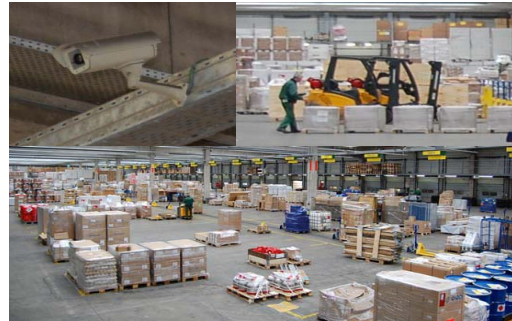


### The Challenge

#### When shipments are mislaid

Following 18 months of reorganisation, in November 2007 logistics services provider Bursped Speditions GmbH & Co., based in Hamburg- Moorfleet, began operating its fully refurbished warehouse. „One of the most modern distribution centres in the whole of Germany“ is the verdict of Roland Mrowka, Operations Manager at the new Bursped distribution centre. This long-established Hamburg company is one of Germany's most respected freight forwarding companies. At its 13,500 m2 distribution centre, approximately 3,000 shipments or around 1,000 tons of freight are handled every day. There are three loading zones: 2,500 m2 for third-party logistic activities, the remainder for freight forwarding. The challenge: „High-quality service and protection against loss are major competitive advantages for freight forwarders“, explains Mrowka. „From the beginning we were therefore looking for an efficient monitoring solution to cover the entire warehouse.“

A further consideration was how to track the movement of goods, especially when individual shipments are „mislaid“.



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„Staff are a major factor in the handling of freight,“ explains Mrowka. „Shortage of time and the usual warehouse pressures will inevitably mean that some shipment items are not where they should be.“ The dispatch of incomplete shipments has a negative impact on customer satisfaction and results in time-consuming searches later on.

### The Solution

#### Video monitoring and real-time location

„Video monitoring combined with an efficient location system covering the entire warehouse was therefore absolutely essential,“ states Mrowka. The contract was awarded to eseg Deutschland GmbH in Bornheim, Germany. Experts in security systems for logistics and a Ubisense strategic partner, eseg developed the videoassisted picture indexing, recording, storage, and management tool used at Bursped and worked with Ubisense to integrate precise real-time location into the solution.

#### ROI in less than 12 months

Numerous service providers in Germany rely on Ubisense for precise real-time solutions to optimise

and monitor their in-house logistic processes. For in-house logistics especially, Ubisense solutions offer major optimisation potential in process flow, loss protection and reliability. Reference applications at renowned logistic service providers demonstrate that Ubisense based solutions increase the transparency of dynamic production processes to a previously unattainable level. This provides a large number of benefits that typically offer a rapid return on investment in less than 12 months. With Ubisense systems, material flows are made transparent both directly by means of tracking and indirectly by recording the movement of transport devices. In this way Ubisense allows the precise spatial and temporal recording of mobile working devices, tools and other high-value goods - in real time and to an accuracy of 15 centimetres. When linked for example to the shipment ID, this allows goods movements in manual warehouses to be tracked and displayed transparently without the need for additional software. The Ubisense system consists of three components: active batteryoperated tags, sensors, and location platform software.



At Bursped, the tags are integrated with the 30 barcode scanners used by the staff. The usage of Ultra-wideband pulses to locate the tags (and hence the barcode scanners) is particularly important in environments such as a cross-dock warehouse where a considerable amount of metal and moving vehicles are to be found. The Ubisense system eliminates the signal reflections generated in such an environment and uses just the direct signals to continuously update the scanner locations so accurately that it is possible to determine in which camera field of view the scanner is located. The built-in redundancy of the sensor network deals with situations such as pallets or people blocking the signal to one of the sensors and leads to much higher reliability than any other location technology. The sensors installed in the Bursped warehouse pass the location of each scanner on to the eseg software storing the pictures from each camera. In this way, the eseg system “knows” which camera is looking at which scanner at all times.

#### **32-day archiving period**

During the early morning peak time at the Bursped facility in Hamburg, up to 120 trucks stand ready at 140 entrance gate ramps. The drivers submit their papers which are then checked against the recorded data already supplied by remote data transmission. The shipments are marked with a Serial Shipping Container Code (SSCC) and the arrival time of the lorry is documented in the IT system.

20 fork-lift trucks process the freight pallets in parallel along six lanes. Once the pallets reach the interior of the warehouse, they are captured on video, one image per second, by the 160 cameras. Approximately 13 terabytes of storage space is available in the video picture store at the Bursped distribution centre. “That is sufficient for an archiving period of 32 days, two days more than are required for safe-plus certification,” continues Mrowka. „We have therefore been awarded the safety certificate.” On transfer to the warehouse, one of the approximately 90 warehouse employees records the SSCCs of each shipment using a hand-held scanner. This also happens each time the goods need to be moved again within the warehouse. „This has helped us to counteract human error“ explains Mrowka. The continuous location of the scanners in terms of the camera field currently viewing them, combined with the SSCC captured by the scanner, functions as a form of index to the video picture store. With the Ubisense location system this works both with simple floor storage and with rack storage, in three dimensions, with the tags located on scanners, fork-lifts (to determine where a pallet has been placed) or directly on pallets for high value shipments where an alarm should be raised whenever the shipment is moved. In large, software-assisted warehouses, the recorded data can be provided for MIS, in order to analyse and, where necessary, improve process flows.

## **The Result**

### **Fewer errors, better quality of service**

At Bursped, location data is used mainly to track the flow of goods when shipment items are mislaid. „It used to take us several hours to go through video tapes in order to determine the route and position of the shipment in the warehouse. Thanks to real-time location, this takes just a few minutes,” explains Mrowka. When enquiries are necessary or if incorrect quantities are identified during loading, all that is now required is for the SSCC to be entered at one of three information terminals. When compared against the real-time location information recorded by the Ubisense software, the place and time of the last-known location of the shipment in the warehouse is immediately available. With just a few mouseclicks in the eseg software, the appropriate video material is activated and the current location of the pallet identified.

According to Mrowka, „This has reduced the number of errors to a minimum and greatly

increased the quality of our service. A happy side effect has been the way in which the system has considerably improved staff morale: whereas searches used to be both timeconsuming and irritating, the rapid searches now possible thanks to the new transparency of precise real-time location allow every member of the staff to remain quite relaxed. We have achieved everything possible in freight forwarding regarding process security and distribution quality: our logistic processes work.“

## About Ubisense

Ubisense is the world leader in Precise Real Time Location Systems, tracking unlimited numbers of people and objects in any space of any size. With unmatched 15cm 3D tracking accuracy and high reliability, its acclaimed open standards technology platform gives enterprises the power to bring visibility and control to previously intractable business processes. Together Ubisense consulting and its partners, such as IBM, Atlas Copco, Lockheed Martin and Raytheon deliver geospatial and RTLS systems, pioneering innovation whilst reducing costs, gaining competitive advantage and improving safety for companies across all vertical markets. With over 400 customers worldwide including BMW, Caterpillar, DHL, Duke Energy, Deutsche Telekom, US Army; Ubisense is revolutionising industries today. Visit [www.ubisense.net](http://www.ubisense.net)

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