

NFC World Asia



Ecosystem for NFC Enabled Mobile Payments and Commerce

January 17, 2008



Slide 1

VIVOTech proprietary and confidential material - not be copied or distributed without permission

My Talk Today

Ecosystem

Issues & Drivers

Opportunities



Slide 2

VIVOTech proprietary and confidential material - not be copied or distributed without permission

The Opportunity is Huge

3rd Generation Electronic Payments & Promotions

3.5 Billion

Payment
Cards and
Mobile Phones

45 Million

POS
Systems

10,000+

Card Issuers,
Tier 1 Retailers,
Processors,
Mobile Operators

ViVOtech Mission is to Provide Enabling POS Systems and Software

Wallet Software
Card Software
Smart Poster Software



ViVOwallet

Contactless POS
Systems



ViVOpay

OTA Payments and
Promotions
Management Software



Back-end Application Software

Slide 3

ViVOtech proprietary and confidential material - not be copied or distributed without permission

ViVOtech

Huge Rewards Await ...But Will Not Come Easily

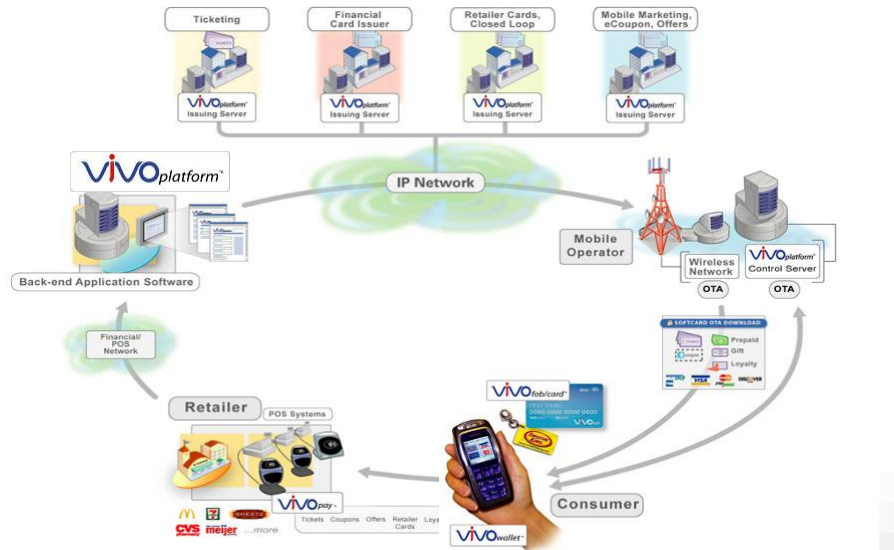
- **Billions of cards that can be enabled on billions of mobiles**
- **Harvesting mobile rewards will require:**
 - **Mass deployment of Contactless Cards to build the base**
 - **The merger of two ecosystems with unrelated expertise:**
 - **Retail Merchandising/POS**
 - **Payment card issuance and management**
 - **Mobile applications management – hand set and network**
 - **A business model beneficial to all players**

Slide 4

ViVOtech proprietary and confidential material - not be copied or distributed without permission

ViVOtech

A Look at the Two Ecosystems Required to Commercialize the Mobile Opportunity



Slide 5

VIVOTech proprietary and confidential material - not be copied or distributed without permission



A successful NFC ecosystem must merge the following key participants and areas of expertise

- Retailing/POS systems
- Merchandizing
- Payment Verticals
- Payment Card Associations, Issuers, Processors
- Managed Service Providers
- Wireless Operators
- Handset manufacturers, network vendors, application developers
- Regulators in some jurisdictions
- And lets not forget the customer – who is King



Slide 6

VIVOTech proprietary and confidential material - not be copied or distributed without permission



