



Ministerial
Programme 2012



Welcome and introduction

Marina Solin, Regulatory Director
GSMA

STC
الاتصالات السعودية





Barcelona

Setting the scene

Barriers and principles for contactless mobile payments

Jorgen Gren
Deputy Head of Unit, DG INFSO
European Commission

Scenario/vision

Seamless citizen experience with interoperable mobile solutions



Touch to Share



Touch to Discover

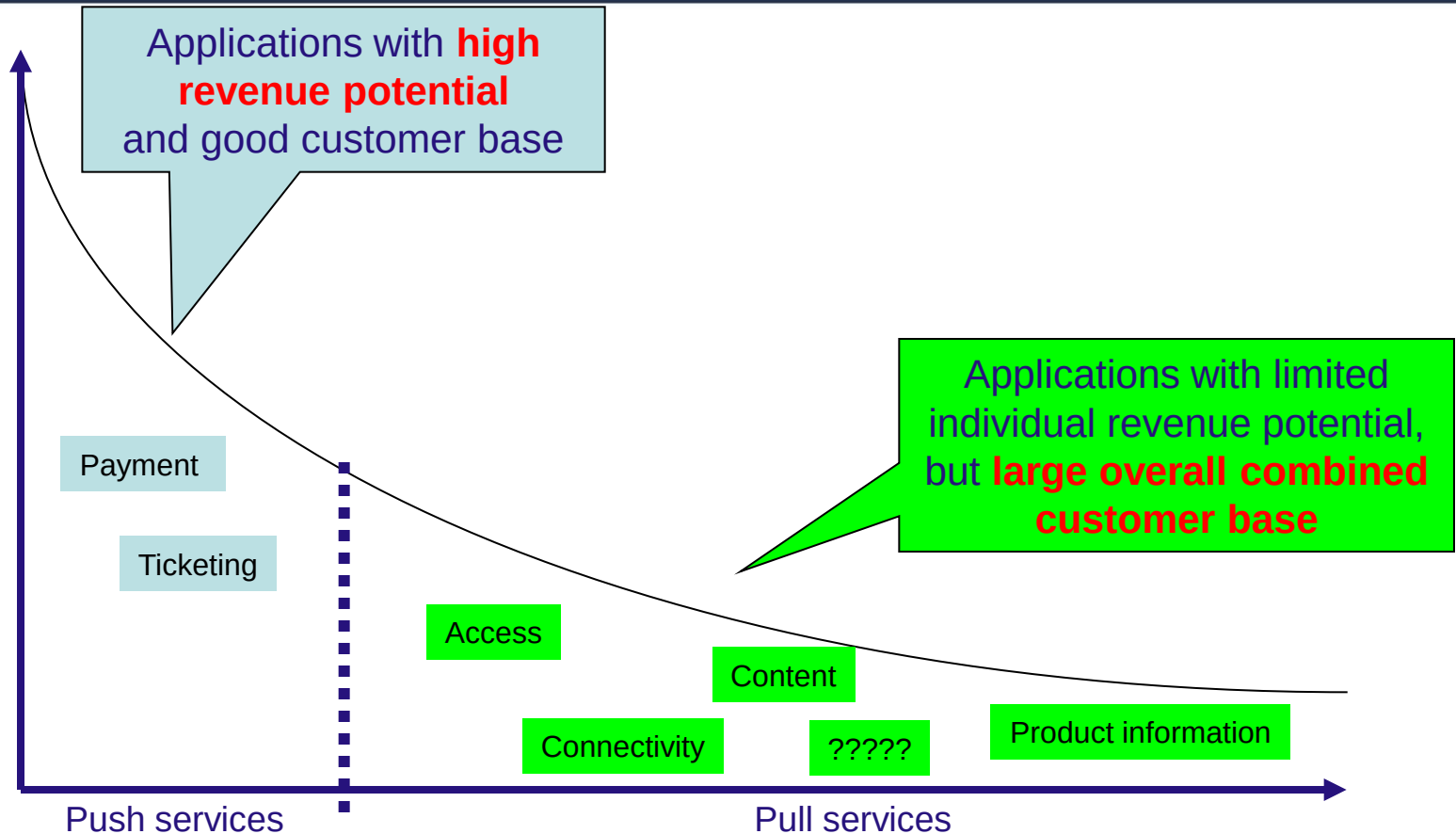


Touch to Pay



Touch to Ticket





- The pull services —the long tail — can *cumulatively* outweigh the push services
- **All services** need to be considered for mobile solutions roll-out

Barriers to proximity payment solutions

**Fragmented
markets
proprietary
solutions
lack of
interoperability**

**Low trust: security
and data protection,
liability for
unauthorized
transitions**

**Roll-out of
infrastructure,
how to achieve
critical mass?**

**Market operators'
“wait-and see”
approach – what is the
tipping point?**



Where is the industry going?





