

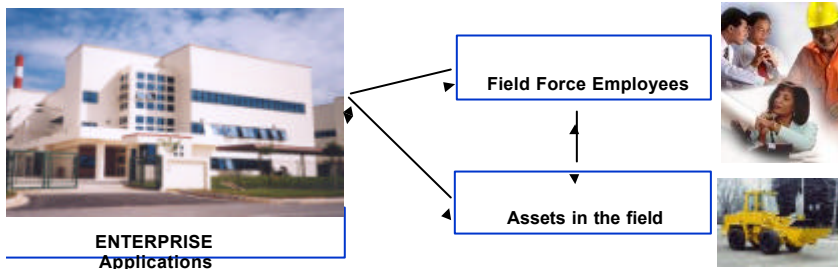
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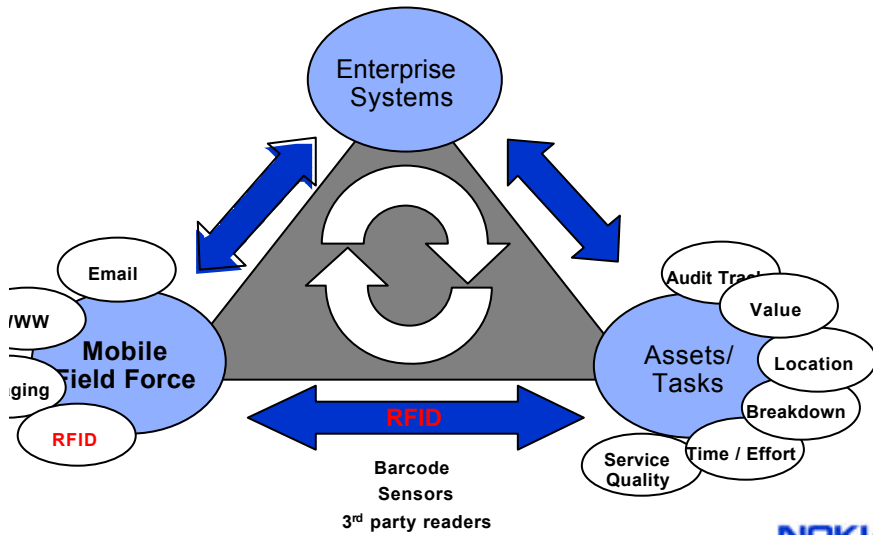
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Field Force Solution

Enables mobile personnel and its interactions in the field



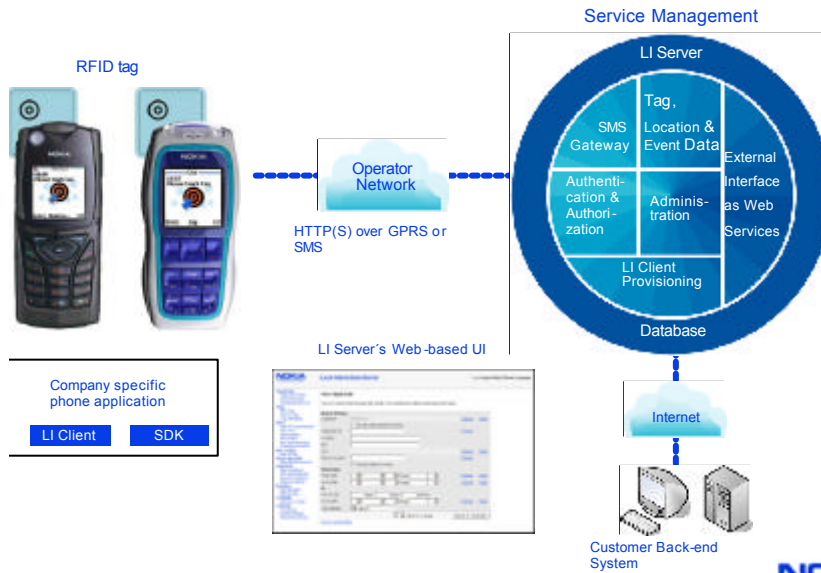
Field Force Solution – MOBILE FIELD FORCE MANAGEMENT & COMMUNICATION



Current usage of the RFID technology

Segment	Typical Application	Competitive Technologies	Current Penetration
Access Control	Doorway entry	Other keyless entry technology	High
Asset Tracking	Locating tractors within a freight yard	None	Low
Asset Tagging	Tracking corporate computer system hardware	Bar Code	Low
Authentication	Luxury goods counterfeit systems	Holograms	Low
Baggage Tracking	Positive bag matching	Bar Codes, Optical character recognition	Low
BS Applications	SpeedPass	Credit, Debit & Smart cards, Mobile phones	Medium
CM – Containers	Tracking containers in shipping terminals	GPS Based systems	Medium
CM - Pallets	Tracking palletized shipments	Bar Code	Medium
CM - Items	Identifying individual items	Bar Code	Minimal
Vehicle Identification	Electronic toll collection	Bar Code, License plate readers	Medium
Vehicle Immobilizers	Automotive ignition systems	Other theft prevention technologies	High

