

THANKS TO INOTEC RFID LABELS AND THE UBI CLOUD TRACK&TRACE SOLUTION,
SITA IS ABLE TO TRACE HAZARDOUS WASTE AT ALL TIMES.

PRESS RELEASE



A subsidiary of the Suez Environnement Group and the market leader in France, SITA provides waste management and conversion solutions. The company is an expert in its field and works across the entire cycle, collecting, sorting and converting household, domestic or even «hazardous» waste.

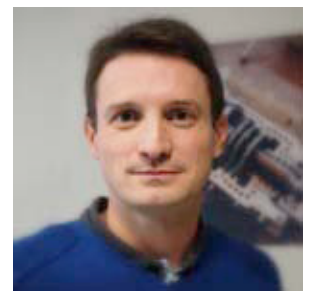


For hazardous waste from care-giving activities with a risk of infection, health professionals, hospitals, industrial or research laboratories are required by law to manage and eliminate their own waste. They call on SITA to do so.

SITA secures the transport and guarantees the conformity of this waste

«We process hazardous waste from care-giving activities with a risk of infection every day for a large number of health professionals», specifies Adrien Chevalier, Purchasing and Planning Manager at SITA.

«This involves secure collection and transport processes for risk waste, the introduction of sorting procedures according to the nature of the waste (syringes, sharp objects, etc.), the supply of specific approved packaging and also the management, cleaning and disinfection of these containers.»

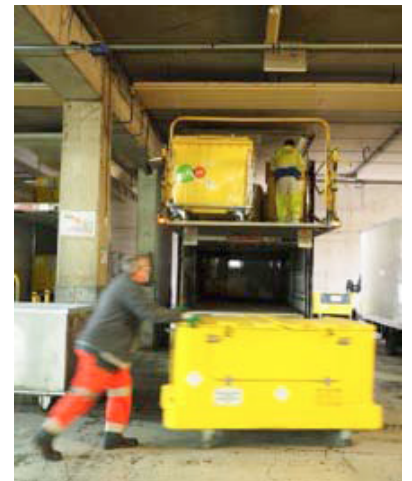


In addition to helping health professionals meet their obligations in terms of processing hazardous waste from care-giving activities with a risk of infection, SITA wanted to be able to go one step further and provide professionals with real-time access to all the information about how their waste was being monitored and processed. This project involved the introduction of global RFID traceability. **SITA drafted a set of specifications, to which only UBI Solutions, a Traceability Solution Integrator and Partner of Inotec, was able to respond:** «All the service providers to whom we submitted our specifications issues reservations as to the technical feasibility of our project. UBI Solutions was the only service provider able to suggest carrying out commercial tests to remove all doubts and solve any problems. We were really impressed by their proactive approach», says Adrien Chevalier.

After a successful test phase, UBI Solutions set up an RFID traceability system in partnership with Inotec, an RFID label and tag manufacturer.

This was a two-stage project: a scalable RFID solution

«Even though we knew that this project involved certain constraints, in particular calling into question our own internal operations, an RFID solution provided us with a real advantage in relation to traditional bar code traceability», adds Adrien Chevalier. In fact, RFID reading is automatic and the tag can be read through a bag or container with no constraints, whereas the user needs to present the bar code for it to be read.



The project was carried out in two stages. First of all, SITA wanted to favour its intra-site traceability and quickly set up an RFID solution in its own processing centre based in Créteil. SITA also wanted an evolving solution to be able to extend this traceability outside its site and then be able to apply it to waste collectors.

Phase 1 – Internal RFID traceability

UBI Solutions first of all set up an internal RFID traceability system within SITA and installed and configured the different equipment. So, **RFID reading gantries** were placed at the site entrance and exit, but also upstream and downstream of the incinerator intended to destroy the waste. UBI Solutions also equipped all the containers with **Inotec RFID tags**. Once more, there were major constraints since this was a fleet of non-standard carriages, with over 10 different models, whether in terms of shape, content or material. Different types of tag therefore had to be provided for aluminium, plastic or metal carriages. In addition, the tag had to be either pasted or riveted to the surface to prevent it being pulled off or becoming unstuck.



Inotec's hardened tags were able to respond to the issue of RFID reading on metal surfaces and **inotag labels** were used for aluminium and plastic carriages. «We were able to see for ourselves the Inotec tags' resistance because since we have been using them there has been no damage to any of the labels. **In total, over 6000 carriages are now equipped with Inotec RFID labels and tags.** These carriages are transported and regularly subjected to rubbing. They are also washed in biocide-type chemicals», specifies Adrien Chevalier.

Each Inotec RFID tag associated with a carriage has its own unique identifier. This identifier shows the carriage's empty weight and who owns it. This information is encoded in the tag and saved first in the database.

