



**HOOGSTRATEN**  
HOME OF QUALITY



” By linking the QR codes to an RFID tag, a unique link is established between the consumer and the producer who filled the punnets with Hoogstraten® strawberries.

Hans Vanderhallen  
General Manager  
Coöperatie Hoogstraten



Coöperatie Hoogstraten sells annually 30 million kilograms of strawberries from some 200 growers. The need for more efficient traceability represented a tough challenge for the auction.



## Automatic tracing of strawberries thanks to vision and RFID technology

### The client

Coöperatie Hoogstraten (formerly known as Veiling Hoogstraten) was established in 1933, making it one of the oldest fruit and vegetable auctions in Belgium. **Hoogstraten strawberries** have developed into a worldwide quality brand, accounting for an annual sales of 30 million kilograms.

Over the years Coöperatie Hoogstraten has performed extensive technological pioneering work in the auction world, among which the taking-into-service of the first digital auction clock of Aucxis. In 2021, the commercialisation of fresh fruit and vegetables for its producers continues to be the core business, but another mission of the cooperative is to excel in offering customised services to its growers and consumers.

### The challenge

Coöperatie Hoogstraten attaches great importance to the traceability of its products throughout the chain, where food safety is playing a significant role. As the strawberries originate from some 200 strawberry growers, this process is logistically not easy to achieve.

The former plastic punnets filled with strawberries by the growers were equipped with a **lasered code**, but this code was **not unique**: one code applied to 1 200 pieces in a box or 30 000 pieces per pallet. The growers collected boxes with punnets which were scanned with a barcode scanner in order to link the codes to a grower.

This way of working was **time-consuming**, **labour-intensive** and **not watertight**: the **trays were not scanned**, and the growers **manually put the punnets** in the strawberry boxes before they started the picking.

Given the increasingly **growing pressure on plastic packagings**, it was decided to switch to **cardboard punnets**. These punnets create opportunities on many levels, for example marketing campaigns or grower-specific prints, but this switch also implied that the entire **traceability needed to be reconsidered**. Coöperatie Hoogstraten therefore decided to abandon this error-prone process and to strongly invest in the **automation of its logistics chain**.



**”** This project is the first major step in optimising the traceability process. In the future, the QR codes on the trays will also be used to scan the full strawberry boxes. In this way, we have targeted information about the harvesting time of the strawberries and the location they went to.

Jeroen Swolfs,  
Operations Manager  
Coöperatie Hoogstraten



The RFID label on the pallet groups all QR codes of the trays. Both the RFID label and the QR codes are scanned in the vision tunnels; the link between the trays and the pallet is established here.



The forklifts were equipped with RFID readers and antennas to identify the pallet labels upon distribution.

## The solution

Aucxis was asked to test the **technical feasibility** of the automation project during a **Proof of Concept**. This study already showed at an early stage that both QR and RFID scanning were required to link the punnets and trays with strawberries, and the pallets carrying them. Aucxis was responsible for the **RFID** part and established the required links, while our partner **VistaLink** took care of the reading of the QR codes by using vision technology. The finetuning between both technologies was the strength as well as the challenge throughout this case.



*Stef Van Wolputte, R&D Engineer VistaLink:*  
“The successful cooperation between Aucxis and VistaLink is promising. The expertise of both parties in their own specialty enabled us to quickly find an efficient manner to combine and mutually strengthen both technologies.”

## Procedure

The cardboard punnets are shaped by machine, put in trays and equipped with a **unique QR code** with the data of the growers, after which an operator puts them on a pallet. After the stacking process, the pallet is transported to the label machine through a roller conveyor. In order to enable the tracing of the pallet with the trays and punnets, Aucxis provides an **RFID label (pallet ID)** grouping all trays on this pallet. This pallet label is then scanned along with the QR codes of the trays in one of the two vision tunnels of VistaLink, establishing the link between the pallet label and the corresponding trays and punnets.

## Vision technology

During the time that the pallet passes through the vision tunnel, the cameras capture different images. At every image, the camera settings are adjusted, **making the codes readable under a large variation of ambient light and positioning**. All codes read during the scanning process are then combined. Next, the vision tunnel sends a list of all read codes to the **generic Aucxis middleware HERTZ**, which ensures the **data processing and link with Coöperatie Hoogstraten's ERP system**.

## RFID technology

Our **ATLAS Forklift Track & Trace solution** allows the automatic identification of the pallet labels upon distribution of the trays to the Hoogstraten growers. In concrete terms, all forklifts of Coöperatie Hoogstraten were **equipped with an RFID reader and two RFID antennas**. The data read are linked to a panel PC, which, in turn, ensures the further processing of the data.

Just as the vision data, also the RFID information is processed in the Aucxis middleware HERTZ and then sent to the customer's system.



The millions of trays are accurately linked to the respective growers.

## The result

### Flawless traceability

Thanks to the smart communication between vision and RFID technology, Coöperatie Hoogstraten knows perfectly - after the distribution of the strawberries - which of the 7 million trays and which of the 56 million punnets were transported to which grower on an annual basis.

### Higher processing speed

Manual barcode scanning became redundant. The forklift drivers scan the order of the growers by means of RFID antennas and pick 4 pallets in one go. Thanks to the RFID labels and the built-in panel PC, they automatically know the pallets concerned. Loads can be picked for delivery at a loading dock. As soon as an order is received, it is allocated to the grower in a few clicks.

### Satisfied employees

The new way of working excludes human errors. There is less pressure and frustration during loading and among the growers, which has a positive impact on both the personal working experience and the working environment.

### Improved information provision

The accurate information about the strawberries' origin benefits the quality reference of the 'Hoogstraten, Home of Quality' brand.



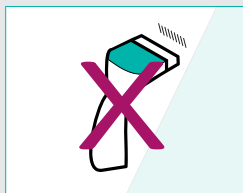
Flawless traceability



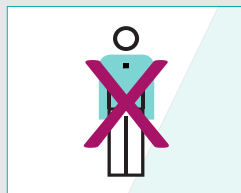
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