Untapped potential

- Mobile operators interested in investing in NFC – 1 in 5 smartphones will be NFC enabled in 2014 (Green paper)
- In the US, value of NFC payments is expected to reach \$50 billion by 2016 (ABI, 2011)
- Over 5m SIM-based NFC devices sold in South Korea in 2011 (~10% of user base)

BUT:

- **Europe lagging behind:** in 2010 only 7 m mobile payment users in Western Europe, while 63 m in Asia / Pacific
- Important global m-payments initiatives **outside of Europe:** Apple, Google, Visa, MasterCard...



FP sponsored research – particularly for NFC development

StoLPan - Store Logistics and Payment with NFC:

- Budget 4.9m euros
- Deliverables: developed a JAVA based mobile NFC host application, back-office architecture, communication protocols
- Completed in 2008
- Partners:



Specific Targeted Research Project with funding from EU 6FP.





Key principles for the future (embedded in GP)

- **Quick development** and **massive deployment** of infrastructure
- Smart **co-operation and fair sharing** of profits
- **(Resilience** and **efficiency** of m-payment systems
- **Interoperability** and **open standards**: to limit market fragmentation: to ensure convenient, cost-effective solutions – is more standardisation necessary, where?
- Appropriate level of **security** for the whole m-payment value chain resulting in high degree of **consumer trust**



Take home message

- Support for efforts of European industry to deploy mobile contactless payments
- But:
- Added value for digital single market
 - Open standards,
 - Interoperability
 - Competition issues respected



Thank you for your attention!



M-payments Green Paper

- key policy questions

- Is more **standardisation** necessary? What role, if any, can CEN or ETSI play? (Q 21, 22)
- In which segment in the payment chain are there **interoperability gaps**? How can they be addressed? (Q 23, 24)
- How to address **governance structure** of standardisation and interoperability? What is the role for public authorities (Q 25, 26)
- Are m-payments **secure enough**? What approaches/technologies are most effective? Would legislation on payment security necessary? (Q 25 – 27).
- How to ensure protection of **personal data**? (Q 28).
- What are **benefits / drawbacks** of roll-out of m-payments for transport? Can transport pave a way for m-payment roll-out in other sectors? How to engage payment service providers?



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Socio-economic benefits of SIM-based NFC

Panelists:

