

*Through detection of the RFID tag in the cleanroom clothing, doors and gates open automatically, without contact.*

*A simple swing of the arm in the direction of the RFID antenna - which is indicated by a symbol - is sufficient!*



## RFID access control in cleanrooms

### The client

Wase Werkplaats vzw is a social enterprise that employs about 650 people with a disability and about 100 employees in the supervision. The company has three divisions: W-pharma, W-technics and W-green. W-pharma provides specific services for the pharmaceutical industry and for hospitals, including the packing of medicines and medical devices.

### The challenge

In September 2018 W-pharma opened a new site in Temse, including a cleanroom department of almost 5,000 m<sup>2</sup>. To avoid contamination of this department, different techniques and procedures are applied. One of these is the access control, which prevents unauthorised persons from entering the cleanrooms. Special clothing in turn prevents the persons present from contaminating the cleanrooms with hair, skin flakes and dust particles from underwear.

The access control in the cleanroom department had to be aligned with the practical and legal guidelines. These include that doors must be able to be opened without contact and with a minimum of manual operations. Aucxis was engaged to assist W-pharma in achieving this by developing a solution using UHF RFID technology.

### The solution

#### RFID access control of the cleanrooms

For the access control of the clean rooms, Aucxis provided RFID antennas that were seamlessly integrated into the wall, combined with RFID readers above the ceiling. The cleanroom door opens automatically when an authorised employee approaches the door within half a metre and points the arm towards the antenna. For this purpose, the cleanroom clothing was provided with a washable RFID tag (laundry tag) that is detected by the RFID antenna. The authorisation level of an employee is linked to the RFID tag via a desktop RFID scanner.



*RFID antennas and readers are seamlessly integrated into walls and ceilings.*



*Antennas in the primary changing rooms detect unauthorised return of persons wearing cleanroom clothing.*



*Aucxis determined the right position of the laundry tag on the cleanroom clothing for optimal scanning.*

### RFID access control of the gates in the central corridor

In the central corridor, gates are opened in the same way when workers approach driving an electric pallet truck.

### RFID presence monitoring in the changing rooms

Before employees gain access to the cleanroom department, they pass through two changing rooms. The first room serves as a cloakroom, in the second one the cleanroom clothing is put on. When an employee returns to the first room in his cleanroom clothing - which is not allowed - this unauthorized action is detected by the RFID readers present there.

### RFID access control of other rooms

Access to other areas on the site is also monitored via RFID. Doors and gates are opened by scanning of an RFID key tag.

### Middleware

The Aucxis “Hertz” middleware collects the data detected by the RFID readers and checks whether an RFID tag has access to a specific location. For this purpose, an access list is imported from the back-office software of W-pharma.

### Double function of the laundry tag

Aucxis determined the position of the RFID laundry tag in the cleanroom clothing for optimal scanning in function of the access control at W-pharma. At the same time, the RFID tag acts as an identifier for the company that supplies, washes and maintains the cleanroom clothing.

## The result

- The access to the cleanrooms at W-pharma is 100% secured and takes place without manual handling.
- The permitted number of persons present in the cleanroom department is monitored in real time.
- The Aucxis RFID solution supports W-pharma in complying with specific GMP and ISO guidelines for its business activities.