

## Case Study: Linen Tracking at a Large Casino Hotel

Macau's casinos are some of the biggest in the world and when a new property opened with 1,800 rooms, management worried how they could protect their five-star linen from loss at the laundry.

The decision was taken to fit RFID chips to the \$5m inventory and Autovalet's Dress Code system was chosen to track soiled articles as they left the hotel and scan clean carts as they returned.

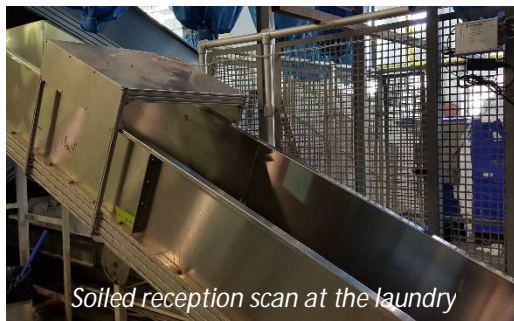
Autovalet implemented a strategy that ensured linen was scanned at multiple locations. At the hotel, soiled linen is scanned at the base of the chute and then again at the loading dock as it leaves. Clean linen received is also scanned in carts at the same check-in station. The external laundry contractor agreed to partner in the project and fit Autovalet RFID readers at three stations within their plant.



*Loading Dock scanning at the hotel*

Managing all these readers – each manufactured by Autovalet – is Dress Code which also tracks uniforms for 9,000 employees at the hotel. Dress Code exchanges the tracking details of every linen item with a companion system installed at the laundry. This allows the laundry to scan and recognise every item sent for cleaning.

Within the laundry, RFID readers are fitted to both reception conveyors which take soiled linen up to the sorting stations. On the clean side, two Autovalet-manufactured bundle stations were supplied. These prevent operators scanning a clean bundle if chips are detected from two accounts – tackling the most common cause of loss where one property's linen is sent to another.



*Soiled reception scan at the laundry*

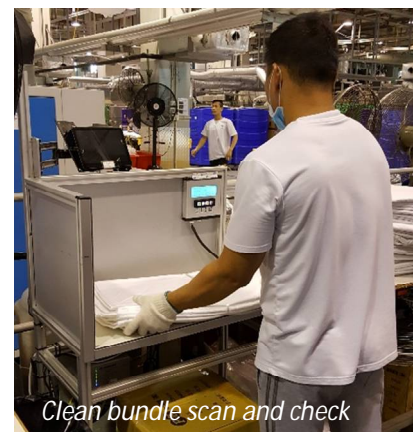
The bundle stations are autonomous and don't need a PC. They also help identify mixed bundles (e.g. king and queen sheets together) and those bundles with faulty or lost chips which are placed in a separate cart for checking at the hotel.

When the carts are dispatched, they are rolled past the final reading station which is mounted on the wall and ceiling at the loading dock. Again, no PC is required

and the operators don't even need to stop the cart for the scan. The Autovalet reader is pre-loaded with data of bundled items and doesn't need to scan all chips in the bundle to register them as dispatched.

The same technique is used at the hotel. Dress Code is updated over the internet with bundle data so that carts offloaded from the truck can be scanned quickly and accurately. Dress Code provides the hotel with a constant tally of items that have been sent for cleaning but have not yet been returned.

Quarterly review meetings with the laundry have found that discrepancies - even with a daily volume of just under 20,000 pieces sent for cleaning - are currently less than 0.1% of items dispatched.



*Clean bundle scan and check*

The success of the system results from the fact that most scans are automated and no single scan is critical. Dress Code constantly updates records so that even if some items are not read, their status is updated on the next scan. Regular count sessions – which are themselves mostly automated and assisted by handhelds running Dress Code mobile – purge the inventory of missing stock.

Scanning at both the hotel and the laundry greatly improves accuracy and confidence in the system while providing the laundry with the opportunity to double-check clean linen and ensure the correct items are returned to each customer.

The only weak point is the RFID chip itself. These can break in the wash press or become detached from the host item. Over time, they can also become weaker to read. However, suppliers are constantly improving the technology and the benefits greatly offset any disadvantages.

For further information on Dress Code and linen tracking, please contact Autovalet Systems:

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