

# CASE STUDY

Reference Fenix Outdoor Logistics, Germany:  
Flexible Omnichannel Distribution Thanks  
to Highly Dynamic SSI Carrier Pouch Sorter

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**FENIX**  
OUTDOOR LOGISTICS GMBH

# HIGHLY AUTOMATED SYSTEM FOR EFFICIENT OMNICHANNEL DISTRIBUTION

If you are looking for suitable clothing and equipment for your next outdoor adventure, Fenix provides a wide range of premium goods. To be able to meet the growing challenges of the omnichannel business, Fenix Outdoor International AG has founded a logistics company within



The portfolio of Fenix includes brands like Fjällräven, Hanwag, Brunton, Primus, Tierra and Royal Robbins and allows them to offer everything you would need for an exciting time and active recreation outside. The subsidiary Friluftsshop Europe includes the online shops and approx. 70 stores of the retailers Naturkompaniet in Sweden, Partioaitta in Finland, Globetrotter in Germany and Friluftsshop in Denmark.

Aiming to achieve a “best in class” logistics operation, Fenix Outdoor Logistics invested in building a new distribution center. During the first construction phase, a sophisticated intralogistics solution and an administration office were built on a 10,000 m<sup>2</sup> footprint.

The core element of the new system is the SSI Carrier, a highly dynamic pouch sorter for hanging and flat goods, with 25,000 pouches, six ergonomic loading stations and

the group - the Fenix Outdoor Logistics GmbH. From their new logistics center in Ludwigslust, some 120 km from Hamburg, the logistics company supplies stores in Germany and Scandinavia as well as e-commerce customers on a daily basis.



eleven ergonomic unloading stations. The scope of delivery also includes a three-story static R 3000 rack system with approximately 92,600 storage locations, a pallet rack system with more than 1,500 storage locations, two vertical lift conveyors, three telescopic conveyors and 1,500 order bins. Furthermore, there are in-feed and take-away conveyors for flat goods, used cartons and empty bins. The processes of the conveying system are managed and controlled by the SSI SCHAEFER logistics software WAMAS®.

**The highly dynamic pouch sorter SSI Carrier, the core of the new distribution center, serves to process 90 percent of orders for supplying stores and e-commerce customers with 100 percent process security.**

# SOPHISTICATED INTRALOGISTICS FROM A SINGLE SOURCE

In order to provide a smooth shopping experience and the highest service level online as well as in brick and mortar retail stores, optimum omnichannel management is essential.

SSI SCHAEFER worked as general contractor and created a tailor-made logistics solution including turnkey implementation for Fenix Outdoor Logistics. Optimum handling of different characteristics of sales channels played an important role. Store deliveries are all about correct pre-sorting and sequencing of goods, while e-commerce fulfillment stresses fast order processing of numerous small orders and highly efficient processing of returns.



"Our decision to use SSI SCHAEFER was due to the company's ability to jointly develop a customized and individual solution for our requirements. Also, SSI SCHAEFER was able to deliver this solution as a single source as the general contractor."

Felix Köhler  
Warehouse Manager at Fenix Outdoor Logistics

## PROJECT OBJECTIVES

- Provision of a tailor-made and individual logistics concept for both brick and mortar and e-commerce delivery from one single warehouse including turnkey implementation
- Increased productivity and maximum process stability
- High availability of goods and efficiency despite daily and seasonal fluctuations
- Reduction of order and cycle times
- Natural workflow thanks to improved ergonomics at work stations
- Fast re-integration of returns
- Complete system with high flexibility and future scaling capabilities for business growth







Separation and scanning of products at ergonomic loading stations of the SSI Carrier



Dynamic buffer for order processing or temporary storage

## A SMART CONCEPT IN BAGGING, SORTING, AND PROCESSING

The custom solution guarantees maximum efficiency in the warehouse for provision of goods and returns handling alike.

In the goods-in area, registered small-part goods are repacked into storage cartons and transported to the static rack system on a conveying system for manual storage. In the course of picking, the pickers fill the provided order bins using an RF picking system.

