RFID within the Volvo Group

Volvo Group organization

RFID within Volvo

AB Volvo

Mack Trucks
Renault Trucks
Volvo Trucks
Buses
Construction Equipment
Volvo Penta
Volvo Aero
Financial Services

Volvo 3P
Volvo Powertrain
Volvo Parts
Volvo Logistics
Volvo Technology
Volvo Information Technology & Others

Volvo Technology, Transport & Telematics Services
11-04-2006
RFID within Volvo

Agenda

• Experiences
  - In-house systems
  - Closed loop systems
• Future
  - Open systems

Past Future

In-house Systems Closed Systems Open Systems

RFID has enhanced the automotive industry for many years...

Exact tracking 
Tracking of returnable assets
Identification
Assembly efficiency

Enhanced proof of delivery
Elimination of production disturbance
Traceability

...and “there’s no end to the possibilities”
Early installations

- Between 1996 – 1999
- Volvo Car plant in Torslanda
  - 120 EVS128 is mounted in the Paint Shop
  - RFID system OIS-P in the Marriage point
- Volvo Powertrain, Skövde
  - Tags on engines
- Volvo Cab factory, Umeå
  - Tagged detail racks in Paint shop
RFID within Volvo

In-house system
Paint shop

- Read range of max 45 cm
  - Shorter range due to metal
- Withstands chemicals and heat
- Minimized production disturbance

- 13.56 MHz
- Passive tags
- R/W
- 112 byte memory

RFID within Volvo

In-house system
Trim shop

- 125 KHz
- Passive tags
- RO
- 5 Byte memory
- Read range of max 14 cm and 20 cm
  - Decreased read range due to metal environment
- Exact tracking along the line
Closed loop system

Fuel Tank Racks

- 868 MHz tags
- Passive tags
- RO
- 96 bits memory
- Read range of max 2
  - Decreased read range due to moist environment and metal
- Enhanced visibility
- Asset utilization
Closed loop system
Supply Chain security

- 868 MHz tags
- Active tags
- WORM
- 13 Bytes memory
- Enhanced security
- Enhanced transport efficiency
General Tracking and Yard Management

- A common need for:
  - More effective tracking
  - Enhanced Yard Management

- The project consists of:
  - Investigation of needs and requirements of tracking at AB Volvo - started
  - Investigation of needs and requirements of yard management at AB Volvo - started
  - Investigation of available general solutions - started
  - Demonstrate possible general solutions
  - Make recommendation of a common solution.
Commonality within the Volvo Group

- Different frequencies for different areas
- Data format on tags
- Which existing standards should we use
- Centralized or decentralized data storage
Future

• Long experience in In-house systems
• Closed loop pilots
• Open systems
  - Use same tags in longer supply chains

Thank You!

Questions?

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