Mobile RFID prototype
Exploring business value of mobile RFID for logistics

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To explore innovations and manage expectations
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Currently most set-ups are made with fixed installations. Mobile RFID evaluated feasibility for a mobile work force including:
- RFID for short distance
- GPRS for long distance
- Web for glocal info access

Large transport quantities and status reporting
Supply chain flows…
Ready as ‘all-in-one device’
Opportunities for info access
Increase productivity

Graphics: MIT
Mobile RFID prototype has been a successful collaboration between several stakeholders.
Protoype Set-Up

Focused area decided after process mapping:
- A complex cross-docking cargo flow to Brazil
  - High level of manual routines – time consuming
  - Current annual cargo flow >6 000 cases
  - Large growth

Design of client applications
- Arrival Inspection
- Loading

Methods of Measurement
- Operational Reliability
- Usability
- Lead-Time Productivity
Example of Results

Benefits

• Lead-Time Productivity
• RFID reliability of 99,96%
• Low barriers of entry and usability

Challenges

• GPRS functionality
• Tag cost

More than 3000 measurements performed in the real operational context during a test month in prototype system environment
Recommendations

• **Focus process gains**
  • High-light the intrinsic value of RFID

**Mobile context design restrictions**
• High value items or for mobile reading in closed loop set-up (due to tag cost)
• < 10 readings/minute
• < 3 user inputs/reading
• Limited data retrieval

**Mobile context opportunities**
• Durability (Rough conditions)
• Extended data detail (Item level)
• Mobility (RFID: short range, GPRS: long range, Web: glocal info access)
• Low barriers of entry (Infrastructure…)

*New use-cases in Volvo are: Rental equipment return, Volvo Action Service break down assistance vans, Specific dealer inventory item control…*
Backup

Business Innovation

Initiative from VIT to focus business value in new ways of working and/or technology

Close collaboration with customers to deliver prototypes that give on-going development a competitive edge through effective R&D
Scope:
Idea of prototype collaboration effort, to facilitate practical set-up of a mobile RFID solution within supply chain operations (~10 mw)

Why
• To provide initial RFID hands-on experiences (=> improve supply chain productivity, Overall Business Case)
• To set better requirements for coming implementations (=> improve specifications/operations, Logistics Business Case)
• To gain skills for future application area (=> improving VIT competitiveness. RFID is a Top10 Gartner tech, VIT Business Case)

• Targeted customers: Volvo Logistics and SCM Stakeholders. Joint VIT R&D funding in progress

What
• Initial prototype set-up in connection to a logistics flow at the terminal (or equivalent)
• Support collaboration between Volvo BA/BUs, HW/SW vendors, IT-University and forwarders
• Evaluate results with key stakeholders

Deliverables (Recommendations, Spec, Next step proposal)
• Indication of feasibility (IT, Operational and Business)
• Prototype (+Master Thesis)
• Established relations with HW/SW vendors
• Enhanced knowledge and potential rationalisation projects