

Successful implementation of UHF RFID systems in the healthcare textile rental service in Netherlands & U.K.

UHF technology: a crucial competitive factor in a modern industrial laundry

One of the most important success factors of the textile supply sector over the past few years has been automated production, which requires expertise to implement innovative technology. From the market's perspective, this shifted from supply to demand driven. The demands set by customers were increasingly higher, placing the focus on themes like specialization and professionalization at low costs.

To maintain a competitive edge, the textile supply sector is offering a complete service package. Providing this integral service at end user level enables customers to concentrate on their core business.

To maintain a competitive advantage requires increased professionalism, logistical efficiency and level of service. This gives new way to the development of new services and commercial concepts, which can be used as a means to respond even better to the customer's specific needs.

This requires a pooling of resources and technological collaboration with partners from both inside and outside the sector.

The use of RFID technology is becoming a more crucial tool for those modern industrial laundries aiming to step forward among competitors in terms of efficiency, profitability and efficacy.

Radio Frequency Identification (RFID) works by attaching tiny transponders to textiles. These transponders carry electronically stored information, which can be easily identified anywhere in the laundry process and read them wirelessly through apposite RFID reading systems without the need to actually 'see' the transponder.

RFID allows industrial laundries to reduce textiles losses and inventory, which helps in terms of profitability. The automation of this process also lowers operational and labor costs with an incredible increase of efficiency and efficacy. Last but not least, the quality of the service permits to improve the customer satisfaction.

More and more industrial laundries worldwide have been implementing RFID systems in their industrial processes. These folks are aware that they can't afford to lose competitiveness in the market, where asset control is a clear key success factor. That's why there are many business cases describing the effective and successful implementation of RFID technology in industrial laundries, ranging from laundry operations, hotels, hospitals and nursing homes.

The following testimony is from Synergy Health, a big player in the healthcare textile rental service market in the Netherlands and UK. Synergy Health is currently the 2016 CINET Global Best Practices Award Winner in the Textile Services Industrial Laundries category.

RFID implementation case study from Synergy Health, a leading chain of industrial laundries operating in the healthcare sector in Netherlands and UK.

What does Synergy Health, and specifically Synergy Health Gemert BV, offer in terms of products and services?

Synergy Health (SH) is market leader in textile services in the Netherlands and the United Kingdom.

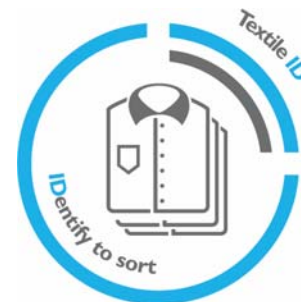
- In the United Kingdom, SH has three laundries fully equipped for the healthcare sector. These laundries have customers throughout the entire care sector.
- In the Netherlands, Synergy Health has eight laundries and several laundry centers, all equipped with modern and efficient machines, spread across the entire country. Synergy Health Gemert is one of its branches.

The quality standard, technical equipment, supply chain and management information of SH are fully in line with the demands of the healthcare sector, offering a full service concept and providing external and internal services.

The business of SH is focused on these main services:

- Linen rental. The Key Success Factor (KSF) of this service is to offer a complete and functional range of high quality linen, letting the customer have the right quantity at its disposal any time, any place and at a reasonable price.
- Professional clothing rental. KSF: comfort is an essential component, so the quality of the polyester/cotton is regularly checked. SH provides a device for automated collection and distribution of hanging or folded clothing linked to a convenient web-based application for management information.
- Operating room clothing. KSF: offers the customer an excellent sterile clothing package with the best price/quality ratio.

- Curtains & drapes. KSF: a fully tailored maintenance plan for both curtains and drapes.