Nav Bains, Business Lead Mobile NFC Services, GSMA

Michael Knott, Vice-President, Booz and Company

Daniel Gurolla, Vice-President, Orange

Moderator: Marina Solin, GSMA



GSMA Mobile NFC Programme

27 February 2012

Barcelona

Mobile Trends

Trends in the Mobile Phone evolution

- Processing power and sophistication of the mobile phone is growing

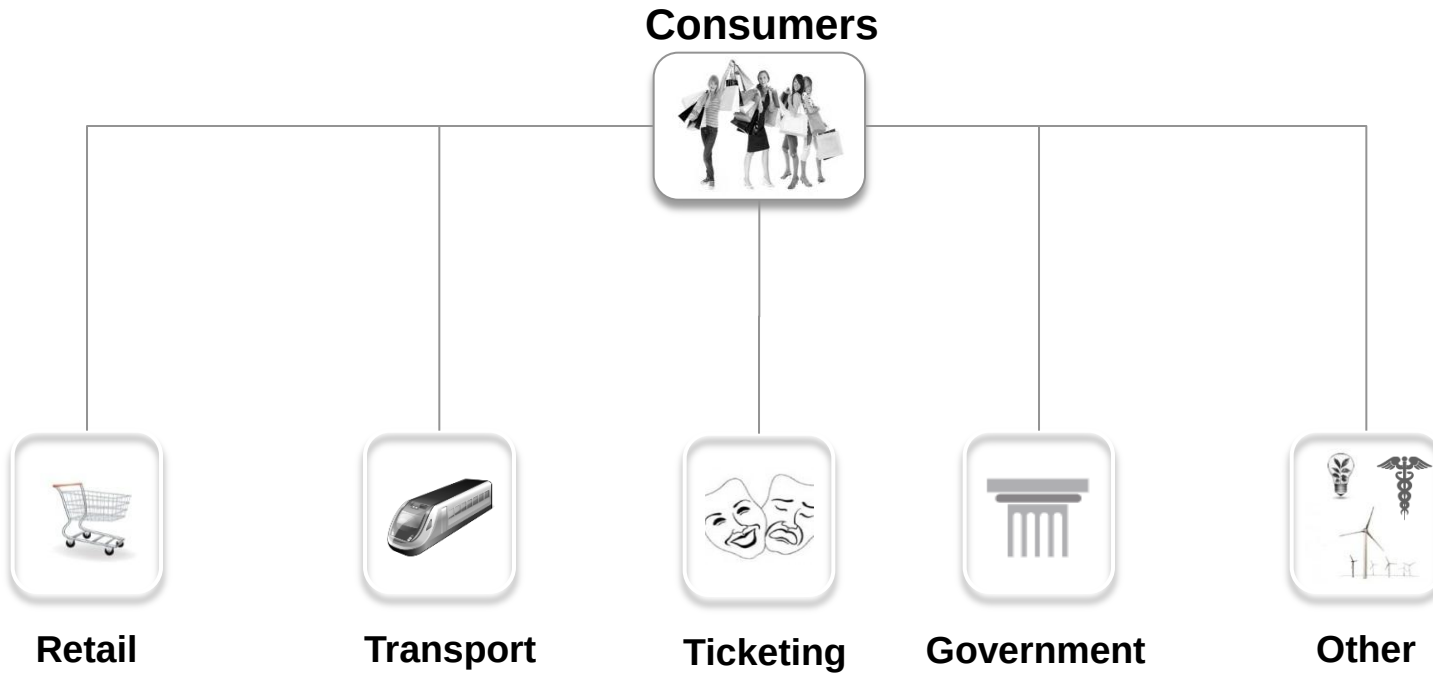
- Analogue voice only
- Digital voice and data
- High speed data
- Internet enabled
- Cameras
- Music
- Touch screen
- Application stores
- Mobile Wallets
- Spectrum of new services (NFC proximity payments, loyalty, access, transportation ticketing etc)
- Location based services (personalised advertising)
- What next ?



NFC – Business Opportunity

- 860 million NFC-enabled handsets driving a payment value of €110B globally by 2015 (Frost & Sullivan, 2011)
- Global NFC payments to reach US\$50B by 2014 (Juniper Research, 2011)
- North America and Western Europe will account for 50% of NFC payments market by value in 2014 (Juniper Research, 2011)
- Value proposition is much more than just payments – (e.g. Ticketing, Access Control, Coupons, Vouchers)
- Operators can increase customer loyalty with new, innovative value added services

Mobile NFC brings new services to the consumer



A complex ecosystem involving many players

Mobile Network Operators



Trusted Service Managers



Banks



Electronic Payments Networks



Transport Operators



Event Ticket Providers



Standards Body



Application Developers



Merchants



Subscribers



Handset Suppliers



UICC Suppliers



Objective GSMA's NFC Programme

*“To **stimulate** the successful **global** deployment of **interoperable and SIM-secured** NFC / contactless services and **ecosystems** which are available to **all**”*

- Working in 9 different markets around the world to help accelerate SIM-based NFC service launches
 - Australia, Belgium, Brazil, Canada, China, Western Europe, Japan/Korea, Nordics, Poland

Building the NFC Ecosystem



Differing approaches to NFC will fragment the market
NFC can only succeed with collaboration across the value chain

