SIGMA
EVOLVE DIGITALIZATION

AutoID / RFID

Reference report

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About SIGMA

As a renowned system house group, the SIGMA Group acts as a system integrator and partner of renowned providers in the IT sector. The more than 80 employees of the group form a competent team at the locations Chemnitz and Dresden. With know-how, competence and more than 30 years of experience we offer our customers reliable and powerful IT solutions.

About GRAIDWARE®

The AutoID middleware GRAIDWARE® is an intelligent abstraction layer for different hardware components and business applications. Work tools, production steps and AutoID data can be identified, monitored, controlled and configured.

About the customer

TTI Inc, a Berkshire Hathaway company, is an authorized specialty distributor of fasteners, passive and electromechanical components. TTI's product line, customer-focused service, and logistics solutions offered make TTI the distributor of choice. Worldwide, TTI employs over 8,000 people in more than 136 locations.

Graidware® Track and Trace RFID Solution at TTI

www.ttieurope.com

RFID-based pallet tracking

After a project implementation period of only a few months, TTI Inc. has implemented a comprehensive RFID-based identification and traceability solution from SIGMA Chemnitz GmbH at its Maisach-Gernlinden site. Using GRAIDWARE® as the track and trace solution, more than 84 RFID reader points, RFID printers, an RFID handheld app and several web applications were successfully put into operation to implement end-to-end pallet tracking.

Motivation for implementing a traceability system

Hundreds of pallets of goods are delivered to the Maisach-Gerlinden site every day. The goods are separated and collected at specific workstations, the so-called receiving stations. Goods that were not collected on the same day remained on the delivered pallets, which in turn were placed at various storage locations within the warehouse. This worklist, called backlog by TTI, had to be determined manually on a daily basis. In addition, the storage locations of the pallets and the throughput times for each material were required for process optimization.

The decision for RFID technology and for SIGMA Chemnitz GmbH

TTI chose SIGMA Chemnitz GmbH to implement a track and trace solution for the localization of pallets. The decisive factors were the process competence, the processing of the customer requirements into a clear concept and, last but not least, the RFID, traceability and GRAIDWARE ® solutions of SIGMA.

In order to be able to track and identify the individual pallets digitally and automatically, the decision was made to use UHF RFID technology for labeling. The UHF RFID technology offers visual contactless identification and high reading ranges of several meters (up to 8 m). In addition, UHF RFID labels are inexpensive and can be printed from a roll like common labels.

Pictures: TTI, Inc.

The realized GRAIDWARE® Track and Trace solution

The delivered pallets are individually marked with an RFID label on the pallet foot when they are loaded from the truck.

The RFID labels are created in the goods receiving department with an RFID printer via a GRAIDWARE® WebApp. Data such as supplier, forwarder, tracking number, etc. are registered in the process. The data is stored in GRAIDWARE® database and is relevant for later search queries in the system and for recording the throughput times per pallet. From this point on, the pallets are registered and ready to be tracked in the overall process.

RFID devices are installed at neuralgic locations in the hall for the identification of full pallets and their assignment to storage locations, flow racks and receiving and bulk receiving places. As soon as a full pallet has been detected by an RFID antenna, GRAIDWARE® stores the new location of this pallet and documents the times.

All data is written to the history. In this way, TTI is able to track where which full pallet is located, how many pallets are in circulation (also per storage location), and how long the dwell time at individual stations has been. The collected data can be accessed at any time via a web application in the GRAIDWARE® Center. The GRAIDWARE® Center provides the user with a graphical overview with warehouse layout and various search and filter options.

Conclusion

With the introduction of the RFID-based track and trace system, TTI has a detailed overall view of the pallets delivered and received, as well as other valuable information and insights:

- Live information about the number, type and locations of uncollected pallets still in the warehouse
- Historical data and reports on container throughput times by station, material, and supplier
- Live information board on delivered vs. received pallets
- Massive reduction of the effort for pallet entry and search
- Improve the transparency and efficiency of the goods receipt process

With the successfully implemented project based on the GRAIDWARE® Track and Trace solution, TTI now has an RFID infrastructure of over 84 reading points and an information system that provides TTI employees and TTI management with a live picture of inbound goods movements and backlog status. And, of course, this is also available on mobile devices such as tablets and smartphones.

What the customer says...

„What is particularly impressive is how the data in GRAIDWARE® can be used for current or subsequent search queries and the recording of throughput times. This not only creates transparency, but also enables better planning and control of processes. We now have a detailed overall view of pallet movements, which leads to a massive reduction in the time and effort required to record and search for pallets.“

Yekini Belo, Supervisor WHSE Receiving, TTI, Inc.