In relation to these services, SH provides the following facilities:

1. **Internal distribution & inventory management:** SH takes care of its customers' internal transport on site, arranging the transport of dirty and clean laundry to and from the departments and making sure that the laundry is put back in the right place ready for use again. The logistics chain has been optimally set up to serve its customers and facilitates process and cost control. Furthermore periodic usage analysis and budget information is provided to customers to offer an efficient and transparent service.
2. **Clothing distribution and collection:** SH processes change in size, design, color, etc. immediately. The administrative data is constantly updated, so it is always clear which employee has been issued which professional clothing. SH uses a collection system for this purpose, which is fully tailored to the customer's needs.
3. **Management information:** SH manages the product flows with the Synergy Health Information (SMI) system. This system offers customers all relevant usage and cost-related information. The customer product data (e.g. number of beds, occupants, patients, etc.) can be used to see whether the costs for supplying textiles remain within the norm.

Finally, another important service provided by SH is personal laundry.

Looking after clients' laundry falls within a special product flow, which requires personal attention due to the emotional value of these garments. The basic principle is that the clothing is put back into the clients' wardrobe clean and quickly. It is also important to minimize the risk of any items going missing. Because clients often have to pay the costs for the laundry themselves, the demands are higher; Synergy Health meet these demands.

A unique concept was introduced in SH location at Gemert whereby clothing is equipped with an Ultra High Frequency (UHF) tag from Datamars. A unique customized personal laundry concept was put into place to clearly establish where an item was throughout the entire process.

Implementation of RFID Technology by SH Gemert

SH branch in Gemert specializes in processing personal laundry. The need for a high quality and transparent service for personal laundry became increasing apparent. Clients not only expected their items to be returned in full at the agreed upon time and with the correct finishing quality, but also expected complete insight into delivered and returned garments with their corresponding invoices.

Microchips were introduced for professional clothing in the 1990s, but given the size, were not suitable for personal laundry. UHF transponders would offer much more added value because up to 1,000 chips can be scanned in just a couple of seconds. This makes it possible to identify several garments faultlessly.

Testing with various transponders commenced in Gemert in mid-2009. The transponder should guarantee privacy, be comfortable to wear and, be able to withstand regularly recurring washes and finishing processes. In the end, the Datamars UHF transponder turned out to be the one that satisfied the program of requirements. The OEKO-TEX 100 certification ensured that the Datamars transponder guaranteed direct contact with the skin.

In September 2014, the business case that had been subjected to intensive research was approved and the implementation of this technology commenced in 2015. In March 2016, the concept went live and Datamars' UHF transponder technology is now being applied to all personal laundry in Gemert.

With this technology, SH expects to achieve the following:

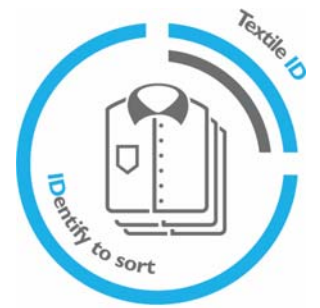
- Increase the level of quality for the client by eliminating errors
- Achieving the client's specific wishes for handling each garment
- Prevent incorrect treatment processes
- 100% tracking of items at each step of the process
- At least 90% fewer retrospective complaints
- Reduction in labor costs, both during the process and for the customer

The KPI required for improvement primarily focus on the performance that we wish to achieve in the quality of SH service for the customer and the areas defined above. In addition, the system also has to contribute to reducing the labor costs (productivity) and increasing the related capacity on our production facilities.

SH Gemert made a conscious decision not to opt for other means of identification. Compared to the more traditional barcodes, the properties of the UHF transponder have proven to provide added value and satisfy the desire to apply new technologies for processing personal laundry.

