Internet of Things SL
Sensing Assets

LINEN TRACKING SERVICE MANAGEMENT AN RFID USE CASE

LANDSCAPE

- Hotels with 150 rooms or more, 4+star rating
- Linen inventory carrying costs higher than required
- Frequent orders to procure new linen due to shortage

BUSINESS DRIVERS

- Reduce total inventory carried and maintain it at less than 3 par
- Reduce loss of linen and prevent short supply of linen when guests need it
- Streamline operations and have processes to count linen accurately and quickly
- Improve productivity of employees

CHALLENGES

- No way to count linen when sent to laundries for washing
- Huge variance observed in inventory holdings when washed linen is return by laundries
- No way to accurately verify inventory of linen owned.

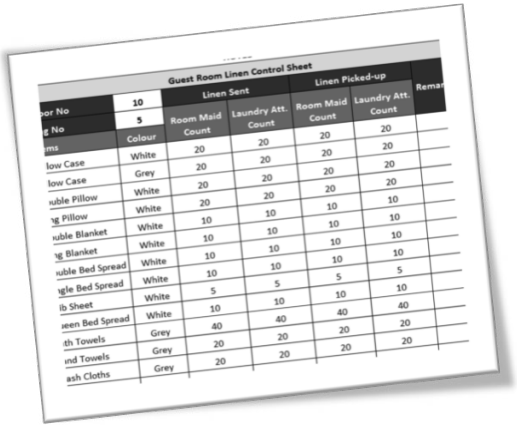
Hotels typically maintain 2.5 to 3 par of linen. In the hotel industry, par stock is a widely used term, which is the standard way to determine the minimum level of supplies to meet daily demands of daily hotel operation. One par is the total of all types of linen required to furnish every room in the hotel. For a 150 room 4 star hotel, one par linen costs approximately $15,000. A leading hotel in Santa Monica, California, had close to 6 par linen in inventory. Linen was lost in large quantities at the laundry and employees stashed linen on every floor for their own convenience to service clients. Laundries also charged hotels by weight for washing linen. The linen was weighed only at laundries going in and out. There was no way to account for any missing linen and to hold laundries or hotel employees accountable.

HIGHLIGHTS

The IoT software platform was deployed and all linen in the hotel was replaced with linen embedded with RFID tags. Fixed RFID readers installed at hotel shipping doors enabled the hotel to count pallets of dirty linen as they were being shipped to the laundry. As pallets of linen were being sent out, it was counted and classified into sheets, pillow cases etc. The clean linen, when returned from laundry, was also counted and tallied. Hand held RFID readers enabled hotel employees to conduct physical inventory counts and distribute linen at multiple closets to service client requests efficiently. With a system in place to count linen, laundries were now held accountable for lost linen.

Early observations revealed that the hotels were ordering less linen and were able to bring the inventory of linen down by about 30%. Laundries worked with hotels and installed IoT software and readers, creating a closed loop system. Lost and misplaced linen in laundry and hotel was traced. Linen lost or stolen while being transported was reduced.

The hotel was able to negotiate a cash penalty from laundry for lost linen. The penalties alone covered more than the cost of the software deployment. The streamlined process reduced labour costs and increased efficiency of operations. The linen tracking system was expanded to track banquet infrastructure, including cutlery and furniture.



Guest Room Linen Control Sheet

		Linen Sent		Linen Picked-up		
	10					
	5					
	Colour	Room Maid Count	Laundry Att. Count	Room Maid Count	Laundry Att. Count	Remar
low Case	White	20	20	20	20	
low Case	Grey	20	20	20	20	
uble Pillow	White	20	20	20	20	
g Pillow	White	20	20	20	20	
uble Blanket	White	10	10	10	10	
g Blanket	White	10	10	10	10	
uble Bed Spread	White	10	10	10	10	
gle Bed Spread	White	10	10	10	10	
ib Sheet	White	5	5	5	5	
een Bed Spread	White	10	10	10	10	
th Towels	Grey	40	40	40	40	
nd Towels	Grey	20	20	20	20	
ash Cloths	Grey	20	20	20	20	

OUTCOME

The IoT software platform deployment has resulted in higher quality data at a lower cost of inventory holding. Labour costs have been reduced by a third and there is increased productivity. Hotels are able to know inventory held in each closet in the hotel as well as in clean room and linen sent to the laundry. Laundries are forced to charge hotels by the exact number of linen washed rather than by weight as was being done earlier. The cloud-based system has reduced dependency on local IT for day to day operations and has empowered operational staff to make quicker and more informed decisions.