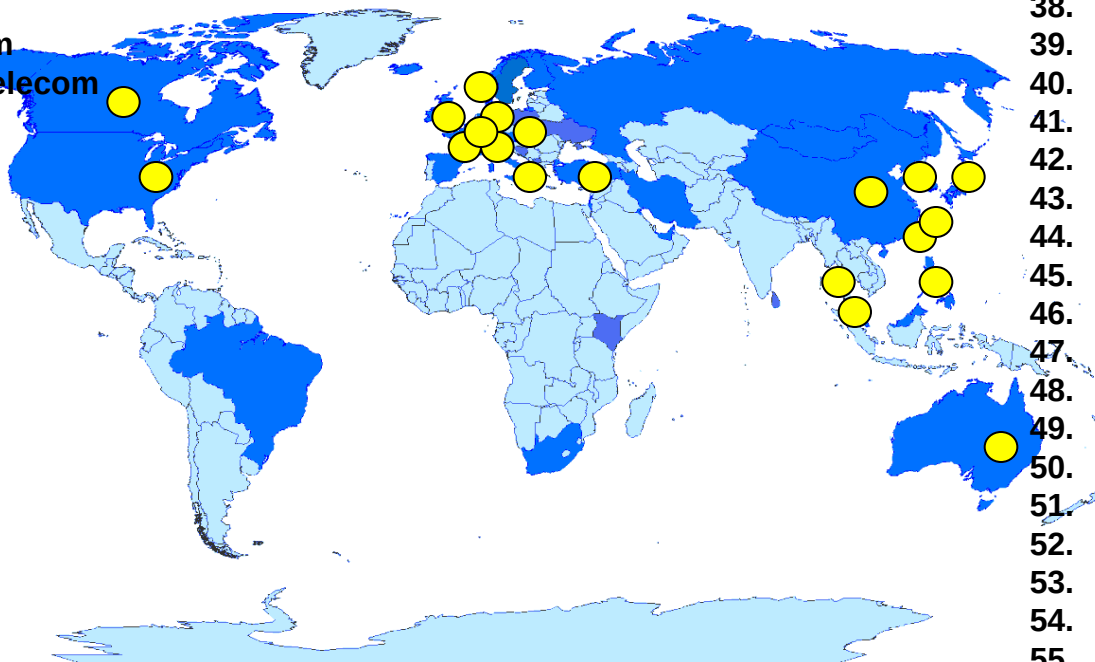
- GSMA has been working with a number of key players in the ecosystem for several years, including:
 - EMVCo
 - ETSI
 - European Commission
 - European Payment Council
 - Euro-Commerce
 - GlobalPlatform
 - IATA
 - NFC Forum
 - NRF

