# TGW Provides Esprit With A DropBox Solution

**Esprit distributes up to 25,000 packages a day to its customers. To be able to handle these capacities and offer appropriate services to the customers, Esprit trusts in the logistics know-how of fashion logistics specialist Fiege and in the technological competence of systems integrator TGW. The new Distribution Center Europe (DCE) in Mönchengladbach is well equipped for the supply of all European Esprit customers.**

There are plenty of impressive figures about Esprit's logistics. But the most impressive is probably the following: 1 million items can be handled on one day in Esprit's logistics centre in Mönchengladbach. With operations of such a big scale, the logistics system must pull the strings, as only the IT brain of the system is able to organise these quantities.

Esprit's Distribution Center Europe (DCE) located in Mönchengladbach, Germany, supplies all retail and wholesale shops in Europe. Supplies of approx. 100 million items is planned for the next year from the facility operated by Fiege. In total, the DCE is dimensioned to handle up to 150 million items per year. 85 % of Esprit's total revenue are handled via the warehouse at the Mönchengladbach site which exclusively accommodates Esprit flat-packed garment as well as so-called NOOS. These are goods which must be permanently on stock and therefore be "never out of stock". TGW implemented a "DropBox solution" which allows for 100% sequencing of the goods in shipping cartons.

**Different requirements for high-value Esprit shops**

The construction of the new logistics centre in the Regiopark industrial area was started in January 2010, which constitutes another milestone in the partnership closed between Esprit and Fiege already in 2000. The implementation of the materials handling solution was started at the beginning of 2011, live operation began in July 2012. In May 2013, the system was successfully accepted by the customer, and the final ramp-up will be finished by end of 2013.

Fiege operates the DCE for Esprit and is responsible for reliable and fast supplies of the shops throughout Europe. Therefore, it is essential that all goods in the logistics centre are ready for shop replenishment at any time.

When looking at the base area of 76,000 sqm and a headcount of about 300 employees, one can already sense the dimensions of the distribution centre. The strategically favourable location near the Düsseldorf Airport, in the centre between the seaports of Rotterdam and Hamburg and directly at the A61 motorway, is not only ideal for the replenishment from the company's international production facilities, but also for fast supplies of the shops all over Europe. A sophisticated material flow concept ensures that all goods are in the right place at the right time in the DCE. It was the first time the TGW DropBox solution was implemented - with success. "Time and again it is fascinating to watch this solution. We have fun with the logistics solution, though it has no end in itself", Axel Witte, Head of Global Warehousing at Esprit, is happy, pointing out that, for the fashion retailer, it serves the purpose of efficiently supplying its stationary retail channels.

**DropBox provides the right sequence in shipping cartons**

The demands on Esprit's new logistics centre were high: Apart from the required high performance, the possibility of exact, customer-specific item sequencing was an important aspect, too. "Therefore, TGW offered the DropBox solution to Esprit. It is a highly sophisticated technical approach which enables Esprit to meet the wishes of the shops and retail customers", explains project manager Peter Ehrenhuber, Director Realization of TGW Logistics Group.

The DropBox solution responds to the requirement of shop-based sequencing in shipping cartons. It allows to define individual sequences in which the items are packed in the DC, based on how the goods are arranged in the shops. Thus the sales staff only have to use a minimum amount of time to stock up the goods in the shops. "We are able to sequence the contents of a customer carton 100% or pack them individually for Esprit. The sorted sequence of the goods in the carton reduces the amount of work involved for the employees in the shops", Peter Ehrenhuber is convinced.

**The goods' journey through the distribution centre**

The goods travel through the DCE on a total of about 23 kilometres of TGW conveyors. The materials handling equipment is designed to handle high performances of up to 10,000 cases per hour and conveyor line, which provides Esprit with the necessary dynamics and speed for their high demands.

*Goods receiving - The journey starts with a label*

In the goods receiving area, the conveyors forward the delivered goods to the labelling machine where the cartons are identified for internal tracking purposes. Immediately after that, the packages are automatically checked by being scanned at the ID Point as well as weighed and measured. As soon as the scanner detects a carton with an incorrect shape or bad quality, this carton will be automatically redirected to the rejects station where the goods are repacked to a proper carton and returned into the material flow.

*Automatic mini-load warehouse – 202,000 storage locations for Esprit*

The cartons are stored in the automatic carton warehouse by TGW Mustang stacker cranes. The warehouse has a capacity of 202,000 storage locations in 36 aisles, where the cartons are stored in double depth until they are retrieved and transported to the picking stations as needed.

