

TASK

Tracing of Shipments in Distribution Centres

Thousands of shipments pass through a distribution centre every day. Time and reliability are crucial to the entry of incoming deliveries and their transit to the correct exit gate for onward shipment. However, problems exist: when things are hectic it is often difficult to find a shipment, or it may be damaged. Although the resulting contractual penalties are covered by insurance, it is a laborious process to re-trace what happened. The most reliable data input device in this environment is still the barcode scanner. Yet how is it possible to trace shipments in the warehouse and to ensure that they leave the warehouse on time?



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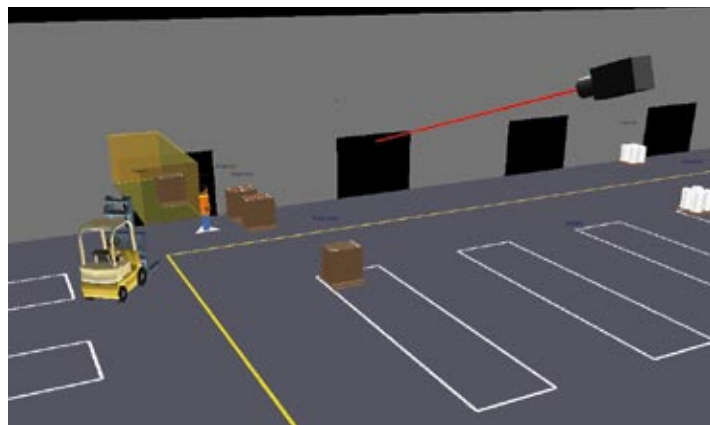
SOLUTION WITH UBISENSE TECHNOLOGY

Location of Barcode Scanners for Indexing of Video Sequences

Solution Description

The basis of the solution is a digital video monitoring system which records the activities in the distribution centre. The cameras are positioned so that the entire warehouse is covered, with no gaps. Each camera records one image per second, which is stored in the digital picture archive.

The barcode scanners are fitted with active Ubisense tags. Each time an article is scanned, the ID number of the shipment, the coordinates of the scan and the date and time are recorded. The coordinates allow the scan procedure to be uniquely assigned to the monitoring zone of a camera.



Process Description

The entry, movement and exit of the shipments in and from the warehouse are recorded by barcode scanner. Using the Ubisense tag, the barcode scanner is reliably located to a resolution exceeding 30 cm and in real time. The data entered on the shipment, location, time, and camera zone - are sent to the warehouse management system and linked to the video data.

The problem of finding a particular shipment is now easily solved. After entering the shipment number, the sequence of video images on which the scans for the shipment are recorded are displayed, together with the relevant time and location details. This makes it easy to trace the route of the shipment through the hall and to identify the causes of any inconsistencies.

Benefits

The availability of a picture archive with spatial indexing considerably reduces the number of lost and delayed deliveries. This in turn leads to lower insurance premiums and fewer claim settlements. As a result, in less than 12 months the system has paid for itself and it is not even necessary to employ additional staff to search the picture archive.

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