AB VOLVO – RFID in the Production

Volvo Trucks
Volvo Technology

Examples of RFID Projects
Cab Plant in Umeå: Paint Shop
Cab Plant in Umeå: Trim Shop
Pilot Project: Fuel Tank Racks

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AB VOLVO – RFID in the Production

Cab Plant in Umeå: Paint Shop

Old System with Barcode Plates:
+ ID-number pressed on Barcode plates ⇒ Visual Identification
+ Long experience of the Barcode system
- Too much paint made the Barcode plates unreadable and in need of demounting and manual cleaning
- Sensitive cameras and barcodes bent or out of place ⇒ Reading Problems
- Communication loss with the database ⇒ Disturbances in the production

New System with RFID:
+ Escort Memory System (EMS) carrying all needed information ⇒ No Production disturbances
+ No need of line of sight. The tags can be read even if they are covered in paint ⇒ High Readability
+ The tags need small amount of maintenance
- High Purchase cost due to the large R/W memory, and due to the chemicals and high temperatures it has to handle
- Data redundancy
- Not extendable with other systems
Cab Plant in Umeå: Trim Shop

Volvo Trucks went from short flows to a line and needed a system to keep track of the exact position of the cab

New System with RFID:

+ The monitoring applications have become more reliable
+ Better control of the cab flow (exact tracking). Starting parallel processes along the line
+ Increased automation grade
- Closed system which is hard to complement
- Lack of education within the RFID technique
Pilot Project at Volvo Trucks, Tuve

Objectives:

- Keep track of the racks
  - Easier to plan maintenance ⇒ Less damage on goods
  - Decrease the number of racks

- Updated information of what articles that actually has arrived
  - Deviations can be corrected in time ⇒ Less need to mount articles after the production line
  - Collected Statistics help to evaluate the deliveries from each supplier
Volvo Trucks at Tuve

Updated information

Communication WLAN

Reading while unloading
Why RFID in the Production?

- **High reading accuracy**
  - No line of sight, no contact required
  - Performs in rugged, harsh environments
  - Read/write capability plus multi-read option
  - High data storage capacity
  - High data transfer rate
  - Reusable
  - Durability

- **Inventory Accuracy**
  - Visibility
  - Improve control and management
  - Traceability
  - Decrease the necessary amount of stored articles

- **Labour Costs**
  - Eliminates human error – less manual handling more automation