Then, the order bins are transported to the ergonomic loading stations of the SSI Carrier pouch sorter for further order processing or temporary storage. Bins containing only one order are transported directly to a Value Added Service (VAS) area for store delivery after RF picking. There, the goods are repacked and prepared for shipment to the stores. Bins can also be directly transported to shipping through a consolidation area. This principle is used when several bins or larger goods from the pallet rack system are intended for one order.



Provision of flat and hanging goods in desired sequence



Sorting of pouches in the matrix sorter and creating customer orders in a defined sequence

## Creating Customer Orders in a Defined Sequence

A majority of the goods pass through the SSI Carrier system. For each individual item, there is a separate pouch with an RFID transponder and a capacity of up to 2.5 kg. Different products such as clothing or shoes can thus be transported on the overhead conveying system. At the loading station, each pouch is filled with an item. By scanning the item, the product barcode is married to the respective carrier ID.

The loaded pouches pass different buffer areas where batches containing up to 216 pouches are formed. Afterwards, they arrive at the matrix sorter, the main element of the SSI Carrier.

The matrix sorter sorts pouches and creates customer orders out of the batches in sequence. After sorting the pouches according to orders, items continue in the correct sequence to a packing buffer to the unloading stations. The entire process is controlled by the logistics software WAMAS® which communicates with the customer's superordinate warehouse management system.

Finally, the goods are taken out of the pouches and are packed into shipping cartons. They are transported to goods-out where telescopic conveyors facilitate loading the trucks.

## Fast Provision of Returns

The SSI Carrier is crucial for fast returns processing. After a check, returned goods that are in high demand are stored directly in the dynamic buffer of the SSI Carrier, not the static rack system.

The goods are thus immediately back in the system and are fully automatically available for new orders and re-shipment at any time.

# SSI CARRIER - A WELL-ROUNDED SYSTEM FOR E-COMMERCE AND OMNICHANNEL



Optimum use of space thanks to hanging transport of goods

The core of the system is the innovative pouch sorter SSI Carrier by SSI SCHAEFER. This modularly designed pouch conveyor enables flexible and gentle transport of flat and hanging goods. It processes smaller orders typical for e-commerce as well as larger retail orders in any combination with a high level of efficiency.

The main element of the SSI Carrier is the matrix sorter. The matrix sorter sorts pouches and creates customer orders out of the batches in sequence.



"The pouch sorter is an important component for our concept of a "best in class" logistics operation. It serves to process the majority of orders with a high degree of automation. This results in very short throughput times with significantly reduced costs and reliable processing."

Felix Köhler  
Warehouse Manager  
at Fenix Outdoor Logistics





In doing so, orders with different sizes and destinations can be processed at the same time, unloaded in desired sequences at unloading stations, packed and provided for shipment. At the distribution center of Fenix Outdoor Logistics, up to 4,500 different items per hour can be transported, accumulated, buffered, sorted and sequenced with the SSI Carrier.

The dynamic buffer is another important element of the pouch conveyor. Fenix does not only use the dynamic buffer for fast processing of returns, but also for temporary storage of items that must be available as quickly as possible.

Using the SSI Carrier, standard components can be combined modularly and variably to form complex systems, which can be flexibly extended at any time. Since the pouch sorter met the expectations of Fenix Outdoor Logistics entirely, the second construction stage was implemented, and the existing SSI Carrier module will be extended in due course.

A service contract with the SSI SCHAEFER Customer Service & Support (CSS) division was concluded as well.