Nokia Field Force Solution Architecture



Nokia Field Force Solution Elements



- 1. Nokia **RFID** Enabled Mobile Phones
 - The Xpress-on™ **RFID Reader** shell for the Nokia 5140 phone
 - The Nokia NFC shell for the Nokia 3220 phone
- 2. Local Interactions Client (LI Client)
 - Company specific mobile phone Java application
 - For reading and writing to tags and communicating with the LI Server
- 3. Nokia Local Interactions Server (LI Server)
 - BEA™ Weblogic Application Server
 - Oracle™ database
 - LI Server Subsystems
- 4. MIFARE® Ultralight, 1K and 4K **RFID tags**
 - Predetermined operations are automatically performed by touching an **RFID** tag equipped object with the **RDIF reader and writer**

Nokia Field Force Solution in Brief



- RFID based solution enables two-way interaction between the LI Client software, Nokia LI Server and company's back-office systems (eg ERP, CRM)
- Cost-effective data management solution for field service companies
 - Work scheduling & workflow management
 - Task management
 - Real-time access to information databases
- Locationally relevant information in real-time
 - Send information on location, reporting work time or task status from the field
 - Receive service instructions or work assignments in the field

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Real-time, Two Way Reporting: When, Where, Who & What



- Real-Time Work Attendance
- Proof of Completed Work
- Service & Work Instructions
- Workflow Management

Date	Time	Location	Employee	Action
13.12.2002	21:18:10	Nordes - Mikonkatu 9	J. Aho	Clean - IN
13.12.2002	21:19:27	PWC - Itämerenkatu 20	P. Leiber	Clean - IN
13.12.2002	21:26:22	Sony Shop - Mariankatu 11	S. Jokela	Door Check

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Customer Segments & Industries



- Security & Guarding companies
- Utilities & Waste Management companies
- Services & Maintenance companies
- Outdoor Advertising companies
- Healthcare & Home Nursing sector
- Government sector

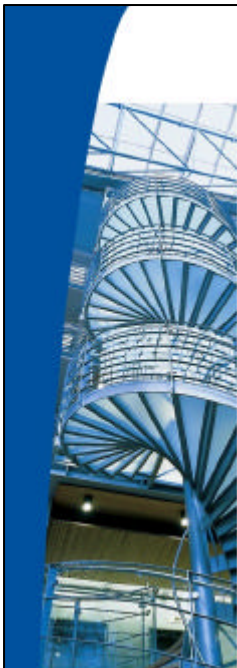
Customer Segment-Use Case Matrix

Industry / Segment	Maintenance & Repair	Utilities	Security & Guarding	Pharmaceuticals	Healthcare	Government
Identification	x	x	x	x	x	x
Real-time Work Attendance	x	x	x		x	x
Proof of Work & Task Completion	x	x	x		x	x
Access Control	x	x	x	x	x	x
Task-related Reporting	x	x	x	x	x	
Ad-hoc & "Planned" Instructions	x	x	x		x	
Asset and/or Inventory Management	x	x		x	x	x
Workflow Management	x	x	x		x	x



Benefits of the Nokia Field Force Solution

- **Ease of use**
 - Touch to initiate a service
 - Easy to input essential data
- **Low cost device and solution**
 - Xpress-on™ RFID Reader shell or NFC shell
 - RFID reader technology evolution: cost/size/power consumption
- **2 in 1 device**
 - Only one small rugged device for multiple purposes
 - Phone + reader + GPRS connection + Push to talk + ...
- **(Near) Real time system response**
 - Real time reporting of time and attendance
 - Real time reporting of exceptions
 - Two way instant communication with back-end system
- **Pay as you grow**
 - License fee is based on the amount of users
 - No 3rd party license and HW purchase is needed, low start up costs



Building Real-Time Enterprise Nokia Field Force Solution

Improves the efficiency of mobile employees and reduces data-capture errors, which increases customer satisfaction and the profitability of field activities.

ALL-ROUND BENEFITS:

- Improved data quality: Real-time information to and from the field
- Better service: Clear proof of a completed work task
- Cost savings: Improved data distribution and accessibility
- Ease of use: A simple touch operation for data collection and retrieval
- Increased efficiency: replacing paper processes with automated messaging

Questions?