



with...



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Store Logistics and Payment with Near Field Communication



StoLPaN Project Summary

6-th Framework Program (IST)

**Specific Targeted Research:
Innovation Project – STREP**

Coordinator: **Motorola**

Duration: **36 months (from 1st July, 2006)**

Budget: **EUR 8,927,702.**

Community Contribution: **EUR 4,878,309.**



Partners

Deloitte.



Specific Targeted Research Project with funding from EU 6FP.



Why StoLPaN?

Cope with the challenges of (mobile RFID) NFC

- More than million contactless card users in Korea and Japan
- Pilot applications:

South Korea – SK Telecom, multiple apps.

Netherlands – Roda Stadium for ticketing

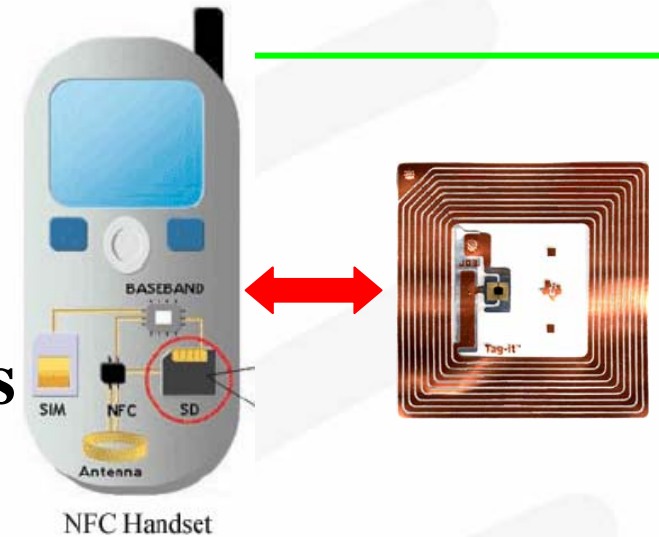
Taipei Subway for mobile payment

Malaysia for mobile payment

Thailand for mobile payment

New York Metro

Germany – RMV trial for public transport



Embedded – Nokia 3210,
Samsung SCH-X700N,
Motorola L7,
Nokia 6131

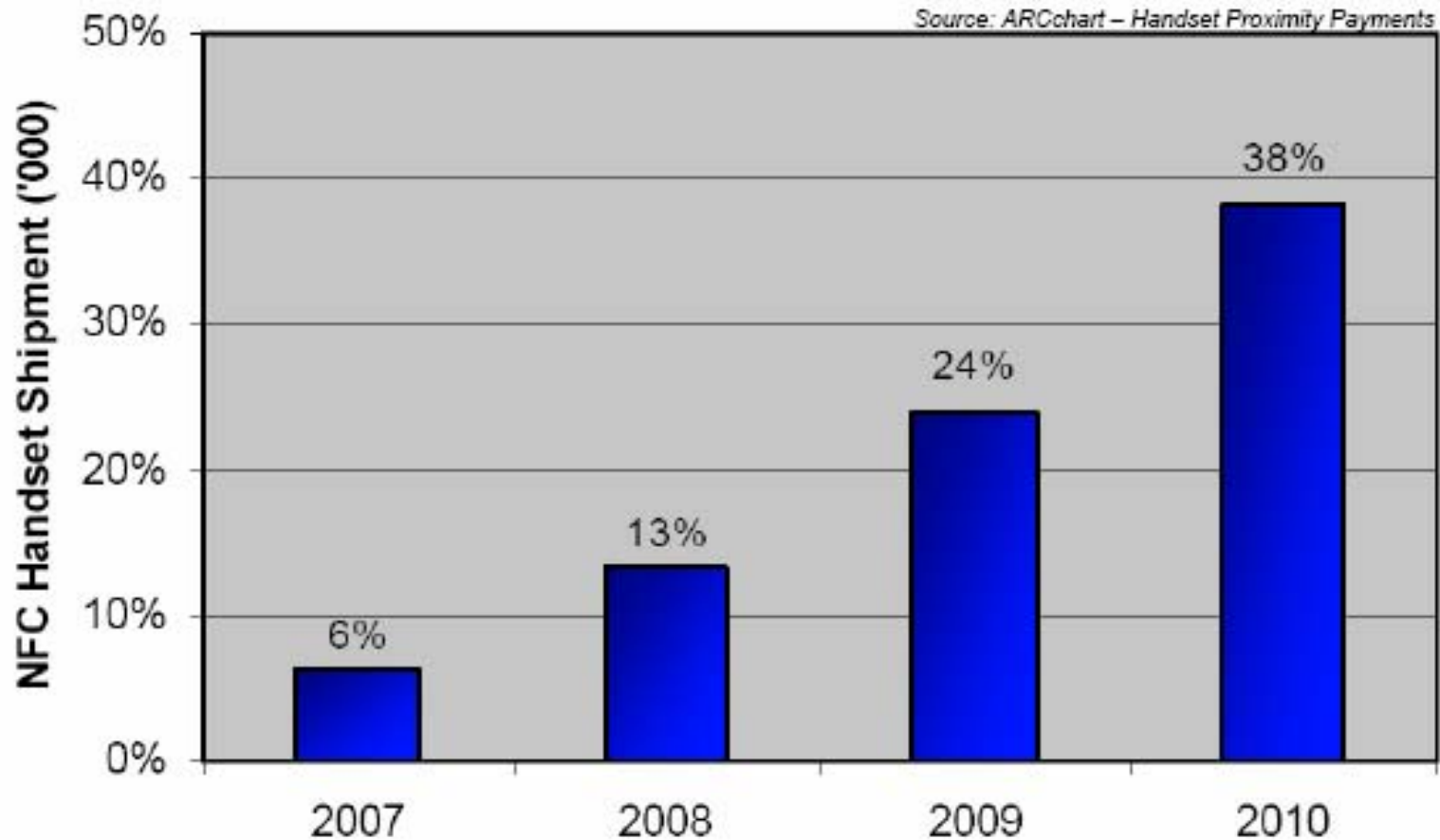


SIM – Sagem NFC phone, Gemalto SIM
SD card – Wireless Dynamics





NFC Enabled Handset Prognosis



BU Automotive and Identification, Philips Semiconductors, September 6, 2006

1. Touch and Go

“code capture: RFID”

2. Touch and Confirm

“authorization needed”

password, or acceptance

3. Touch and Connect

“peer to peer data transfer”

4. Touch and Explore

“selection from option”





Potential Applications for NFC

Transactions

Payments, Ticketing,
Top-up, Toll-gate,
Access control



Service Discovery

Content distribution, Information access,
Smart advertising, Smart media



Connectivity

Peer to peer data transfer.
Device association, Setup & Configuration





Implications

- The convergence of RF technologies in the near future could form the basis for a broad range of new mobile electronic applications such as automatic object and person identification, secure data transfer, and automatic device configuration.
- The new technology will generate several logistical and legal questions, such as who will handle the electronic identity codes, who-, when-, and how long the products and persons can be traced.
- The RFID and NFC-based technology will reshape the product logistics and electronic payment system, so preparation is needed for coping with the new situations.

This is the purpose of StoLPaN project



Objectives of StoLPaN 1.

Mobile Track:

- 1. Define a technical environment** that supports single platform multi application NFC Service operation
- 2. Elaborate a logistical and business model** that takes into account the interest of the value chain, generates new revenue channels for the mobile network operators and provide a value added service environment for both the service providers and the customers
- 3. Initiate standards** by presenting the results to the relevant industrial, financial, transport and communication organizations
- 4. Demonstrate the results** with a Host application



Objectives of StoLPaN 2.

Retail Track:

Design and develop new retail logistical process flow based on mobile NFC technology that individualizes the payment and check-out process to improve convenience of the shopping process and increase store capacity.