High sorting accuracy and process safety

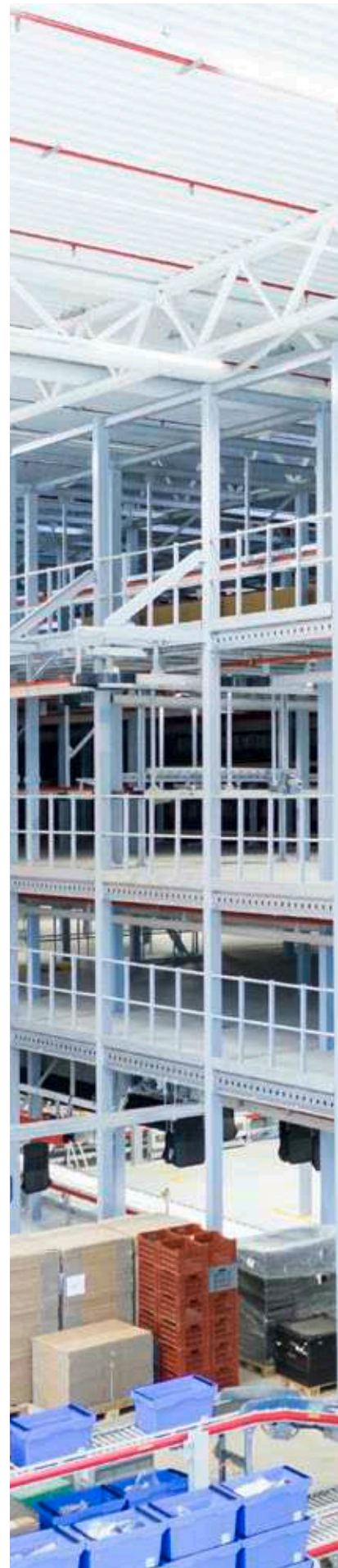
# FACTS AND FIGURES

## System Key Figures

|                         |   |
|-------------------------|---|
| Warehouse size          | 10,000 m <sup>2</sup>                                   |
| Item range              | Outdoor Equipment                                       |
| Orders / day            | Approx. 4,400   |
| Lines / day             | Approx. 11,700 on average; at peak times approx. 20,800 |
| Conveyed material / day | Approx. 5,900 cartons in goods-out                      |
| Shifts / day            | 1, at peak times 2                                      |
| Working hours / shift   | 8   |

## SSI SCHAEFER Scope of Supply and Services

|   |  |
|---|--|
| <b>Planning and implementation</b>  |  |
| Conception and realization  | - Creation of logistics concept<br>- Turnkey implementation as general contractor                    |
| <b>Pouch sorting system SSI Carrier</b>                                   |  |
| Modules   | 1  |
| Sorting capacity  | Up to 4,500 items / hour   |
| Number of pouches   | 25,000   |
| Loading stations  | 6  |
| Loading capacity / station  | 750 items / hour   |
| Unloading stations  | 11   |
| Unloading capacity / station  | 410 items / hour   |
| Clearing station  | 1  |
| Buffer and sortation areas  | Dynamic buffer, multibatch buffer, batch buffer, matrix sorter, unloading buffer, empty pouch buffer |
| Accumulation conveyor   | 2,319 m  |
| Circulation conveyor  | 835 m  |
| <b>Storage system</b>   |  |
| Three-story static R 3000 rack system incl. self-supporting platform      | 92,610 storage locations   |
| Pallet rack system, type LTR 600  | 1,508 storage locations  |
| Pouch sorting system SSI Carrier  | Capacity for 11,200 pouches in dynamic buffer  |
| <b>Picking system</b>   |  |
| RF picking  | 16 terminals   |
| Pouch sorting system SSI Carrier  | 6 <sup>3</sup> matrix sorter (sortation of 216 pouches in 3 sorter stages, 6 lines each)             |
| <b>Conveying system</b>   |  |
| Carton and bin conveying system   | 1 km   |
| Pouch sorting system SSI Carrier  | 3.5 km   |
| <b>System components</b>  |  |
| - 1,500 order bins, type KMB 632<br>- Customer Service & Support contract | <b>Software</b><br>Logistics software WAMAS®   |







## SIX REASONS FOR CHOOSING SSI SCHAEFER

- **Stability**

As a financially independent family business, SSI SCHAEFER is committed to long-term solutions. You can trust that our team of experts will be there for you today, tomorrow and in years to come.

- **Efficiency**

SSI SCHAEFER solutions are scalable and able to grow with your business. You can always upgrade or retrofit.

- **Quality**

As a systems specialist and original equipment manufacturer, SSI SCHAEFER provides tailor-made and high-quality solutions from a single source, specifically designed to meet your challenges.

- **Reliability**

Thanks to our worldwide Customer Service & Support network, SSI SCHAEFER ensures smooth operation of your system, both during and after installation.

- **Know-how**

SSI SCHAEFER solutions are always up-to-date with the latest technological standards and can be easily integrated into an existing (IT) landscape.

- **Internationality**

As a global organization, SSI SCHAEFER has local offices worldwide. With over 70 operative subsidiaries, our team of experts speak your language.

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