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Implementing RFID to intralogistics process

Deciding between RFID gates and RFID forklifts

Global Supply Chains are under more pressure than ever. RFID can help create visibility to the entire supply chain from material handling, during production and warehousing and finally ensuring shipments are fully packed and shipped to correct recipients.

Forklifts equipped with RFID expand the reach of RFID throughout production and warehouse facilities. The general rule is: more RFID read points, the more visibility, and hence expanding the use to forklifts is lucrative. However, not all use cases are optimal for forklift usage and therefore some generic rules on when to use a forklift and when to use fixed read points are needed.

Choose a fixed read point when

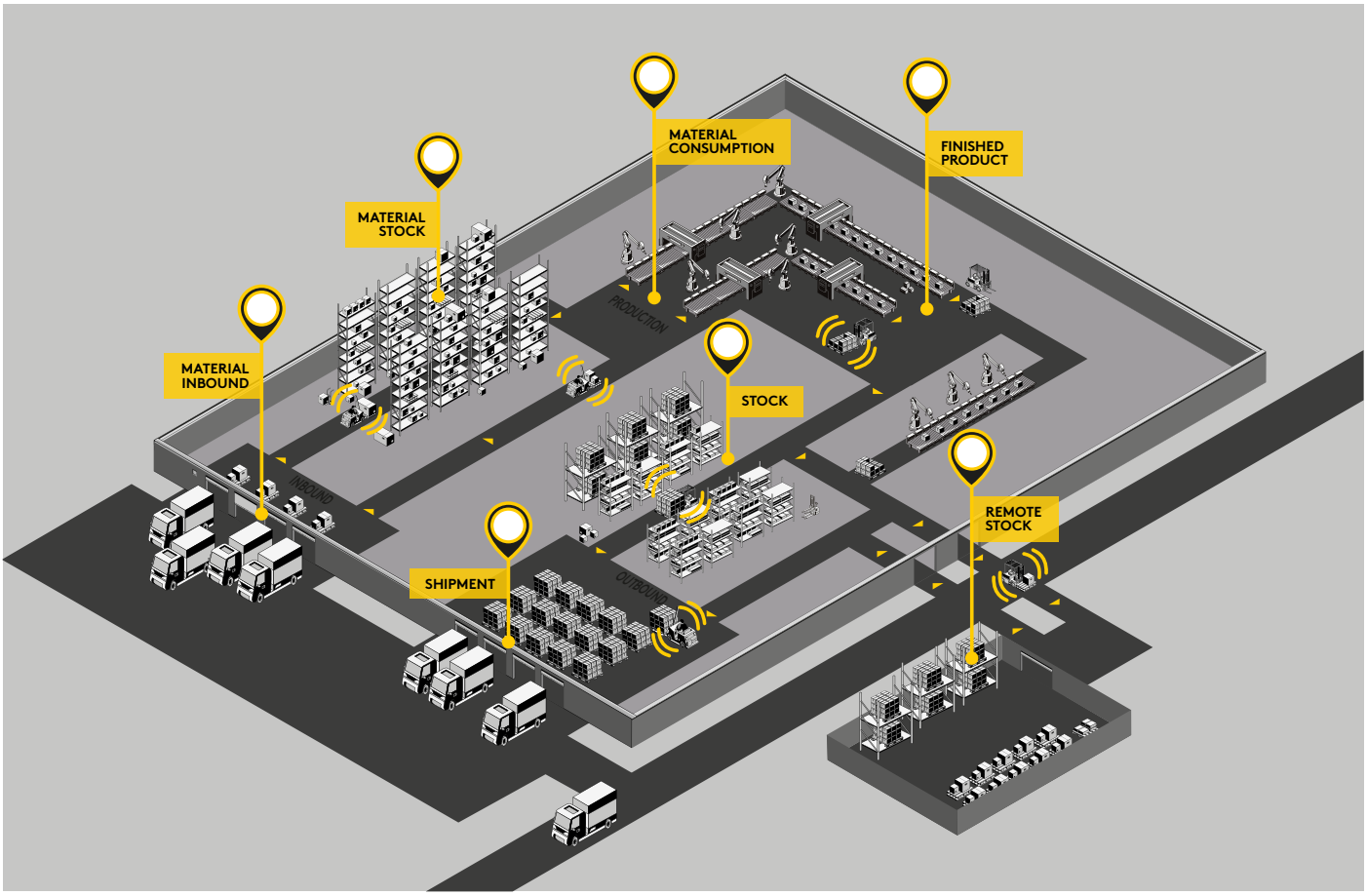
- All loading bays need stationary installation
- Amount of individual tagged items is high
- A third party takes care of loading / unloading process
- When forklifts or AGVs cannot be used for loading

Choose a forklift when

- It is important to trace finished goods in different areas of the facility
- You wish to be more flexible and have visibility everywhere rather than fixed areas
- The number of individual tagged items on the fork is limited (typically below 50 items)
- Inventory information should be as up-to-date as possible at all time
- You wish to extend the usage of your forklifts

Using RFID on RTI (returnable transport item) level is a cost efficient method to generate transparency for material and ready product stock. This can be a starting point for RFID project. In case more detailed information is needed, all materials and ready products can also be traced on item level by adding an RFID tag directly on them.

Intralogistics process and RFID touch points



Material handling process

1. Materials arriving should be RFID tagged in order to be automatically received to WMS or ERP during material inbound process
2. The stock location of the material is registered in the system automatically, so it can be easily found later.
3. As materials arrive at production line, an RFID reader at the production line or a forklift RFID reader will register which materials are being used, checks that correct materials are fed to a machine for quality purposes, and marks the materials as used in the WMS or ERP.
4. Used materials are matched with production batch information for later use.

Tracking of finished or half-finished products

1. As products are finished, they or their RTI can be marked with an RFID tag that includes batch level information
2. When products are moved to a stock location, the system automatically registers the stock location. The stock location information may later be used to select which items to ship based on FIFO principle as well as for staging the shipment.
3. The picking process utilizes the information on stock location to speed up the process. Furthermore the reading of the RFID tags ensures correct items are prepared for shipments.
4. During the loading process, the RFID system is used to verify that correct shipments are loaded.