Research Tasks:

1. State of the Art Analysis

- NFC technology
- Handset technology
- Secure element
- Payment purses
- Card distribution solutions
- Retail processes
- NFC trials



Research Tasks:

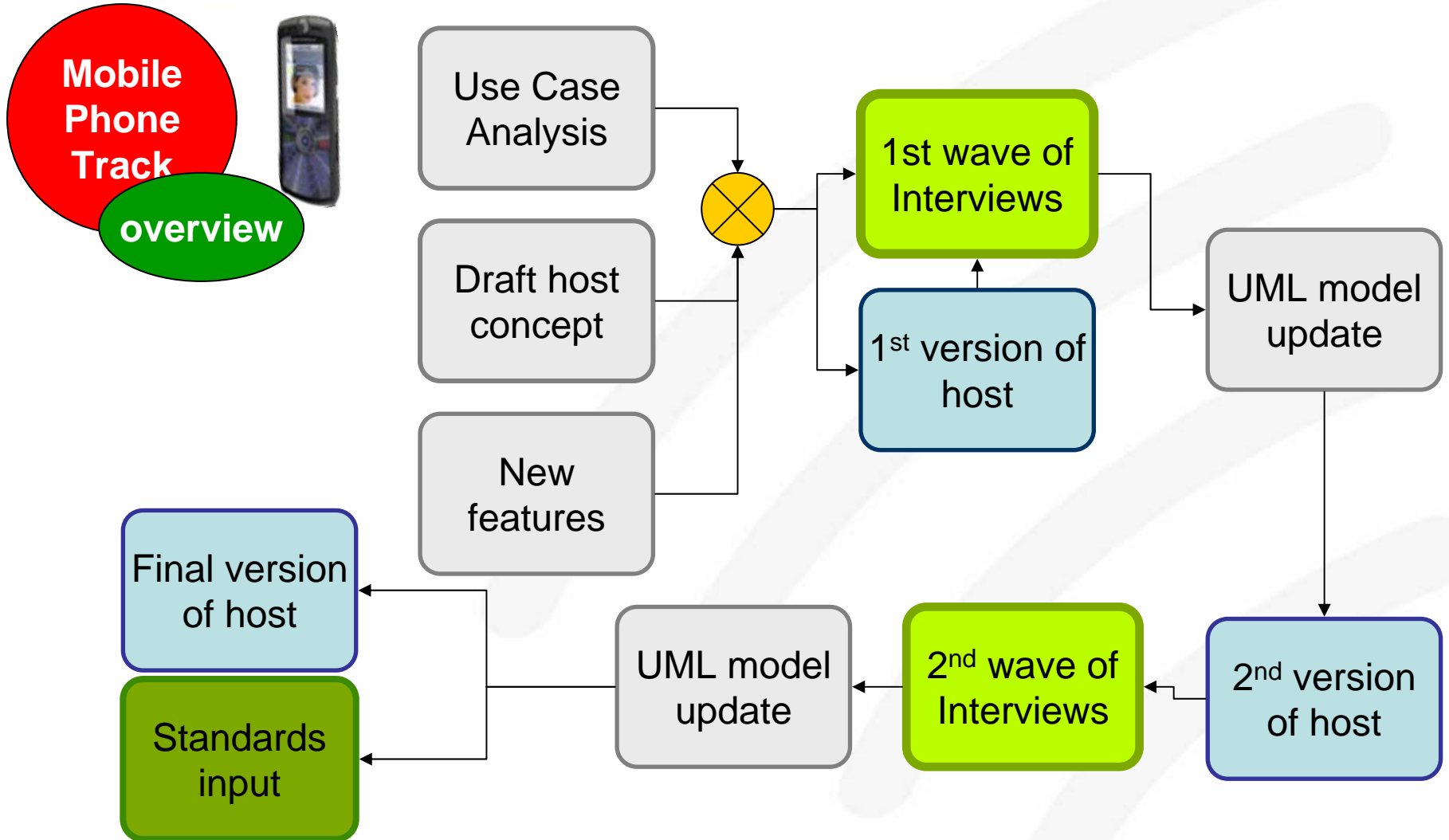
2. Use Case Analysis

- Payment** (e-purse, card payment - several card management-, money transfer, POS operation)
- Ticketing** (Public transport, event ticketing)
- Content** (“Smart poster”- type use cases, Device pairing, Connectivity)
- Loyalty** (For large loyalty programs, For smaller merchants)
- Access** (Hotel room booking -can be extended for parking in the hotel, Consume hotel services)
- Corporate usage** (Entrance to the office)



