Migros-Genossenschafts-Bund
Traceability and its positive impact on fruits and vegetables

Challenge

Swiss retailer MIGROS wanted to gain more transparency throughout the supply chain of fruit and vegetable products and established a collaborative information exchange. To do this, the company decided to take a cross-company approach with trading partners to exchange complete and accurate event driven data from harvesting to distribution into retail stores.

Solution

Today, MIGROS and its trading partners use EPCIS, a GS1 standard, along with GS1 identifiers to enable a traceability system for its products, with benefits especially for fruits and vegetables. Suppliers upload product data on lot base into the MIGROS-EPCIS-system. The information is structured in four main events, captured over the supply-chain history of the product processing: harvest, receiving, commissioning and shipping. At the end of the supply chain, MIGROS measures the quality of the delivered lot and link this quality data also in EPCIS with the complete supply chain history.

This provides benefits in different ways:

- Improved control over product quality

- Increased efficiency of internal processes with end-to-end data integration

- No hardware investment for a positive return on investment (ROI)

- Extensive statistics for better, quicker decision-making by quality managers

In a first step, MIGROS designed a process-data model based on GS1 EPCIS Standard together with all relevant stakeholders within the supply chain and feedback from GS1. This process-data-model was designed to address the following kind of important questions:

- How many oranges from Spain have been received within the last week?
- How many percent of the delivered strawberries have been delivered in max. 3 days from origin to the distribution center?
- Who (supplier) delivers nectarines in the fastest way?
- How many white asparagus are still in our distribution centers?
- Which supplier reached the best quality ratings?

GS1 identifiers and EPCIS provide all stakeholders with information about the "what, where, when and why" of product shipments as they travel throughout the supply chain.

The information shared includes harvest date and quantity, country of origin, lot identification, date and time of departure. This quality information is based on capturing data throughout the process as EPCIS "events." The necessary information already in place inside the systems of the suppliers and service platforms, the challenge was to define a common standard and to adapt this standard with all partners along the supply chain. This remains still a challenging task, but thanks to GS1 standards and EPCIS, solutions are ahead.

> "The flow of goods has become digitally transparent. This enables better control of product quality in stores, as well as higher efficiency of internal processes. Thanks to this data, in the future MIGROS will better understand the influence of weather on orange harvests in Spain and Italy, as well as the impact of transportation or storage time."

Marc Inderbitzin
Head of Supply Chain
Information Solutions
Migros-Genossenschafts-Bund

The freshness factor

Fruits and vegetables were chosen as initial product categories due to the need and value of "freshness."

"To ensure optimal end-to-end data integration, we relied on the system-agnostic EPCIS to capture all relevant information that could help us define and predict the freshness of fruits and vegetables arriving in our stores" says Mr. Inderbitzin.

To keep the project in scope, stakeholders agreed on the smallest common denominator of data captured in the databases of all partners. This meant that partners did not need to prepare new data or change their processes. It was only necessary to upload data into the system as an EPCIS event.

"There was basically no hardware investment" explains Inderbitzin. "The EPCIS system for fruits and vegetables mainly exchanges supply chain relevant information such as a harvest date and quantity, country of origin, varieties, shipping time and quality data. The data is immediately made available as part of the processes (harvesting, commissioning, shipping, incoming goods, quality inspection) as EPCIS events."

At the later stages of product movement when, for example, a product number is changed during repacking, quality control is maintained for a delivery and this data is also collected via EPCIS. The system allows those responsible for procurement to conduct comprehensive evaluations—from accurate origin information to the time products are received within MIGROS distribution centers.

> "Reducing manual processes and paper documents as well as gaining real-time access to quality data—they all offer clear benefits. Improvements in product management can be realised as well as the availability of in-store inventory for consumers."

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Successful collaboration for everyone

All suppliers were informed about the launch of the new traceability solution. Today, more than 40 MIGROS partner companies are part of the network—fruit and vegetable suppliers primarily located in Europe. Suppliers can upload their data in different ways: direct interface or a web based traceability online solution.

The goal for 2021 is, all national suppliers and their upstream suppliers will work with the new solution and contribute to end-to-end data integration. Using EPCIS, suppliers will input their data, and perhaps not only for MIGROS but for other retailers' use, as well.

"Suppliers' data will be visible and transferred in the same format to other customers," stresses Inderbitzin. "The use of internationally recognised GS1 standards offers a level of investment protection."

The data obtained along the supply chain can even be shared with suppliers in the future. According to Inderbitzin, "Reducing manual processes and paper documents as well as gaining real-time access to quality data—they all offer clear benefits. Improvements in product management can be realised as well as the availability of in-store information for consumers." Inderbitzin emphasises that cross-company collaboration in sharing data definitely leads to success for all participating stakeholders.

Lessons learned along the way

Inderbitzin lists the top lessons learned as part of the implementation process:

- EPCIS enables suppliers to benefit from quality product data, as well as consumers.

- An iterative process delivers the best results.

- Processes and interfaces need to be analysed for each partner and negotiated for direct data exchange—not via a tool or Excel.

- An incomplete understanding of processes delivers bad data, which in turn, leads to bad decisions.

- Continuously look for new business opportunities that leverage the solution.

Step-by-step process in a volatile environment

MIGROS implemented the traceability system for fruits and vegetables as its first priority and is currently investigating other product categories. Since procurement and logistics processes of other product categories significantly differ from those of fruits and vegetables, a "copy-paste" adaptation will not be possible.

Inderbitzin also points out the importance of taking small steps for overall success, given the complexity of creating a traceability system. MIGROS chose an iterative approach since various challenges needed to be solved. Despite a common belief, Inderbitzin advises that "Data transfer from external partners does not work well by taking a plug-and-play approach."

According to Inderbitzin, "There are always specific differences among partners, which is why the processes and interfaces must be coordinated very carefully. An incomplete understanding of a process can lead to bad data, leading to inappropriate activities. That's why every integration project takes time."

> "We are convinced that GS1 standards and tools are adding value for our business. With overwhelming acceptance by our suppliers, our traceability system has delivered what we needed—a transparent supply chain and more."

Marc Inderbitzin
Head of Supply Chain Information Solutions
Migros-Genossenschafts-Bund

GS1 standards create added value

In addition to EPCIS, MIGROS and its suppliers rely on other GS1 standards like the Global Return Asset Identifier (GRAI) for the unique identification of returnable containers and the Serial Shipping Container Code (SSCC) for pallets. In addition, transaction data is exchanged between MIGROS and its nearly 900 suppliers using electronic data interchange (EDI), including orders, delivery notes, invoices and master data.