

The automatic waiter

General Hospital in Vienna, Austria

The containers may be somewhat smaller than the ones that ship all over the world's seas. But the processing times are significantly shorter: 720 containers are sent through the Vienna General Hospital (AKH) in all directions every day – fully automatically over a distance of 7.5 kilometers, with rotary bridges, converters, and elevators, driven by 2,500 electric motors, controlled by 7,500 sensors, loaded with food, laundry, medicines or sterilized equipment. The automatic container transport system of the Vienna General is the largest of its kind in Austria.

Since September 2008, it has been equipped with RFID (radio frequency identification) chips from Siemens. These ensure the containers are delivered to the right addresses at the right time. An extremely demanding task, especially for the kitchen: On peak days, up to 11,000 meals are produced at the Vienna General,

and 6,000 must be delivered to the relevant wards within around twenty minutes. And that means the right wards in each case: as well as the four main menus on offer, there are around 150 special menus for the host of diets to be found on the patient menu plans of a hospital like the Vienna General.

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720 containers are equipped with RFID transponders.

In the kitchen, the RFID chips attached to the outside of the containers are also programmed with the most important data: the container type, the container number, the home address, container status, receiving ward, ward name, origin and dispatch time. From this point on, the containers find their way via the large transfer station in the cellar of the Vienna General. In comparison, the old magnetic read/write devices were many times larger and could only accommodate a fraction of the information. And this information also had to be entered manually, a process with a naturally high error rate.

However, Wolfgang Schneller, Project Head at Vamed-KMB describes the greatest benefit of the new technology as follows: "Thanks to RFID, it is now possible to track all containers in the entire system seamlessly." Getting lost in the endless maze of hospital corridors will in future only be a danger for visitors. And any container that is nevertheless stranded at the wrong address can be located at any time by the building control technology and its underlying systems – with all the relevant data concerning where it is to be sent to and from, and when.

The special challenge from the technology perspective was to meet the special hygiene requirements of operation in a hospital: After each trip, the containers must go through a "container wash" at temperatures exceeding 90 degrees, and then through the subsequent drying areas at temperatures of up to 130 degrees. There are adverse external conditions that the RFID chips must also be able to withstand.

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German version published in:
Handling 4/2010

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