OPERATION

Since the company continued to grow even after the new system went into operation, the ability to quickly and flexibly expand the new system was soon put to the test. Just one year after the scalable Click&Pick® solution had been introduced, the transport capacity was expanded to meet the increasing requirements by adding additional robots. The need for expansion again became critical in early 2014. Competec management quickly decided to add a second, even larger AutoStore system

in the next expansion stage. "It was very important to avoid disrupting operations in the logistics center while implementing the project. We met this objective very successfully by working closely with all responsible parties at all times," remembers Swisslog project manager Rolf Gutjahr. "Our industry, and therefore our customer business, is highly dynamic. Thanks to the excellent cooperation between the Competec and Swisslog project teams, there was enough flexibility to make project adjustments

that became necessary on short notice as part of the ongoing project."

"We have a solution that works. It not only makes our customers happy but also ensures maximum profitability."

René Fellmann  
CEO Competec Logistik AG

# GROWTH AND EXPANSION AT THE SAME TIME

The goal of the second AutoStore system was to give the Competec Group ample room to grow. Scalability and expandability were again top priorities. The new system now permits maximum expandability with a reasonable initial investment. Future additions can be completed in just a few weeks, depending on the requirements. Capital costs are incurred at the same time that the associated investment can be used. This gives the Competec Group an outstanding cost-benefit ratio.

"The ability to expand the system was and still is important to us. Our product range as well as the number of customer packages that have to be shipped are growing continuously. Our intralogistics system enables us to respond flexibly to this dynamic."

René Fellmann  
CEO Competec Logistik AG

Thanks to the second AutoStore system, BRACK.CH was able to more than double its storage capacity and to ship orders much faster. In 2015, the online store introduced same-day delivery. This means that, under certain conditions, customers receive their products on the same day they place the order.

## MAXIMUM ACCURACY

In the expanded AutoStore system, robots move over the surface of the aluminum grid at a speed of approximately three meters per second. If a robot has to extend its long grippers in order to pull up the requested bin from below, it places the bins that are in the middle in any location that is temporarily available. This only takes a matter of seconds. Robots nearby return the adjacent bins and those underneath to their original locations on the grid while the robot vehicle is still moving the requested bin to the right picking station.

One of the biggest advantages of the AutoStore system is that it eliminates downtimes. If one robot fails, another takes over its tasks. As a result, all robots can transfer all bins to any picking station. If one picking station is down, the remaining ones remain unaffected.

"The new system helped us cut our labor and operating costs significantly."

René Fellmann  
CEO Competec Logistik AG

The QuickMove light-goods conveyor is another component of the Competec solution. It rapidly transports customer packages to the fully integrated automated volume reducers and box sealers. After the shipping labels have been affixed, the packages are transported to the individual loading destinations.





## FACTS AND FIGURES

### AutoStore

Bins	125 500
Robots	165
Picking Stations	41
Capacity (picks/h)	2 500

### QuickMove

Length	910 m
Throughput (bins/h)	2 000
Speed (m/sec)	1,0
Maximum Weight	30 kg

"It's very likely that we will continue to expand in the future. If we are to increase profits, we need a high sales volume in order to compensate for falling prices and rising shipping costs. The Swisslog e-commerce solution allows us to efficiently meet this challenge. We are extremely satisfied with our solution."

René Fellmann  
CEO Competec Logistik AG



Competec Logistik AG is the logistics service provider for the trading companies within the Competec Group. Its HQ is at the Competec Logistics Center in Willisau, Switzerland. Services include next-business-day delivery for orders placed before 5:00 pm and same-day delivery for orders placed before 9:00 am.

The Competec Group, whose corporate headquarters are in Mägenwil, Switzerland, also includes online IT retailer BRACK.CH AG, IT/CE/electronics/telecom distributor Alltron AG, and the central services consolidated under Competec Service AG. The Group employs 483 people and generated approximately 535 million Swiss Francs in sales in 2015. The companies within the Competec Group use shipping practices that are climate-neutral.

For additional information about Competec, please visit [www.competec.ch](http://www.competec.ch).