



"Aucxis has developed an RFID scan box in order to automatically detect the content of implants bins. Thanks to this solution, the completeness, expiry date and condition of the implants sets are automatically checked."



An implants bin can be easily rolled into the RFID scan box.



The easy to attach RFID labels.

RFID scan box for the automatic detection of implants sets

The customer

Arthrex is an international company specializing in medical instruments and leader in the development of new products and medical education in orthopaedics. **Arthrex Nederland** was established in 2008 and has since then succeeded to position itself as one of the market leaders. The company supplies **lean sets of medical components** for operations- e.g. prostheses- to hospitals and private clinics.

The challenge

Arthrex Nederland was looking for a solution to automatically detect implants sets. Initially, lists were automatically created at the moment sets were sent to the clients and on their return. On the basis of these lists, the implants sets were manually checked and completed. This necessary **double manual check** was **very time-consuming**.

Aucxis was engaged to develop an RFID solution to automate this process within the logistic product flow. The objective was to obtain a correct and automatic check of:

- the **completeness of implants sets** when they are sent to and return from clients
- the **expiry date** of the medical components
- the **condition of the medical components** on their return; they may not be opened, damaged or contain traces of their transport.

The solution

- On each implants bin – which contains several implants boxes- an **RFID tag (label)** is attached, which identifies the bin.
- Also on every implants box an RFID tag (label) is attached. The article number and lot number are scanned and the expiry date is entered. This information is linked to the RFID tag.
- In order to automatically detect the content of the implants bins, Aucxis developed an RFID scan box. As the implants boxes contain items with a metal packaging, they have to be scanned at full power so that all RFID tags are perfectly readable.



R-Connect

The Arthrex solution includes R-Connect middleware

R-Connect is a uniform middleware developed by Aucxis to process in an intelligent way the information collected via various data collectors such as RFID readers, bar code scanners and handhelds for further applications including process control systems and enterprise software packages.

The solution (cont.)

- In order to avoid other sets in the proximity being detected, the scan box is the perfect solution. A measurement starts at the moment the door of the scan box is closed and ends when it is reopened. On a screen is shown by means of different colours (green/red) which items/boxes are missing/used and which ones are still available. In this way, it is clear which items have to be added and which items are expired.

The result

- Automatic follow-up of the supplied implants lots.
- The manual control of the content of the implants sets was eliminated for 50%, thanks to which an enormous saving of time was achieved. Today one can see at a glance on the screen which items are missing and which items are expired.
- An important extra advantage is the correctness thanks to the automatic control on completeness and expiry date.

Aucxis hopes that this successful introduction of the scan box at Arthrex Nederland may set off more projects on other Arthrex sites!

The screenshot displays the Arthrex software interface for inventory management. It features a navigation bar at the top with tabs for 'Home', 'Link Item', 'Programmeer set', 'Initialiseer set', and 'Beheer'. The main content area is divided into two sections: 'Verwachte items' (Expected items) and 'Gescande items' (Scanned items). The 'Verwachte items' section shows a list of items with columns for 'Artikel', '# Aanwezig' (Present), and '# Ontbrekend' (Missing). The 'Gescande items' section shows a list of items with columns for 'Artikel', 'LotNr', 'RFIDTag', 'BoxNr', and 'Verval' (Expiry). The interface also includes a status bar at the bottom with buttons for 'Reset', 'Print Ontbrekende items', and 'Valideer'.

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