



The complex logistics problems of modern slaughterhouses are virtually impossible to solve without RFID

Application:

Today's large slaughterhouses are highly automated, volume-optimized operations where the quality and traceability of every piece of meat must be established.



RFID reader with stainless steel mounting and network interface base

Goal:

An RFID solution must enable single-piece traceability in case a recall is necessary. The solution should further allow logistics processes to be optimized; reducing the handling times and number of interactions will also have a positive impact on the safety of all processes.

Requirements:

RFID products must use stainless steel and other easily cleanable materials. The applied cleaning processes are very demanding and electronic components need to be designed taking into account harsh chemicals, moist environments, and frequently changing temperatures such that a long service life can be expected.

Customer advantage:

Automatic documentation of all process steps starting with the live animal up to the individual piece of packaged meat. Logistics systems are fully automated and include the temporary storage, packaging, and billing systems.

What is being done:

The law demands that food products be properly marked and traceable in case problems show up for the consumer. It is very common for live animals to be identified by ear tags. Prior to processing the animals, tissue samples are taken and transferred to the lab for medical analysis. Initially, the animal is moved through the facility on an RFID-enabled meat hook. Later, tracking is done via RFID-equipped tubs. Processing and lab analysis can take place simultaneously, which removes the need to store the carcasses in a cooling facility. This not only increases the throughput but also results in shorter process times, translating into fresher meat products.



Transport of the pigs via monorail conveyor

If the lab analysis finds that a sample does not satisfy the toxicological requirements, it is possible to automatically remove all meat from this animal from the process chain. The assessed meat quality, the amount of meat, and even the thickness of outer fat layers as determined by ultrasonic measurement processes, all impact the compensation of the animal supplier. The accounting system receives this information directly from the process. A large facility can process roughly 75,000 pigs per week, which corresponds to a slaughtering every four seconds. Only RFID is able to process the vast amount of data with the necessary reliability.



Integrated RFID transponder in the meat hook

RFID systems increase process safety, enable automatic payment systems, and ensure compliance with food safety regulations.