62 Operators Participating/supporting NFC Project

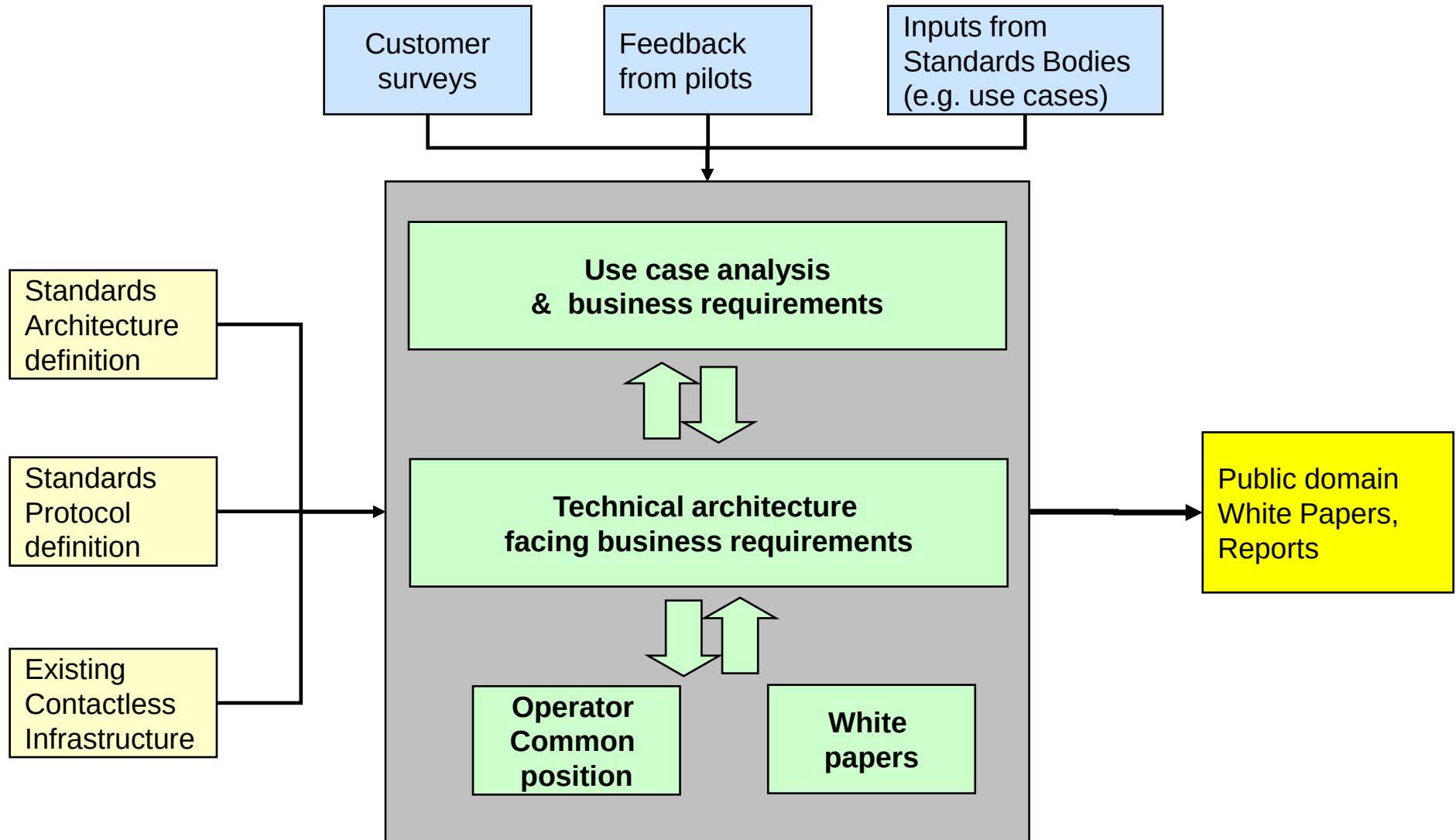
Over 20 NFC Pilots around the world



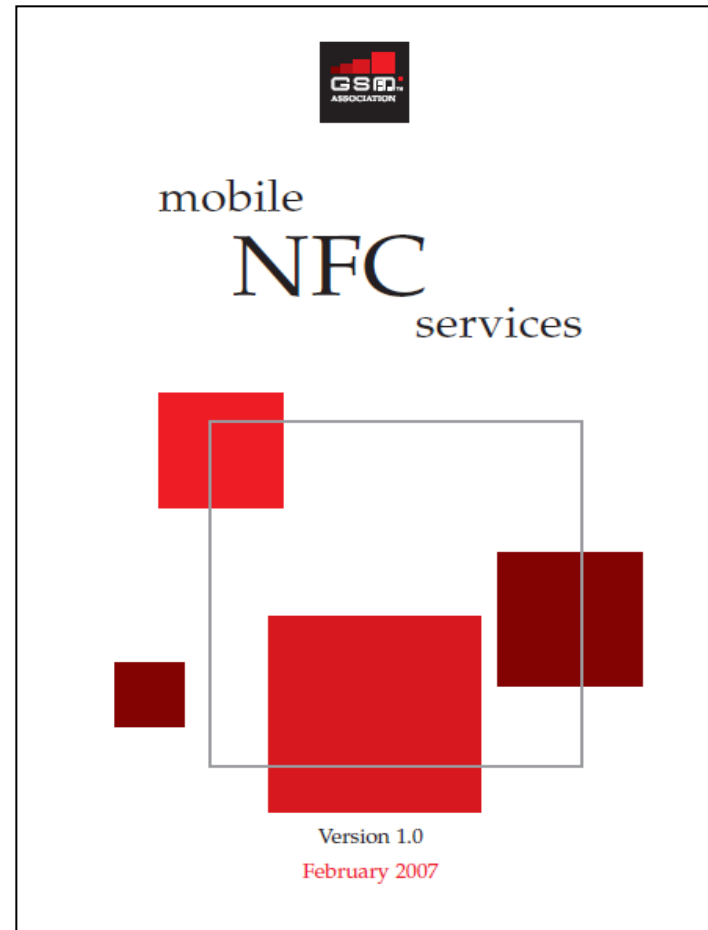
1. AT&T (Phase 2 co-lead, Phase 3 Lead)
2. KT (Phase 1 Lead, Phase 2 co-lead)
3. Astelit
4. Azerfon
5. Belgacom
6. Brazil Telecom
7. Celcom
8. China Unicom
9. Chunghwa Telecom
10. CMCC
11. CSL
12. Dialog
13. Digi
14. DST
15. Econet
16. EITC
17. Elisa
18. Etisalat
19. FarEasTone
20. GlobeTel
21. IMC Island
22. Kall
23. KDDI
24. KPN
25. Maxis
26. MCI
27. Meteor
28. MobiCom
29. Mobilkom Austria
30. Mobitel d.d.
31. MTN
32. MTS
33. NTT DOCOMO
34. Orange
35. Partner
36. Pelephone
37. Rogers
38. SFR
39. SINGTEL
40. SINGTEL OPTUS
41. SK Telecom
42. SMART
43. Softbank Mobile
44. Starhub
45. Swisscom
46. Taiwan Mobile
47. TDC
48. Telecom New Zealand
49. Telefonica-O2
50. Telenor
51. TeliaSonera
52. Telecom Italia
53. Telstra
54. Telus
55. Turkcell
56. T-Mobile
57. Verizon
58. Vimpelcom
59. Vodafone
60. Wataniya
61. Wind
62. Zain



