Münster- Osnabrück airport uses modular scan technology to identify baggage - Datalogic

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A revolutionary baggage conveyor and sorting system has been installed using Datalogic bar code reading technology.

Statistics show that the number of passengers passing through Münster- Osnabrück airport, in Germany is on the increase. In fact over the last few years the number has doubled, two-thirds of which are tourist travellers. For this reason it was decided to install a new revolutionary baggage handling system from BEUMER. This system is used in medium sized airports and can be expanded to cater for future increases in passenger numbers.
The baggage sorting system of the new terminal is based on transport vehicles without driver. These 30 vehicles which convey baggage at high speed – up to 10 m/s – to the correct chute, are supplied without contact with power and data. The orders transmitted to the BEUMER autoca® are excecuted automatically and are self-governed via the drive and control technology installed in the BEUMER autoca®. This results in a decentral control structure. At the exit the baggage container for each aircraft is already waiting.
Before the passenger baggage arrives at the almost futuristic looking conveyor, it has to pass the scan tower as well as the X-ray machine. The Datalogic reading system reads the bar code tags and sends this information to the BEUMER material flow computer. The tags are composed of T-labels, where two identical bar codes are placed perpendicularly to one another to form a capital T, although the scan tower would also be able to read baggage with single-labels.
Thomas Frank, BEUMER Sales Engineer for Sorting and Distribution Systems states:
“Each piece of baggage is given a transaction number, which is then used for the entire conveyor process. Under this transaction number various information regarding the baggage is gathered from the reading station and X-ray machine. Each piece of baggage is assigned to a transport vehicle which can dispatch 1,500 pieces of baggage per hour. In front of the scan tower there are weighing scales and length measuring stations to control the weight and dimensions of the cargo.”
For this particular application, bar codes must be read omni-directionally. In addition to four fixed position high performance DS8100 scanners, four omni-directional DX8200 laser scanners have been installed in the scan tower. With these two kinds of scanners working together it is possible to reach a 98% scan rate. The DX8200 solution is smaller and takes up less space than the DS8100 and is 100% compatible with the DS8100. Two DX8200 are installed left and right of the scan tower, two DS8100 are placed above the conveyor belt, and an additional two DS8100 are placed below the belt to read any labels lying face down on the belt between a seam. Datalogic PackTrackâ„¢ technology makes it possible to reduce the distance between each piece of baggage and increase throughput.
The scanners are equipped with standard interfaces, for easier installation and maintenance. They are controlled by the SC8000 system controller which co-ordinates the various scanners and manages the data coming from them, to ensure omni-directional reading with high reliability. The system controller is an industrial PC with Datalogic software running on it. The scan tower can continue working even if

one of the eight scanners breaks down, and can then guarantee an equally high reading rate.
Due to the modular design of the system, it is not a problem to make extensions.
This was a particularly important point for the airport, which is thinking of future growth, and does not wish to have to make a completely new installation with the related investment costs for each stage of expansion. On the whole, problems associated with implementing the new reading technology were kept within limits. According to Matthias Rehling, Service Centre Manager for Machinery Technology at Münster- Osnabrück airport: “At the beginning we had a problem with the baggage labels, because the label printer did not print properly.” Apart from this, which was not a problem caused by Datalogic, Mr Rehling was very satisfied with the collaboration between BEUMER and Datalogic.
“The reading system is very reliable. The only time a scanner broke down was because a nail file sticking out of a beauty case damaged the reading optics. But it was possible to replace the scanner quickly with a standby machine.”
DS8100
The DS8100 is a high performance laser scanner with built-in decoder. The DS8100 can read omni-directional medium/high density codes on very fast conveyors with a large reading area and a minimum gap of 50 mm between parcels. Successful and proven ACR™ technology is combined with PackTrack™ to reduce distances between objects and increase system throughput.
DX8200
DX8200 omni-directional laser reader provides a real plug and play approach to omni-directional reading for unbeatable price/performance ratio. The same technologies of the DS8100 are used in the DX8200, making it a powerful solution for omni-directional bar code reading, with minimum support for installation and setting.