RFID and Finland Post

Dr. Tomi Pienimäki, CTO

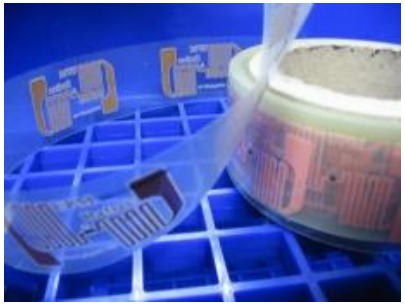
Finland Post Corporation Today

- The leading messaging and logistics company in Finland
- Most vigorous growth in information logistics and comprehensive logistics solutions
- Businesses and organisations account for 92 per cent of income
- Third largest employer in Finland (after Nokia and City of Helsinki)
- Key Figures 2005:
  - Sales 1 348 MEUR, profit 72 MEUR, 24 000 employees
- Three business areas:

RFID and Finland Post

Combining RFID, Location Based Systems and 2-D symbols

- RFID and Location Based Systems will be essential technologies in the future
- RFID should be combined with other technologies: Location Based Systems, 2-D symbols (and barcodes)
  - => Comprehensive technology roadmap
- Posti will continue to pilot RFID and other technologies, but in rather small scale

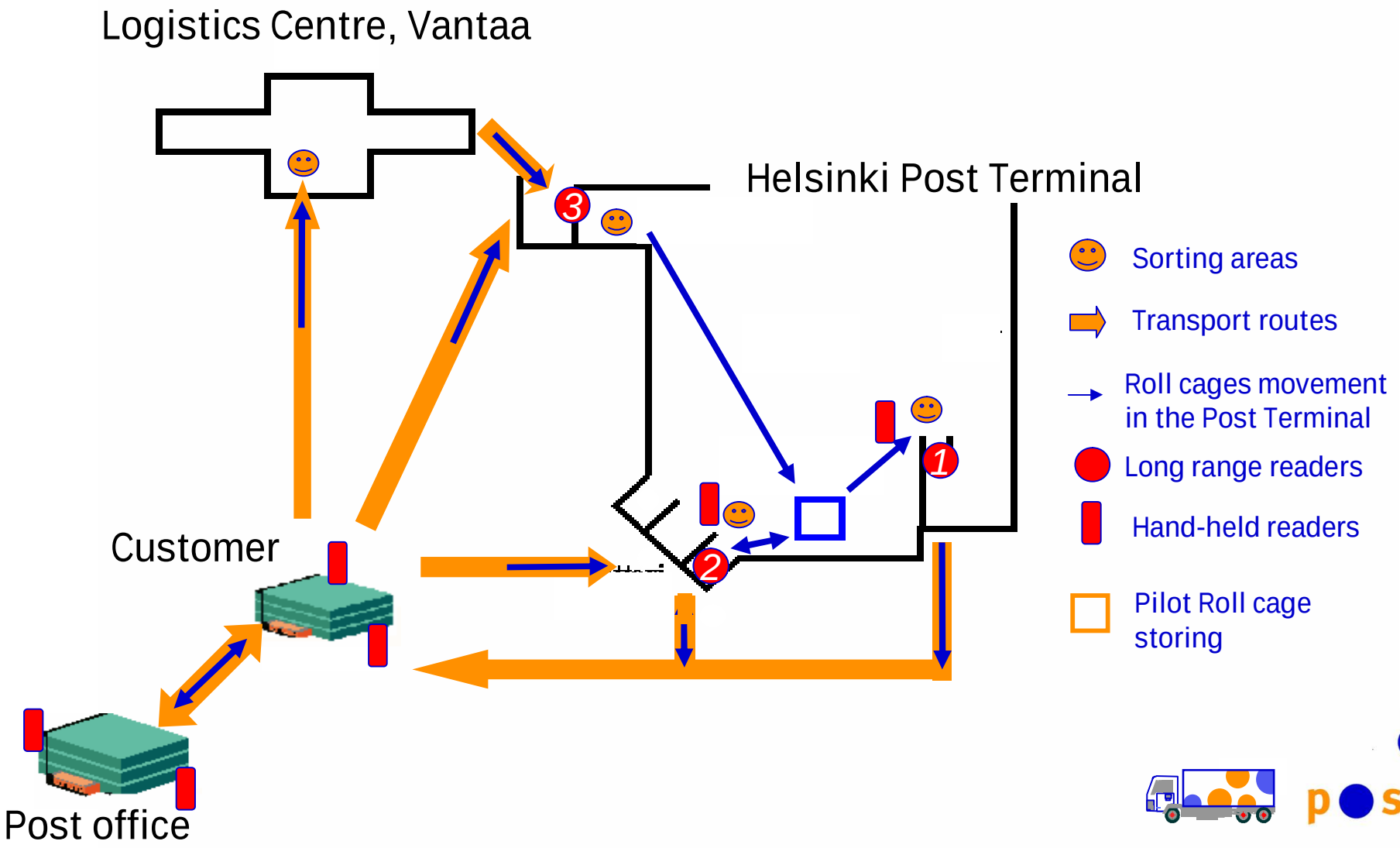


RFID pilot with roll-cages

Posti Roll Cages

BACK

RFID Pilot Layout & Process: 3 Doors and 300 Tagged Roll Cages



Technology Pilot for RFID

- Technologies
  - To evaluate the technologies and pilot RFID process
  - Tags, antennas, readers (Long range and hand-held)
  - Usability of hand-held readers
- Determine the best options for tags, packaging and tag location on Roll cages
- Identify Roll Cage Movements
  - Increase visibility of roll cage movements
  - Identify times of roll cages at customer sites

