A Case Study in
Productivity

Volume measurements and identification as an officially calibrated parcel solution

— By Sandra Hubach —

Shippers, warehousing managers, logistics professionals — they all have one thing in common (if not more!): A main goal of their everyday tasks is to increase productivity. TNT Express recently adopted that goal as paramount and therefore equipped their depot in Neuss with a completely automated DWS system (Dimensioning Weighing and Scanning). The "legal for trade" volume measurement system VMS 520 and the OPS 490 omni-portal reading system from SICK plus a weigher system from OCS Checkweighers are being used as the "parcel solution."

Improved results here are not merely the byproduct of optimized processes; they also allow the facility to account for each customer's actual handled number of parcels and volumes. Added to that are improved sorting and provisioning and distribution processes in the depot as well as improved process reliability because the barcode, weight and dimensions provide every parcel with its own unique identity, making them uniformly controllable and traceable.

Accounting the Actual Rendered Services

Officially calibrated system components are prescribed for so-called Revenue Recovery — i.e., the facility makes subsequent charges for the actual rendered logistics services. Along with the weigher, which takes over precise and rapid weight determination, this process also involves volume registration. The VMS 520 uses a measuring instrument that has been certified by the Dutch National Measurements Institute (NMI) as EU type approved ("MID certificate") and additionally certified on the basis of the test parameters in the OIML R129 standard. The scale intervals and the calibration error limit is around 0.5 cm — each related to a maximum conveyance velocity of three meters per second. Even objects with edge lengths from 50 mm

> A **main goal** of logistics professionals is to **increase productivity**. Unfortunately, that is often easier said than done.

can be measured "calibration exact." That means the measurement system can be integrated with a calibrated weigher and barcode scanners in officially calibrated complete systems.

Sorter Control Using Omni Scanner

An OPS 490 barcode reading system was integrated into the DWS for identifying the parcels in the depot and sorting system guidance control. The system, along with an analyzing unit, is composed of multiple series CLV 490 standard scanners. The scanners, with integrated real-time autofocus, generate a nearly 800 mm x 800 mm scan width, in which at least one scanner always correctly reads the barcode label. The analyzing unit controls the reading processes in the individual scanners, processes the reading gate and path information and assigns the barcode information to each object. After all, up to 2,500 parcels per hour demand real-time communication.

The data from the VMS 520 and the OPS 490 are transmitted to the weighing system, with which the weight data is combined into a single data string and sent via Ethernet to the depot's IT host system. That means even during high parcel turnover, all relevant information needed for the sorting and the Revenue Recovery program is available in real time.

Dynamic Weight Determination

The OCS weighers take care of precise and rapid weighing along with transporting at a controlled speed (certified according to MID and OIML R 51Y (a)). In addition, the products are separated by the controller according to the respective product lengths and optimally fed to the weigher. The data records for each individual measurement (volume, weight, barcode) are stored in an alibi memory.

The DWS system amortizes itself in a few months through improved processes in the depot and the facility for invoicing the actually rendered transport services and, if applicable, subsequently charging them.

The newly developed A/B sorter and the additional transport systems are supplied by the Schmid Company. ∎

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