*The innovative DropBox principle*

"The 'DropBox' system operates in two steps and allows for high-performance picking and packing, as these two processes work independently from each other", explains Peter Ehrenhuber. At the 45 picking stations, the goods are picked from the cartons and packed into especially provided DropBox order totes. An own DropBox is used for each order line, as this is the only way single-item sequencing works without problems.

The picking personnel receive their picking instructions via a touch screen, the system combines the orders and merges the order lines with the same items at one workstation. This way, as less as possible partial cartons are generated. In case some items still remain in the carton, this carton is returned to the automatic mini-load warehouse. Empty cartons are also withdrawn automatically. Thanks to the ergonomic arrangement of workstations and the very simple picking process, the solution achieves a picking performance of 1,000 items per hour and workstation.

*Packing process separated from order picking - A complex sortation system*

The goods are now packed in the right sequence, which is ensured by a multi-stage, fully automatic sortation system. The pre-sorting and fine sorting concept is based on a mathematical algorithm (Radixsort) and is realised by means of TGW Natrix sorters. As a result, the goods are delivered from the sequencing buffer to the packing workstations in exactly the sequence in which they shall be packed into the shipping cartons. The Fiege personnel receive the necessary instructions for the order cartons on displays provided at the workstation. Up to 1,600 items can be packed per hour and worker at these workstations.

With the large volume of packages that Fiege is shipping for Esprit - namely up to 25,000 per day, the system is supported by a shipping buffer which consists of another mini-load warehouse including 16 TGW Commissioner storage machines with a capacity of 16,000 storage locations. In the goods-out area, the shipping cartons can still be reworked at 88 VAS (Value Added Service) workstations as requested by the customer.

On their way to the correct shipping lanes, the cartons are scanned again to avoid errors. The individual cartons are directly distributed to the shipping lanes leading to the respective truck or are palletised before they are sent to the customer.

**Successful implementation leaves the customer happy**

The implementation of the new DCE in Mönchengladbach was a raving success for Esprit and Fiege as well as for TGW. "This project involves dimensions which you could not have imagined at first sight. Therefore, it has been implemented in five construction stages. To cope with the long installation times, the different system areas were commissioned in modules. That is to say one area had already been commissioned whereas the installation work in another area was just about to start", recounts Herbert Marquardt, Managing Director of Fiege. All parties involved are more than satisfied with the logistics centre. "What finally led to the success might have been the fact that all teams involved in the project were present on site right from the beginning. The collaboration was very close, as this was the only chance we had to implement the interfaces without problems", remembers Axel Witte. The biggest challenge, which everybody agrees upon, was the SAP integration into the system, or more precisely the interface between SAP and the material flow controller. "But together, we managed everything and now, we have an outstanding distribution centre", adds Witte.

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**Esprit is successful with TGW**

In addition, Esprit signed a 5-year On-Site Service contract with TGW, which was organised at an early stage prior to go-live. 21 TGW employees are currently working at the Mönchengladbach site, and have been successfully operating the system in 2 shifts since July 2012.

**Objectives and requirements**

- Materials handling of changing collections/focuses

- Combination of wholesale and retail customers

- 50,000 items per hour

- Right sequence of goods in shipping cartons – optimised for the respective shop layout

- Automatic sortation system for high-performance sequencing

**Customer benefits**

- TGW acts as general contractor, offering a one-stop solution

- Up to 405,000 order lines per day are possible

- TGW DropBox concept: Separate Pick from Pack

- Single-item order processing provides for high picking performance

- "Regiopark" industrial area offers optimum traffic connections

**About TGW Logistics Group:**

The TGW Logistics Group is an integrated solution network. Since 1969 the company has been implementing different internal logistics solutions, from small material handling applications to complex logistics centres.

The companies of the TGW Logistics Group can look back on a successful development. With about 1,680 employees worldwide by now, the Group implements logistics solutions for leading companies in various industries. In the business year 2012/13, the TGW Logistics Group generated sales revenues of 388.9 million Euros.

**Pictures:**

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Esprit\_MG\_9366\_hq.jpg:
ESPRIT Distribution Center Europe – Front view with main entrance and loading ramps.

Esprit\_MG\_9531\_hq.jpg:
The automatic mini-load warehouse by TGW accommodates 202,000 cartons in 36 aisles.

Esprit\_MG\_0046\_hq.jpg:
In the order picking area, workers pick single order lines which are afterwards sequenced correctly by the system.

Esprit\_MG\_0039\_hq.jpg:
The TGW Natrix Sorters take care of the sortation, controlled by a high-efficiency software with a sophisticated sorting algorithm.

Esprit\_MG\_0165\_hq.jpg:
At the packing workstation, the goods are packed into shipping units in the exact sequence.

Esprit\_MG\_0106\_hq.jpg:
Up to 1 million parts are picked, sorted, packed and shipped per day.

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