All the trays are identified **by their RFID tag** once they enter the Créteil incineration site using radio-frequency antennas. Once identified, they will be stored on the platforms before being weighed. **The scales automatically detect the carriage's presence and its weight is saved in the base for customer billing.** Once weighed, the tray is picked up by a shuttle on the conveying system. The tray will then follow a circuit during which its contents will be emptied into the incinerator. It will then pass through an automatic washing cycle and will then be lowered onto the platforms to be reloaded onto the truck. **The whole process is managed directly by a logic controller which records the tray's journey at each stage** and centralises all the information which will then be provided to the customer via the cloud and made accessible via a password-protected and secured Internet access.



So, customers can connect at any time to check when their waste was picked up and incinerated.



Phase 2 – Outsourcing RFID traceability

The second stage in the project involved extending this traceability to waste collectors. To do so, each driver was equipped with **a PDA with an RFID reader** and 3G communication to be able to manage their rounds and record all their collections in real time. In the same way, each hospital, and therefore waste producer, was identified **using an RFID tag**. So, when the driver arrives at the hospital, they scan the RFID code when they enter the site then scan **the Inotec RFID tags** that correspond to the carriages collected. The carriages are then loaded into the truck and a weighing system placed on the truck's tail gate enables the collected waste to be weighed for the customer to be billed by actual weight. Once loaded, the waste is taken to the processing centre. When it reaches the site its weight is checked again. As SITA is responsible for the waste collected, the company carries out several checks and inspections throughout the process, from pick-up to waste destruction. All the information collected at each waste producing site is centralised and made accessible via the cloud thanks to the UBI Cloud Track&Trace solution in SaaS mode developed by UBI Solutions. So, SITA has full traceability that cannot be falsified. In fact, users must enter the waste producer's site to read the site's unique tag. The GPS coordinates may be returned and each flow timed and dated. This interface provides a real-time view over all the events returned by the PDAs at the different RFID reading points and the geolocation of the operators. So, all the data in relation to the number of carriages picked up, the waste weight and the collection date and time is recorded, transmitted in real time and accessible to the producer from the cloud. **Over 4,000,000 events are processed at SITA each year to manage hazardous waste from care-giving activities with a risk of infection.**



Waste traceability with 100% risk control

In total, nearly 19,000 tonnes of waste are destroyed at SITA's Créteil site each year. At a rate of 365,000 carriages processed/per year, this represents an average of 52 kg of waste per carriage.

«Our actual objective was to be able to develop time and space waste monitoring, with the guarantee of being able to locate the product in space at any time and to comply with time constraints, as this waste needs to be destroyed quickly to avoid any risk of contamination. At SITA, we commit to destroying hazardous waste from care-giving activities with a risk of infection within 72 hours from collection», specifies Adrien Chevalier.



«Today, when a carriage arrives at our Créteil incineration site, we are able to identify where it has come from and retrace its entire journey: to whom it belongs and when it was collected, but also when it arrived at our site, when it was destroyed and when it left. All of this information which is carefully collected by SITA enables the waste producer to know exactly at any time what is happening to their waste and be sure that it has been destroyed.»

SITA: a new future for high performance RFID traceability

SITA works with hospitals and pharmaceutical laboratories, but also with health professionals such as nurses or doctors who are legally obliged to manage their own waste. Even when providing care in the home, they cannot just throw this waste into their patients' domestic bins.

«Today this waste arrives in cardboard or plastic boxes and is then repacked on site into containers to be processed in the same way as hospital waste. This relates to around 25 to 30% of the hazardous waste from care-giving activities with a risk of infection processed. No RFID traceability has yet been put in place for this waste and in the future producers may want to be able to trace this waste and see in real time when it was picked up and then destroyed» concludes Adrien Chevalier.



About UBI Solutions

Ubi Solutions specialises in integrating innovative traceability solutions based on RFID/Mobility/Cloud/M2M/Auto ID technology.

UBI Solutions' activities revolve around 4 centres:

- 1) Equipment: RFID / Radio frequency engineering / Retail equipment manufacture: Retail equipment manufacture and mobility equipment maintenance
- 2) Software: Publisher of a Cloud Track&Trace solution, an RFID and mobility Middleware and software engineering
- 3) Mobility: Development of applications on PDA/Smartphone
- 4) Equipment maintenance, assistance and repair

Ubi Solutions is a subsidiary of the FICOZ industrial group, whose main activities have been in renewable energies for over 60 years.

Inotec: European manufacture of bar code marking & RFID solutions

A European manufacturer of hard-wearing and innovative bar code and RFID identification and traceability solutions, Inotec provides high performance products that are adapted to each application, whether for warehouse identification or tray, pallet and other container marking.

Inotec provides specific labels and solutions developed for the logistics and warehouse market. Its products are 100% in-house designed with mass printing. Inotec also provides a wide range of adhesives and synthetic or metal materials according to the application and environmental constraints. In addition, Inotec develops made-to-measure RFID labels with a wide range of antennas and materials.

Inotec is a company which is developing all the time and is committing to the future by investing in Research & Development. In 2013, Inotect achieved €5 million in turnover, representing 30% growth in relation to 2012.

Additional information

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