Pilot Environment: Read Rates

- UHF RFID portal was used to track Roll cages automatically
- 100 % reception with every long range reader tested,
- Tags designed especially for Finnish Post metal Roll cages
- 93% of empty trays (plastics letterboxes) inside of a Roll cage with standard tags were seen by the readers (without optimizing the tuning or antenna design of the letter box tag)
  - some changes to the tag would enable 100% reads

Portal Reader & Antenna

BACK

Antenna & Reader Portal

LED Counter

Handheld Readers

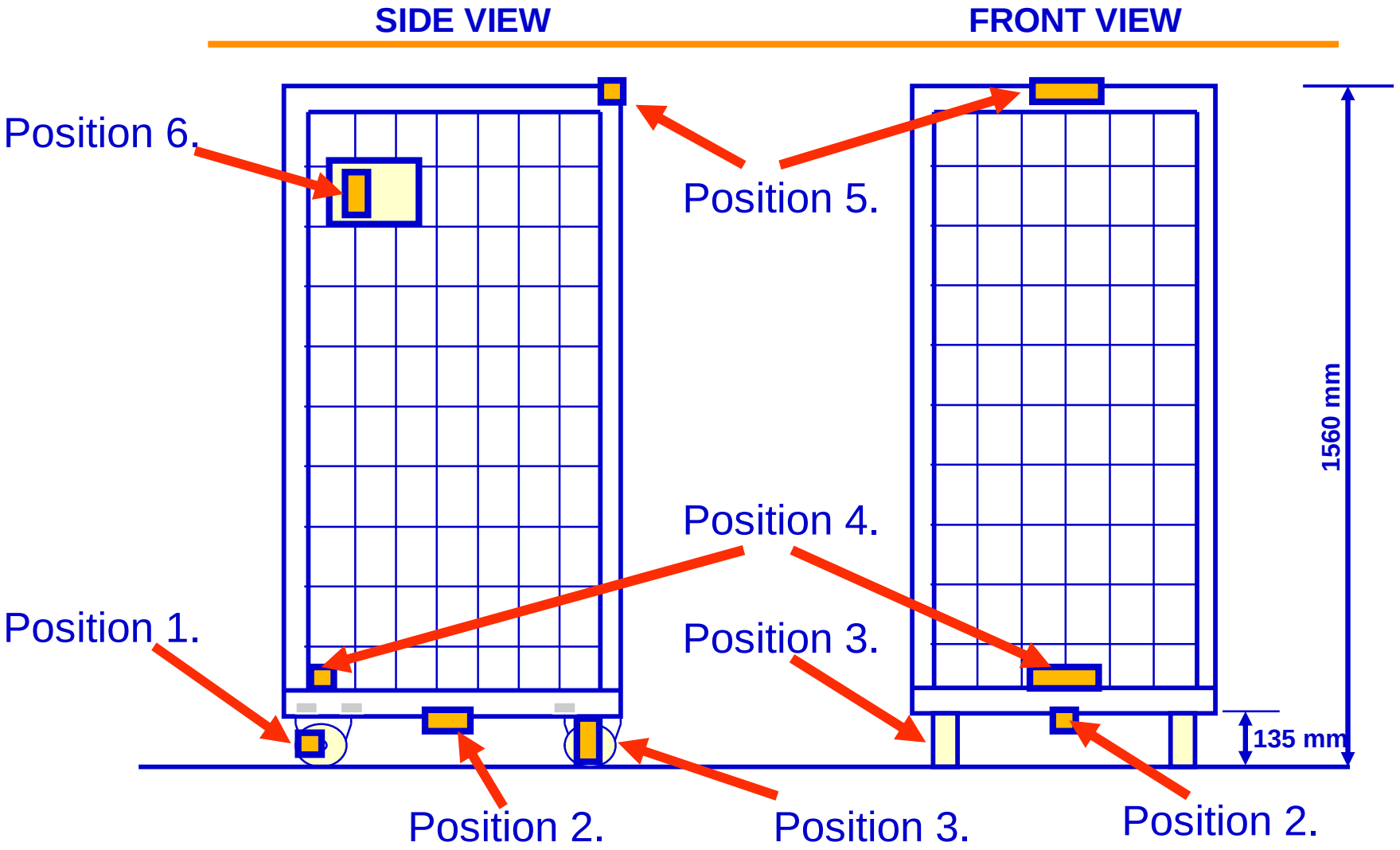
Hand-held Terminal

Customer's Tag

Roll cage tag

Roll Cage Potential RFID Tag Positions

6 RFID tag positions have been considered;



Reader Position/Environment

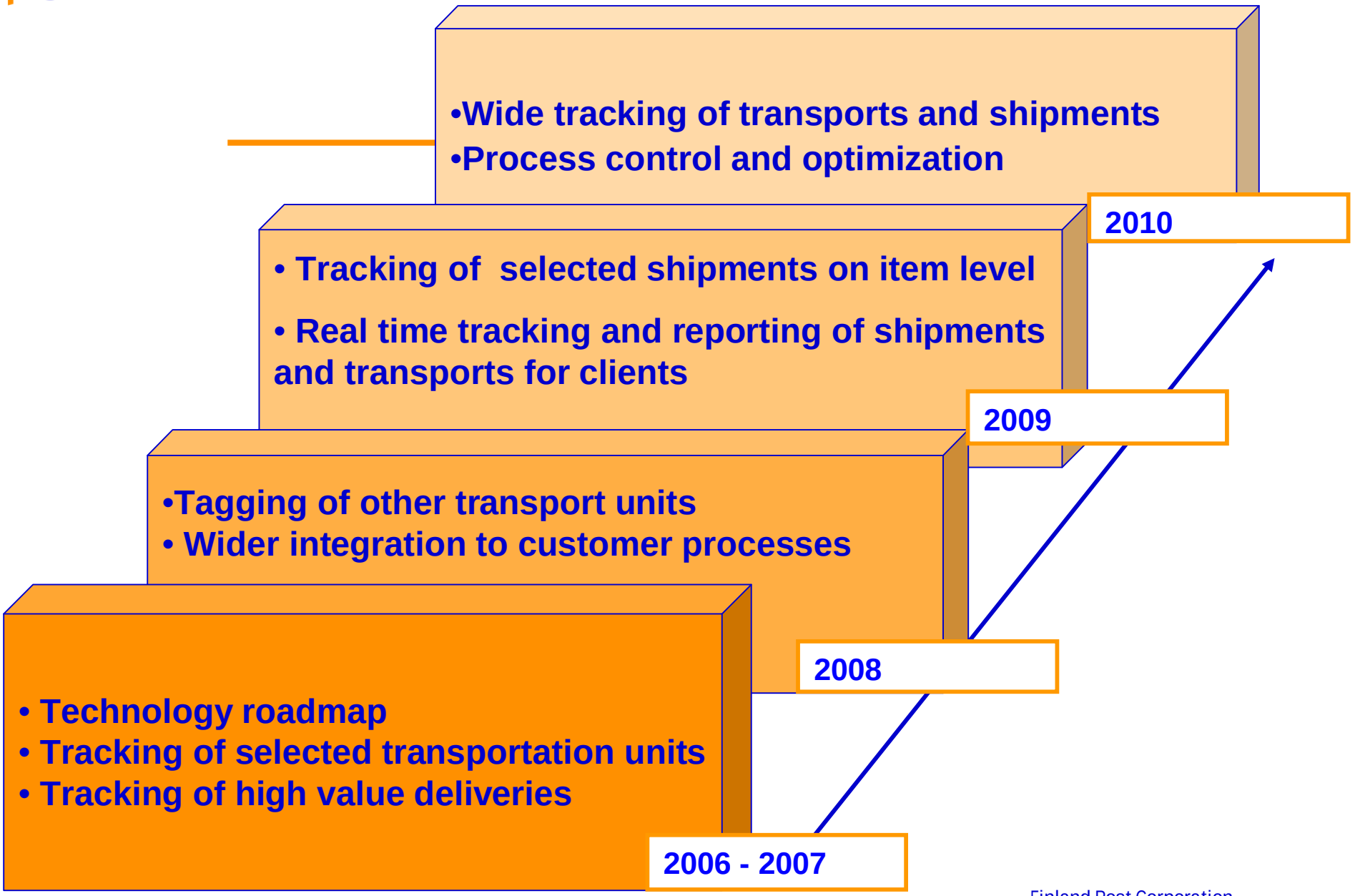
Large metal pipe-work, electric motors, metal roller doors, Electric Fan heaters with large metal heat exchanger matrix, power cables etc….

Pilot Results

- UHF RFID portal was used to track Roll cages automatically and UHF hand held readers in vehicles
- 100 % reception with every long range reader tested
  - particular combination of tags/readers and tag position
- Tags designed particularly for Finnish Post metal Roll cages
- 93% of empty trays (plastics letterboxes) inside of a Roll cage with standard tags were seen by the readers (without optimizing the tuning or antenna design of the letter box tag)

RFID in the future in Finland Post

RFID Roadmap Draft: 2006-2010



Thank you!

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