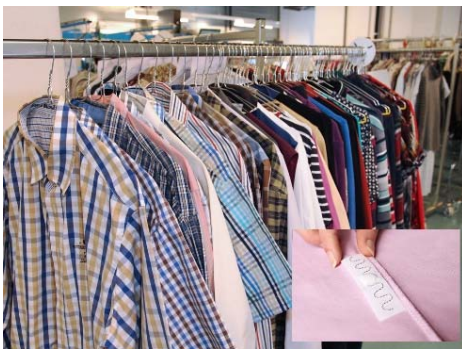
SH Gemert has implemented RFID technology in the following processes and products:

- **Identification** SH Gemert carefully equips all personal laundry – currently some 350,000 items and growing on a monthly basis - with a flexible transponder. After a long period of testing many transponders from various suppliers, SH now uses Datamars UHF transponders. These transponders are designed to withstand laundry and finishing processes and is comfortable to wear.



Information on the wearer, item, laundry and finishing processes is linked to the transponder. SH calls this transponder the Synergy Identification (SI) tag.

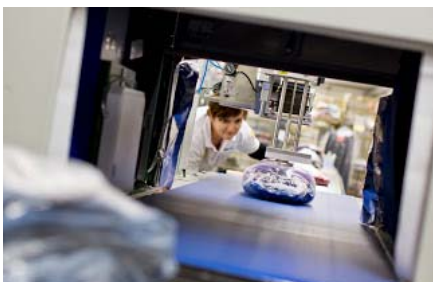
- Soiled laundry sorter: A soiled laundry sorting machine has been developed in collaboration with WSP. This machine is equipped with Datamars readers and scanners. Both companies have closely worked together in recent years to develop this concept. SH uses ABS for the software. WSP collects information from our ABS software system for identifying the transponders. When the process is complete, the scanned information is fed back to our ERP system from ABS. The item is automatically sorted after it has been identified by the soiled laundry sorting machine.
- Track & Tracing: The item is scanned during each subsequent crucial phase in the process. This technology makes it possible to gain full insight into an item throughout the entire process. The overviews are available in digital form. The packages are even scanned in and out upon receipt and before the laundry is transported back to the customer. The transponder can also be read locally by entering the last 4 digits of the code or by means of a handheld scanner. An app specially designed for this purpose allows customers to identify clothing any time, any place.
- Packaging: After all items have been processed, the clothing is automatically sorted by client. When the package is complete, it is automatically sealed, or in the case of upper garments, automatically bagged and then provided with a receipt. Any missing items can be retrieved by applying track & tracing in the previous process steps. This guarantees a completed check in advance.



Pictures: RFID usage in SH Gemert.

Advantages of RFID

From the customers' perspective, their clothing will always be placed in the cupboard perfectly clean, without experiencing any inconvenience whatsoever from use of the SI tag. The Datamars transponder offers complete comfort. Privacy is also guaranteed - the transponder contains no personal information and identification requires permission. While from SH Gemert's perspective, the RFID technology offered customization at lower costs and better deliverability by utilizing new technological applications like a soiled sorting machine, clothing carousel, automatic bagging and sealing machine, track & tracing and automatic receipt generation.



Pictures: RFID usage in SH Gemert.

Mr. Eduard Molkenboer, Managing Director of Synergy Health Linen Management Services (NL), states: *"Despite the short period that our branch in Gemert has been applying RFID technology to personal laundries, and the fine-tuning that has yet to be effected on a number of processes, we are proud to say that this concept is going to provide added value for our customers and our internal processes. Our personnel, who have to learn to work with these changing methods, have also embraced this with great enthusiasm and are extremely satisfied with how they can perform their work with ease."*

You do not take on a project of this magnitude just like that. A long process of research preceded, which required our company manager's rock-solid belief in such a system in order to work with a development of this nature. It became clear that a solid constructive collaboration, such as the collaboration that has been effected with WSP, Datamars and ultimately ABS as well, is great added value for success.

Datamars has been a crucial link in this success. After all, without suitable transponders, this concept could never have been launched successfully. Together with Datamars and WSP, many years of expertise has helped us enormously in this project.

Sharing thoughts on how we can best serve our customers and applying innovative technological developments, has ultimately led to this success. Innovation means moving forward. Together with our customers, personnel, Datamars, WSP and ABS we have gained a major advantage in the market place".

