



Customer

Congelados de Navarra

Customer profile

Congelados de Navarra is an important vegetable processing plant in Spain. A wide range of freshly grown vegetables are prepared for distribution to the frozen vegetable market: onions, peppers, broccoli, sprouts, etc.



Project summary

To live up to the highly demanding quality standards imposed by its customers and to closely monitor the quality of the products during transformations from intake to packaging, Congelados de Navarra engaged Tracewise to integrate real-time, automated traceability and quality management.

Solution

Tracewise developed a article-oriented business model which automatically registers production lots and quality data thanks to real-time communication with the shopfloor. The configuration includes 12 process stages and 45 quality controls, which keep records of more than 1000 pieces of information.

Depending on the products, the production trajectory may differ. More or less operations may be required. There are three production lines for which most traceability data are captured in real-time.

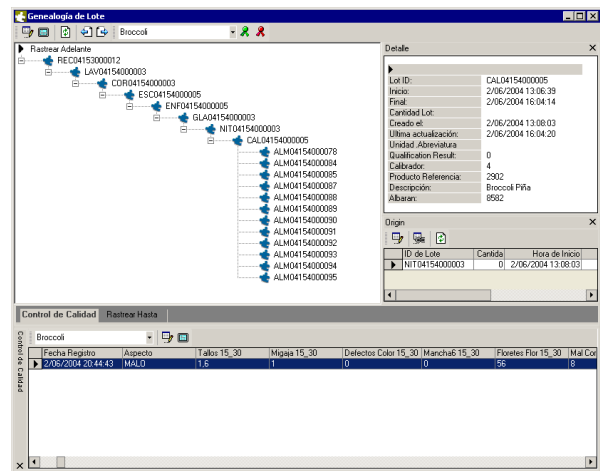
Intake

Registration of incoming deliveries at the reception desk is done manually. To identify deliveries, a lot number is assigned to the batch and it is stored in an RFID tag, which accompanies the batch until production is started.

Production

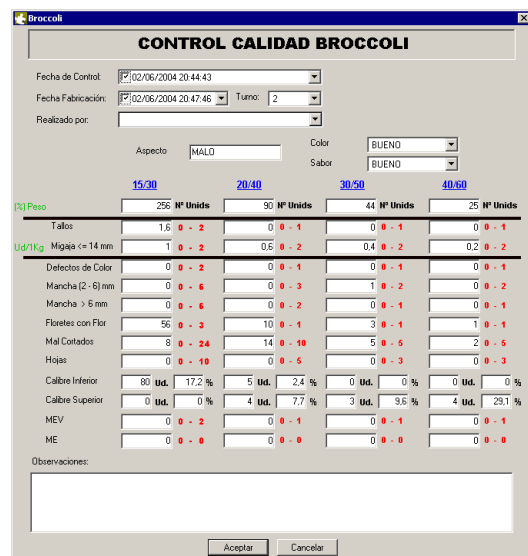
Thanks to the data exchange with the production control system (PLC and CitectSCADA), lot numbers for batch transformations in

consecutive process stages, such as washing, cutting, frying, freezing, glacing, grading and packing are registered automatically and linked to the parent lot number(s) in the preceding process stage.



Quality assurance

Many quality data are registered automatically during washing, cutting and freezing through communication with the PLC: temperatures, Ph values, weights, speed, etc.



Additionally, product samples of produced pallets are examined in the laboratory, the results of which are registered in product-related quality forms by inspection staff.

Integration

To allow for the automatic lot creation and data registration, a substantial degree of integration is required. Therefore, custom data capture services were developed to exchange information with third-party systems.

RFID tag service

A dedicated custom service continuously polls the RFID tag readers that are located at the beginning of each production line. When a tag is detected, the lot number is read out and sent to the PLC, which monitors lot starts and stops through production. A production lot number is created and linked to the read-out intake lot.

Data exchange with Oracle ERP

Scheduled deliveries and contracts are registered in the Oracle ERP system. Since the traceability system can benefit from already existing data in that system, a service was written to synchronise delivery information. That way, the ERP delivery code can be registered upon the intake of the corresponding goods in you.trace.it and allows to import relevant data.

Communication with PCS (shopfloor)

The PLC stores events in a FIFO queue, which is read by you.trace.it continuously. That way, no event data is lost in case of maintenance and breakdowns of hardware or software. Based on the incoming events, you.trace.it creates and activates lot numbers, finishes them or links child lot numbers to their parent records.

The control system captures live process and quality data from the machinery in the production line at regular intervals. If a lot number is active for a particular operation, the captured data is stored in the corresponding lot record in the database.

Apart from starts and stops, the system also registers if a product batch is switched from one production line to another. In that case, you.trace.it ends all related active lot numbers in the line.

Reporting

you.trace.it produces personalised quality reports for outgoing pallets. The reports are the evidence for customers that the quality of their products was continuously monitored.

Lot ID	Albarán	Descripción	Lavadora	Cortadora	Calibrador	Escaldadora	Aspecto	Color	Tunnel	Unid Total	15	20	25	30	35	40	45	50	
REC0415000012	0582	Broccoli Pifa		2															
LA.V04154000001					2														
...ESC04154000003							2												
...ENF04154000005										1									
...CAL04154000005						4	MALO	BUENO		256	50	44	25						

Printable MS Excel worksheets contain an overview of the lot history in the intermediate process stages along with the most relevant process and quality parameters captured in real-time.

Business model

Configuration of process stages and article-related quality controls in you.model.it:

