e-Ticketing – Fundamental need for a Transport System

- Fastest throughput at the gate
- Form factor independence

**Cost Savings**
- Maintenance Costs
- Eliminate Handling Of Cash
- Fare Evasion / Fraud Protection

**Extendable Infrastructure**
- C’less Bank Cards
- Multi-application cards
- NFC Enabled Mobile Devices
What PTOs Needs ....

• Individual Fare Models
• Multimodal Transport
• Flexibility & Scalability
• New Biz Models
• Aquire New Users
PTOs and Smart City Needs

- MASS TRANSIT
- INDIVIDUAL / SHARED
- TOLLS & Others..
- CITY INTELLIGENCE
Smart City Device

Form Factor Agnostic

- Smart card
- Smart wearable
- Smartphone

Application Agnostic

- Secure Access
- Loyalty scheme
- Identity
- Smart Home
- Event Access
- University access
- Payment
- Hospitality
- Bike share
- Transport
- E-Charging

- New Biz Models
- Big Data
- Customer Ownership
- Flexibility
Smart City Technology
Who owns the customer?
System Ownership

• Fare Medium and Reader
  - Fare Model
  - Security and Flexibility

• Backend
  - Fare Models
  - Customer Data
  - Analytics

• Payment Methods
Public Transport

Managed by PTO

Multiple entities own customers
A flexible ticketing platform benefits PTOs and Smart Cities

- Adapt New Business Models
- Complete Flexibility
- Payment Provider of Choice
- Service Partner Network
- Enabling Regional and Countrywide Deployments
- Sustainable Technology – Growing with your Smart City
Large cities - building a smart city on top of mobility

Istanbulkart – MIFARE DESFire EV1
- 19M cards in circulation
- Max load value 300 TL ~ 100 USD
- Initial use with Bus, Metrobus, Trams, LRT, Furniculars, Subway, Commuter rail, Ferry, Seabus
- 2016 – BELBIM was awarded 15 years e-money license
- Payment at parking lots, theaters, taxis, movie theaters, cafes, restaurants, shopping malls and any other urban activities

Manila BEEP – MIFARE DESFire EV1
- 1M cards deployed – after 6 months 100M transactions
- Max load value 10000 Peso ~ 214 USD
- Initial use with LRT, MRT, P2P bus, airport transfer, Jeepneys,
- 2016 – AFI Payments expanding to tollways, convenience stores
- Banks, mobile company now selling beep cards with additional features
  - GlobeCash, PayMaya (used for UBER)
Small cities - maximizing value by going smart

WEIZCARD Deluxe - Anmeldefolder

✓ Gleiche Grundfunktionen wie bestehende WEIZCARD
✓ Kontaktlose Identifikation durch zukunftsträchtige NFC Technologie

ZUSÄTZLICHE Funktionen:
Phase 1: Fahrradverleih
Phase 2: Weiz Linien
Phase 3: Öffnung der Schrank neuen Bauhof

WEIZCARD Deluxe

WEIZCARD Deluxe - Anmeldung

Umsatz

10.000.000,00
8.000.000,00
6.000.000,00
4.000.000,00
2.000.000,00
0

2012 2013 2014 2015 2016 2017
50,000 cities below 500k citizens

- 1000 cities with above 500k citizens in focus
- Investment 2nd & 3rd tier cities is a challenge
- Needs custom of the shelf solution (COTS)
  - Wallet management – onboard existing offering
  - Account management – online ID authentication
  - Customer relationship management platform
- NXP invites partners helping 2nd & 3rd tier cities to become smart
NXP solutions to master challenges

Safe Sensing
- Protect privacy
- Know what’s needed

Security
- Secure transaction
- Authenticate ID

Open APIs
- Everybody can develop
- Interoperability

Reuse
- Leverage existing infra with newest technology

Footprint
- Minimize dumb plastic
- Sustainable behavior

On-/Offline
- Connectivity & risk mgmt
- Support offline infra

One platform for all products

Combination HF & UHF

NXP products via open Java API

3 out of 4 cities use MIFARE

Applets scalable to wearables, mobile

TMAC in MIFARE Plus EV1 & DESFire EV2

Everybody can develop

Interoperability
MIFARE® DESFire® by the numbers

More than 500M pcs shipped

> 65% annual growth
on average for the last 10 years

Proven in > 30 applications

Also available in banking & mobile convergence platform from multiple vendors

NFC TagType4 compliant

Powering eTicketing in > 90 cities including

Preferred platform by leading system integrators for NFC, access, micro payment & loyalty

> 10 schemes regional & countrywide

Compliant to > 10 standards and industry best practices

Evolving platform MIFARE DESFire EVx - staying ahead in security, privacy, performance & multi-application

Extendable to
- banking
- eGov
- mobile NFC

Licensed to > 10 companies
MIFARE® DESFire® serves many different applications
Thank You

SECURE CONNECTIONS FOR A SMARTER WORLD

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