

# Italy: a pilot project to manage bed linens and workwear within each hospital department thanks to RFID.

## RFID and hospital laundry services.

The use of RFID technology for bed linens and uniform laundry services has brought significant benefits to hospitals in terms of efficiency and cost reduction, allowing a significant improvement in the quality of services offered. The implementation of RFID, which allows for the immediate identification of soiled linens, satisfied the hospital's requirement to determine with certainty each department's linen stock, in order to make predictions regarding the future trend of linen needs. At the launderer, there have been many advantages related to the reduction of processing errors, starting with a significant reduction in complaints and supply disagreements, all the way to tracking of the garments during the entirety of the work process which has generated an appreciable decrease in labor costs.

## LIM (Lavanderia Industriale Mappanese) an industrial laundry using RFID system for detailed tracking in each department of a hospital facility.

What does LIM offer in terms of products and services?

The laundry offers washing and rental services for bed linens and uniforms to health, welfare and hospital institutions, using the most innovative and efficient equipment available in the industrial laundry sector. An inclination toward technological innovation has always been the driving force that allows the company to offer services that meet customers' needs.

Regarding the project developed, what needs are satisfied through the innovations that have been introduced thanks to the use of Datamars RFID systems?

The use of RFID tags has made it possible to carry out a detailed management of hospitals' internal stock of linens. The industrial launderer LIM recently implemented tracking for some hospitals, starting with the management of the hospital wardrobe and getting down to the individual departments, using the system to serve more than thirty different departments and clinics within the same hospital, representing an important step forward in terms of outsourcing services.

The company needed to find a solution that would allow for the management of uniforms and bed linens in order to provide an immediate and detailed reading of linen supplies for each department, in order to make the soiled/clean exchange almost immediate, to provide numerical data on deliveries in a quick timely manner, and to guarantee the dispatch of the right amount of linens to departments based on actual consumption rather than projections.

To create a summary of the aforementioned needs, the laundry relied on the PROLAV software solution, which has a web-module for wardrobe management and an app, for mobile devices, which allows for the rapid acquisition of inventory data, both interfaces with Datamars RFID tags and the corresponding reading equipment. In a first stage it was necessary to study the new workflow, which transformed the preparation and delivery of garments and bed linen and wardrobe management at the healthcare facilities served.

To realize the new flow of activities, the first step was the choice of RFID tags which allow for reading performances and mechanical resistance, even in the most aggressive washing cycles. These characteristics led to the choice of Datamars FT401-ST UHF LaundryChips™, which is also guaranteed for a considerable number of washing cycles (over 200). Subsequently, through the PROLAV Web interface, the primary information was assigned to the new garments handled with the tags, simply placing the garments on top of UHF Datamars antennas.

With the help of the PROLAV Web portal, the RFID tags are associated with information concerning the customer to receive the supplied items, issuing the first delivery note. This way the garments are ready to be transferred to the hospital's wardrobe, where a subsequent stage of the process takes place assigning incoming items to the correct receiving department, and then dispatching the associated goods for delivery. The PROLAV web dashboard monitors the quantity of items present in the department, the quantity of garments to allocate to the customer and any excesses garments already assigned that exceed the foreseen standard quantity.

The identification of soiled linens inside the hospital is performed thanks to the Datamars S-UHF-LITECAB-101 cabinet for reading the trolleys, which allows it to read 1'000 UHF tags in just 3 seconds. PROLAV Web carries out an initial reading of the soiled laundry and proceeds to issue the transport document which will accompany the garments to the launderer.

Having arrived at the laundry, the soiled laundry is read again, in order to ensure maximum process transparency and that reading errors are close to zero. Through PROLAV Web the tag codes are then disassociated from the department and customers, and a weekly laundry report is issued. The final reading releases the textile for subsequent transfers, i.e. if a textile is not correctly disassociated from a department it will not be possible to redeliver it. At this point the garments are ready to go through the entire washing process, to then be re-associated with a customer, as described earlier in the initial stage of the process.

*"We had to create a system that would allow us to shift the activities of receiving dirty linens and delivering clean ones from the laundry to the hospital's internal wardrobe, managing more than thirty different departments each with a supply to keep active" says Alberto Scarafiotti, executive officer of Lavanderia Industriale Mappanese. "With this system" he continues, "which certainly acts as a pilot project in the sector, we have allowed our employees to read the soiled laundry on site and to refurbish the department's supply immediately, enabling our customers to access the data acquired before the load of dirty laundry moves to the launderer, in order to quickly resolve any disagreements related to the piece count. This way the departments always have the proper supply, as delivery is based on actual consumption and does not rely on estimates of any kind. Each step is tracked and studied in detail, in order to have mathematical certainty of the quantities of laundry in motion. LIM has closed the gap, developing an infallible system, which should definitely be called the cutting edge!"*



Picture 1: A Datamars reading system application in LIM.