



**STOLPAN** ... with NFC

## **The need for standards in the mobile NFC ecosystem**

**EU RFID Forum 2007  
13-14 March, Brussels,**

## Contactless card



# NFC: Three modes...

## Secure

In combination with Smart Card Technology



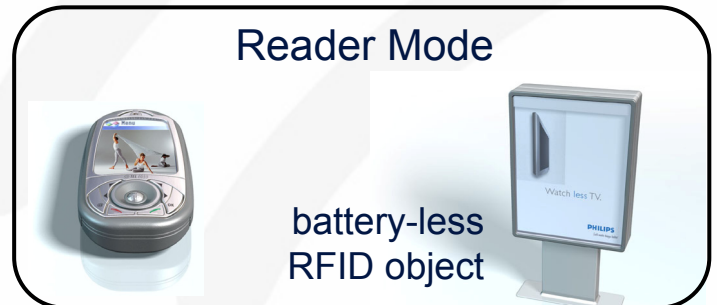
## Card Emulation Mode



## Peer-to-Peer communication



## Reader Mode





- **Jointly developed by Philips and Sony**
- **Based on RF technology at 13,56 MHz**
- **Standard ISO 18092 and backward compatible with ISO 14443**
- **Typical Operating distance of up to 10 cm/4 inches**
- **Data exchange rate up to 424 kbit/sec (1 Mbit planned)**
- **Easy and intuitive to use**





# NFC Facts & Figures

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- Today, there are 3 billion ( $3 \times 10^9$ ) mobile phones in use world wide
- The average lifecycle of a mobile phone is 3 years
- ABI Research expects 30% of all new mobile phones to be equipped with NFC by 2011
  - This means 450 million NFC enabled mobile phones will be sold in 2011!
  - There could be 2 billion ( $2 \times 10^9$ ) NFC enabled mobile phones by 2015!
- This means, that mobile phones are about to become the biggest RFID reader infrastructure world wide

# Added value of mobile handset

GPRS, 3G





# NFC transformation

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# NFC service scenarios

- **Single actor = User**

- reading
- connectivity

- **Tri-party = User + service provider + Owner of SE**

- basic card operation
- transport ticketing

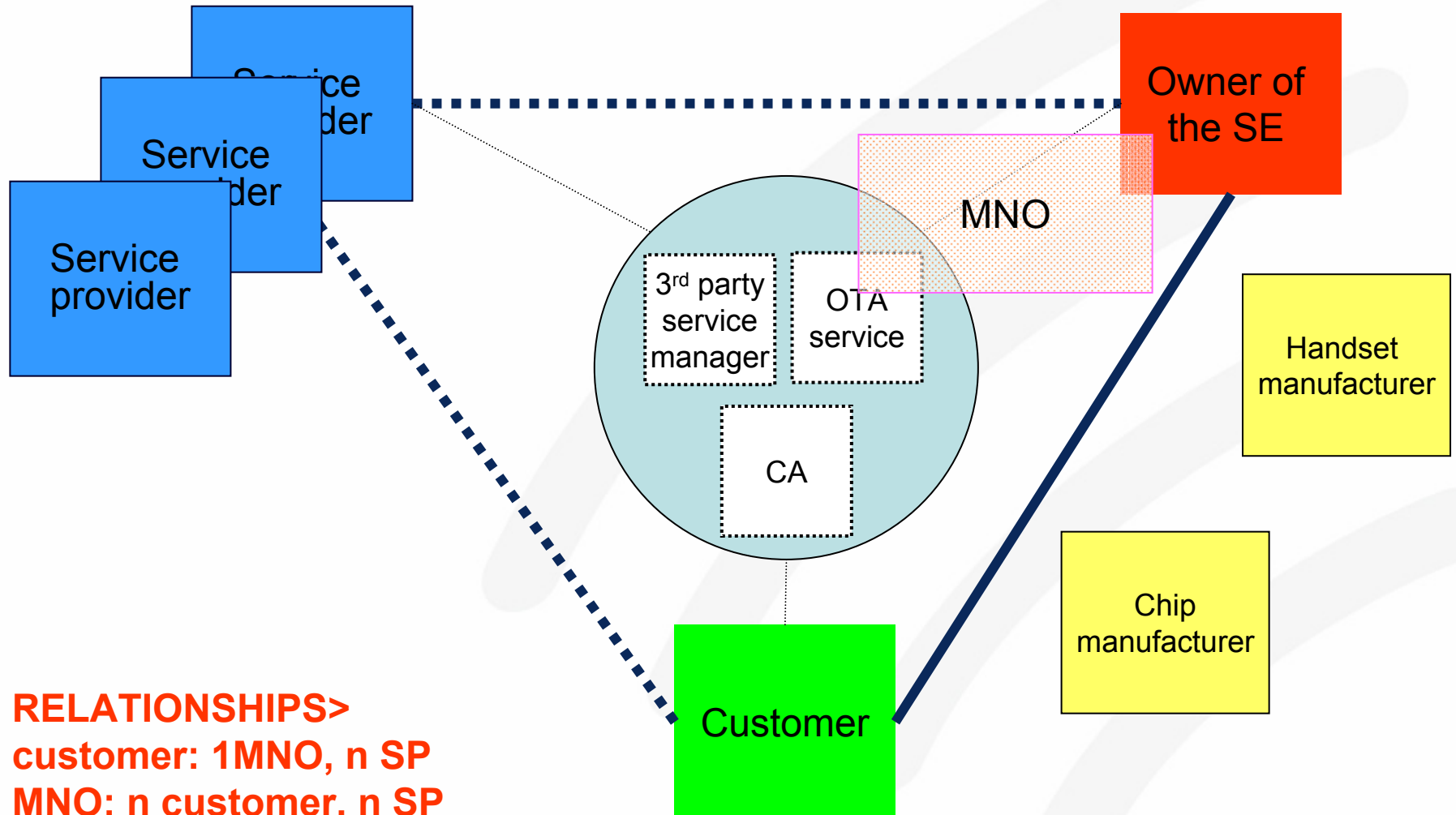
- **Bilateral: service provider-user**

- handset without subsidy
- no use of the secure element
  - loyalty
  - temporary access
- no OTA
  - upload through NFC