Main focus of the use-case analysis

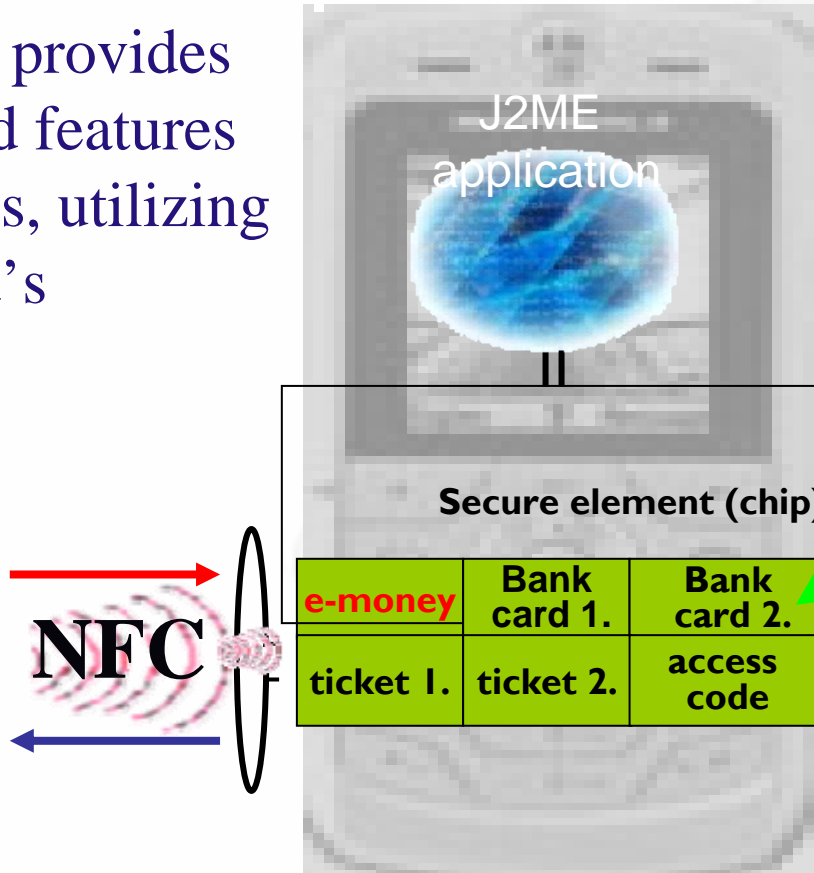
- How can we extend existing contactless card applications,
- How can we add extra resources to implement new value added services



Research Tasks:

3. Host Concept Development

J2ME StoLPaN Host application provides value added features and services, utilizing the handset's resources.



Standardized connection between the J2ME Host and the NFC applications

Multiple legacy contactless applications are stored in the secure chip

4. Seamless Mobility Service Development

based on EPC and NFC

- EPC and NFC compatible mobile phones
- EPC based product information
- EPC based product authentication (anti-counterfeiting)
- EPC triggered mobile advertisement
- NFC based loyalty programs
- NFC based self check out and mobile payment



Solve technical and security issues

- hide diversity of handsets
- hide diversity of applications
- introduce standards

Contribute to user related issues

- test new use cases
- perform user studies
- validate existing solutions
- publish results of usability related research

Solve business issues

- more simple development
- more simple apps. distribution
- more simple apps. mngmnt
- revenue generation for key stake holders

Identify legal issues

- identify issues that may hinder penetration of the technology or individual services
- identify issues that deteriorate economics of services

ST-CUSOR d e t e r m i n e s

Openness

Transparency

Efficiency



References

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