



” We chose Aucxis because it was the only party that was able to deliver the required hardware as well as the corresponding software and middleware.

Theo van Workum
CEO Rent-All



Rent-All: optimisation of logistics processes with Aucxis RFID technology

The customer

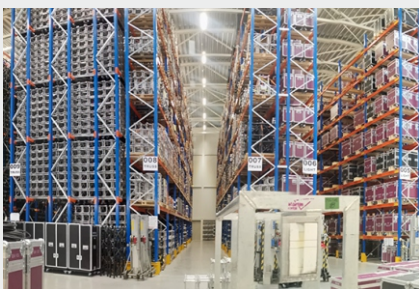
Rent-All is a Dutch leading rental company of rigging, lighting, audio and video equipment. From their 5 establishments in the Netherlands, Belgium and Germany, they deliver equipment to theatre and television studios, fairs and festivals across Europe. Internationally, the company employs about 350 people and its headquarters is situated in Bommel (the Netherlands).

The challenge

The rental tasks which Rent-All receives, are very diverse, ranging from the long-term use of spotlights and audio material in a television studio to the equipment for international big show events, for which 40 trailers of material may quickly be needed. In total, Rent-All has a fleet of material of +/- 260.000 items.

The incoming and outgoing movements of the rental materials and their boxes were manually registered, which was a time-consuming and error-prone process.

Rent-All was looking for an automatic detection system for all its establishments which informs them about the location of their articles, the state they are in and the turnaround time per rental item. Furthermore, the turnkey solution needed to guarantee an interaction with the software of their own ERP package.



Challenges of a fleet of material of +/- 260.000 rental items:

- Where are they located?
- What state are they in?
- What is their turnaround time?
- How to accurately and efficiently register the incoming and outgoing movements?



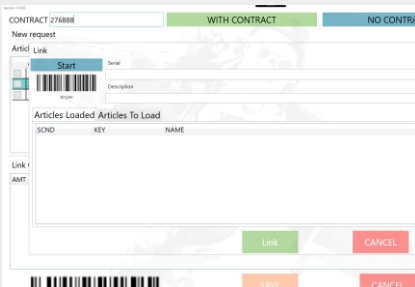
Mounting of the mobile RFID UHF gate with sensors for starting and stopping the scanning.



The Aucxis RFID gates were modulated by Rent-All into mobile registration gates.



Specifically for the identification of the trusses, preference was given to an elongated, long-range on-metal tag.



Via the user application on the gate, the correct contract can be selected and feedback is shown about the items (to be) loaded.

The solution

After a successful proof of concept and pilot project, Aucxis was responsible for streamlining the entire process of outgoing and returning rental materials.

Technology and tag selection

We opted for the worldwide RFID standard UHF Gen2, among others because it enables bulk reading at a large reading distance.

For the tag selection, we experimentally worked with hard and label tags. The type was determined per rental item in function of the surface upon which it needed to be mounted and the practical mounting possibilities. Materials such as trusses, speakers and mixing consoles are often visible on stages. The tags cannot be mounted just anywhere on the item and the functioning must be guaranteed at all times.

RFID gate at automatic warehouse

The headquarters in Bommel has an automatic high-bay warehouse, in which the racks are located as close as possible to each other. That is why the pallets are not put in their place by a forklift but by an internal robot of the automatic warehouse, which enables working at higher level and more safely and also creates additional storage space.

Rent-All's WMS informs the user on the exact location of the pallets, but thanks to the interaction between the application of the automatic warehouse and the Aucxis middleware HERTZ, the customer also knows which articles are located on the pallet.

Mobile RFID gates at the loading docks

During the loading and unloading of the orders, all rental materials – so both the goods for the customers as well as the materials shuttling between the establishments – pass first through an RFID gate.

The RFID gates with integrated readers and antennas register all passing tags and send the information to Rent-All's ERP system via the Aucxis middleware HERTZ.

Rent-All built a frame around each two fully equipped RFID units to be able to move the gates. They always remain in the same establishment, but their loading dock can be changed.

We delivered one RFID gate per two loading docks, which means 10 for the headquarters in Bommel (the Netherlands), 6 for Lier (Belgium), 4 for Amsterdam (the Netherlands) and Castrop-Rauxel (Germany) and 2 for the smallest site in Nürnberg (Germany).

WMS software

Aucxis also delivers the required WMS software which contains, among others, a validation of the materials upon delivery and return, digital support of the order pickers and a real-time link with the company's existing ERP package.



Test gate for the choice and location determination of the tags.

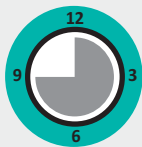
RFID test gate

At the headquarters, Rent-All also has a test gate. For all current rental materials, Aucxis has determined the tag type and the tag location on the material. Thanks to Aucxis' knowledge transfer, Rent-All can determine itself – via the test gate – which tag needs to be mounted at which location on a new item, for example on a new lamp which is similar to an existing type.

Middleware

Our middleware HERTZ links and manages all RFID equipment present. HERTZ ensures among others the configuration of readers and antennas, the creation, activation and linking of tags etc.

The result



Gain of time thanks to the automatic detection and control of the items during loading and unloading. A loading list is finished considerably faster.



No longer secondary deliveries at customers due to increased accuracy.



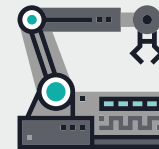
A real-time overview of the lifespan of each article: number of movements, turnaround times, maintenance and failures.



A real-time overview of rental items **reaching the end of their lifespan**, which may be sold.



Via the **test gate**, Rent-All can determine itself the **appropriate tag and its location** for new items.



Service and maintenance are more targeted.

” It is difficult to distinguish certain rental materials with the naked eye, for example trusses of 25 or 27 cm and various types of engine hoists. RFID scanning avoids confusion.

Bjorn Lentjes, Application Manager Rent-All

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