The Mobile (NFC) Opportunity

Applications	Benefits
<p>NFC Will Enable:</p> <ul style="list-style-type: none"> Payment or Coupon Redemption at Physical Store Mobile Merchant POS (e.g. Flea Market Merchant) Consumer to Consumer Payments and Sharing (e.g. Songs, Business Card, Tickets, etc.) Coupons, Offers, & Loyalty Ticket Download, Payment, and Redemption Over the Air (OTA) Payments and Downloads Mobile Phone as a Key One Click Purchase Of Contents 	<div style="background-color: #0056b3; color: white; padding: 5px; border-radius: 5px; margin-bottom: 10px;"> Consumers <ul style="list-style-type: none"> • Convenient Single Solution • Dynamic Savings & Rewards </div> <div style="background-color: #0056b3; color: white; padding: 5px; border-radius: 5px; margin-bottom: 10px;"> Merchants <ul style="list-style-type: none"> • Stronger Customer Loyalty • Customized One-on-One <ul style="list-style-type: none"> - mCoupon / mPromotion - In-Store Smart Posters </div> <div style="background-color: #0056b3; color: white; padding: 5px; border-radius: 5px;"> Mobile Carriers & Issuers <ul style="list-style-type: none"> • Increased Revenue from new sources </div>

Slide 7 VIVOTech proprietary and confidential material - not be copied or distributed without permission

Key Unique Roles for Some Key Players

- Mobile Network Operators**
 Creator and Maintain the NFC Infrastructure
 UICC-based NFC Phones for GSM Carriers
 UICC or Embedded Chip NFC Phones for CDMA Carriers
- Banks, Retailers, and Verticals**
 Issuers of Payment Cards, Loyalty, Coupons, Tickets, etc..
- Card Processors/Managed Services Providers**
 Contracted by Bank, Retailers, Verticals to Outsource Issuance Services
 Contracted by Carriers to Manage Specific Systems or Entire Back-End
- Trusted Service Management**
 NFC Service run by MNOs or by Contracted TTP which includes:
 Secure Domain Key Management, Service Provider Recruitment,
 Testing Authority, Customer Care Services

Slide 8 VIVOTech proprietary and confidential material - not be copied or distributed without permission

NFC Revenue Sources

■ Provisioning

- Secure download of Credit, Debit, Prepaid, Loyalty, Tickets, Transit
- Fees per download

■ Card Services

- Like lost and stolen management, mobile banking enablement, re-issuance to new phones
- Fees per transaction

■ One-to-One Marketing

- Personalized Coupons, Promotions, Rewards, and Advertising
- OTA postage fees

■ Smart Posters

- Content delivery based on user tapping RFID-enabled Posters/Placards
- Data airtime fees



Slide 9

VIVOTech proprietary and confidential material - not be copied or distributed without permission

vivo tech

Conclusion

■ NFC:

- First Open Standards Based Mobile Payments and Marketing Opportunity
- Will Be Built On Contactless Payment Infrastructure

■ Mobile Network Operators:

- Will Choose the NFC Ecosystem That Is Right For Them
- Deploy and Maintain the NFC Delivery Infrastructure

■ Bank, Retailers, and Verticals:

- Will Partner With Carriers
- Leverage the New NFC Delivery Infrastructure

■ Resultant Monetization:

- Significant New Revenue Stream for Carriers and Issuers

■ ViVOTech Is Uniquely Positioned To Enable the NFC Ecosystem:

- We Understand Needs Of Issuers, Carriers, Verticals, AND Retailers
- Our NFC Architecture Enables ALL Configurations of the NFC Ecosystem
- We Understand How Everybody Can Make Money

Slide 10

VIVOTech proprietary and confidential material - not be copied or distributed without permission

vivo tech



Jonathon Gould
Vice-President & Regional Manager

jgould@vivotech.com

+6590886284

Thank You

**Top Contactless
Technology Provider
2007**

Aberdeen Group

**Ranked #1 Contactless
Reader Vendor
2007**

ABIresearch®



Slide 11

VIVOtech proprietary and confidential material - not be copied or distributed without permission