- **Multi party = User + service provider + Owner of SE + optional support service**

- over the air access -OTA
- remote management, card back-up services

# Complex business relations require flexible business model: n-n relations



## RELATIONSHIPS>

customer: 1MNO, n SP

MNO: n customer, n SP

SP: n customer, n MNO

# Divers technical requirements



NFC Handset

- **Application requirements**

- compliance with existing infrastructure
- technical and security specifics

- **Handset technology**

- OS specifics
- manufacturer specifics
- OTA capability
- place of SE
- SE- NFC interface

- **Technical environment**

- API-s
- handset functions
- security settings

- **Definition of standards**

- minimum requirements
- place for differentiation

- **Host application**

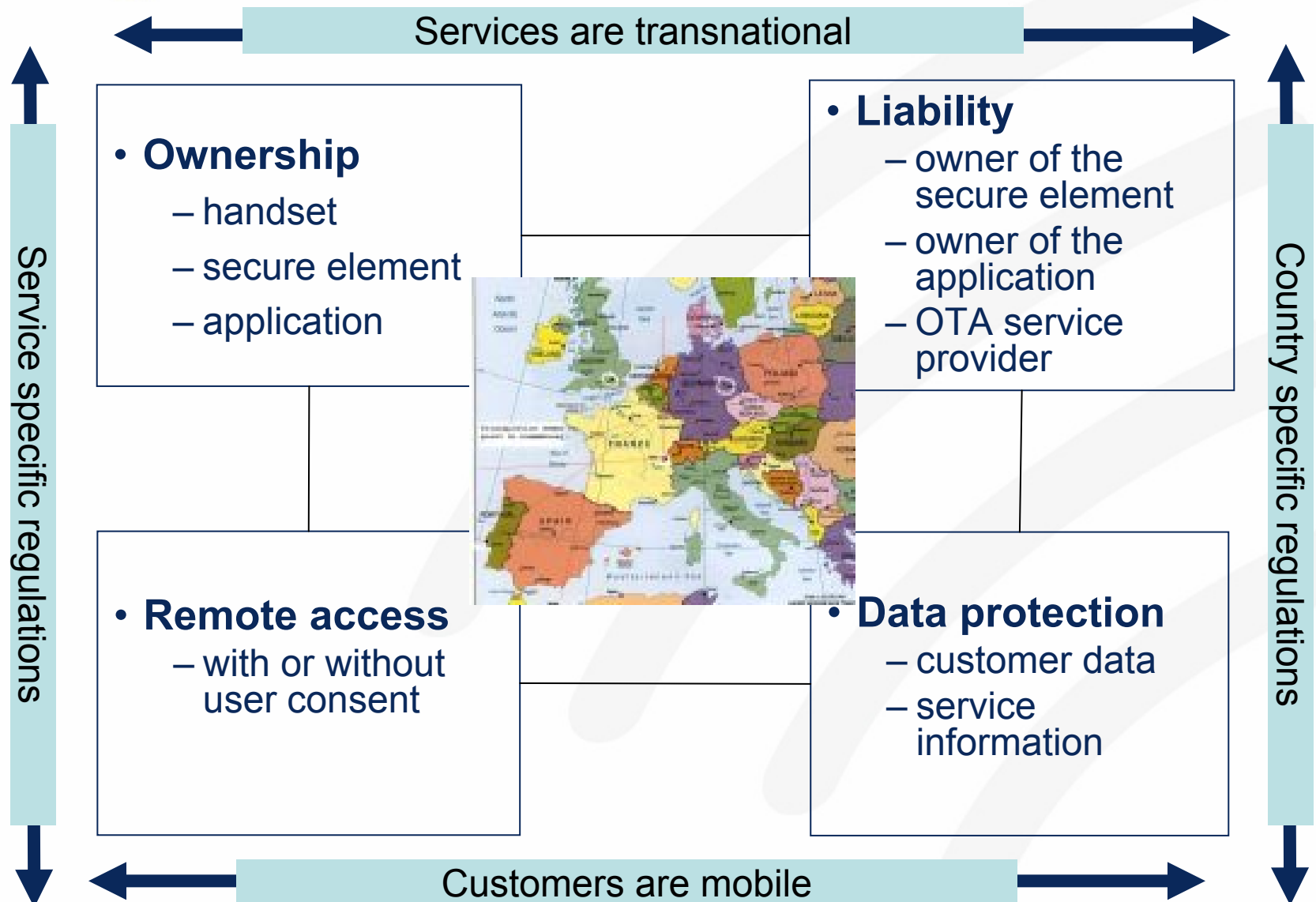
- single platform
- multi application

- **SDK**

- simplified application development
- easy updates



# Legal issues





# Thank you!

For more information please contact:  
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