



Intelligent material bin with integrated RFID tag enables decentralized autonomous control

Application:

In material handling systems, process steps and transport sections are most typically managed using a centralized controller.



The "F61" read head is the basis for the transfer station RFID solution.

Goal:

Time consuming and therefore undesirable product jams on conveyor systems must be avoided and extensive high-level communication should be minimized. Routing decisions should be made centralized.

Requirements:

Transport bin with integrated writable RFID tag. Transfer and process stations are equipped with large R/W antennas making the precise location of the tag less critical. The bin position can be determined reliably and easily.

Customer advantage:

Reduction of product transfer time and corresponding optimization of system utilization. Decentralized decision-making process reduces time-critical communication with upper level control systems. Increased system flexibility and modular setup.

RFID OFFERS NEW CAPACITIES FOR MATERIAL HANDLING

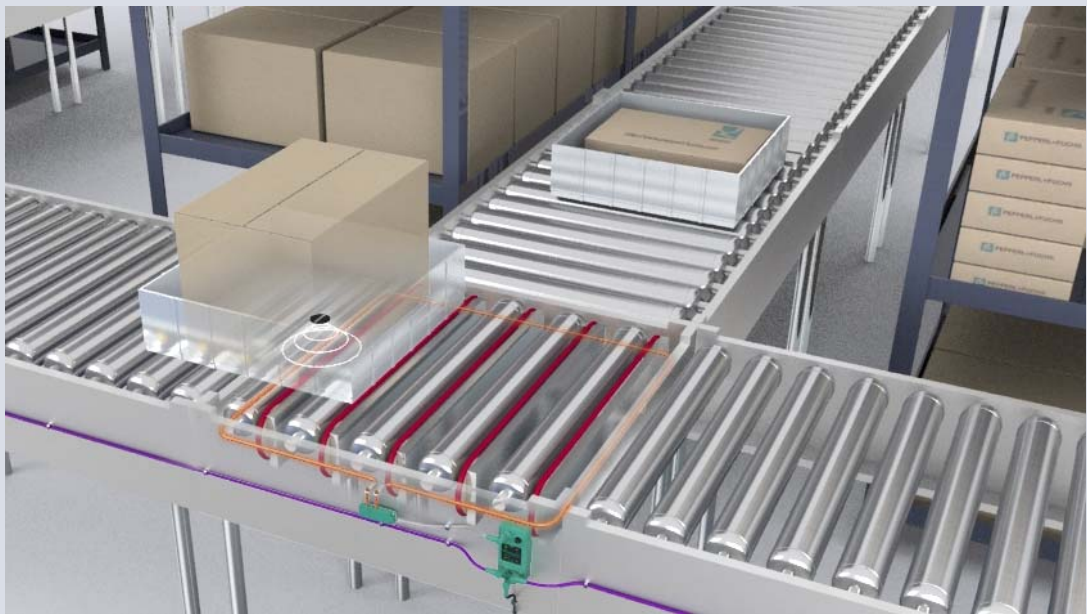


INDUSTRY: MATERIAL HANDLING

2 / 2

What is being done:

The concept of the "Internet of Things" should be utilized in material handling, manufacturing, and storage and retrieval systems. Here every bin or conveyed good carries with it process-relevant information that is stored on an RFID tag. This information includes data concerning the product history, scheduled processes, QC-data, and its next transport location. The data on the tag are dynamic and can be updated as needed. For instance, this makes it possible to dynamically change the next process step that a part should undergo and thus allows optimal routing to get it there. Previously necessary and time-consuming communication cycles with routing database tables are unnecessary and the communication with upper-level systems is greatly reduced. With this approach only non-time-critical information like current product position, QC status, and system diagnostics data are exchanged with the upper-level system.



Conveyor systems based on ethernet solutions that support topology detection can make use of the switch build into the IDENT Control interface to automatically determine the conveyor layout.

With the combination of modular design and automatic **topology determination**, the material handling system startup is virtually automatic.