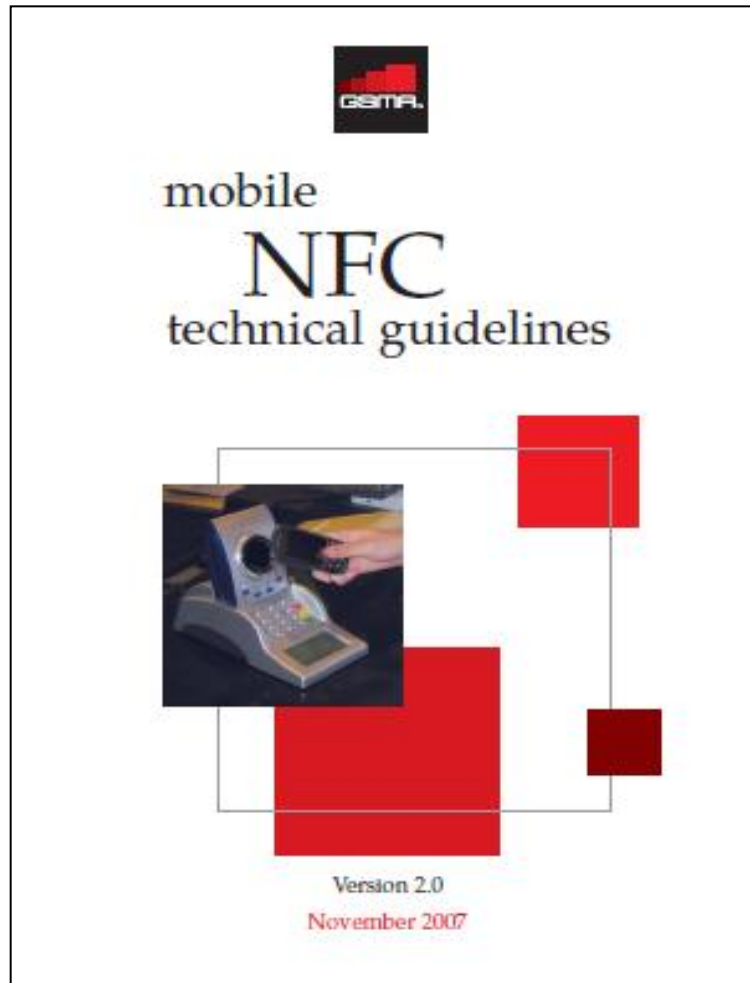
GSMA Approach



- **Business Opportunity Analysis Public White Paper**
 - <http://www.gsma.com/news-information-and-resources/>



- **NFC Technical Guidelines V2 White Paper**



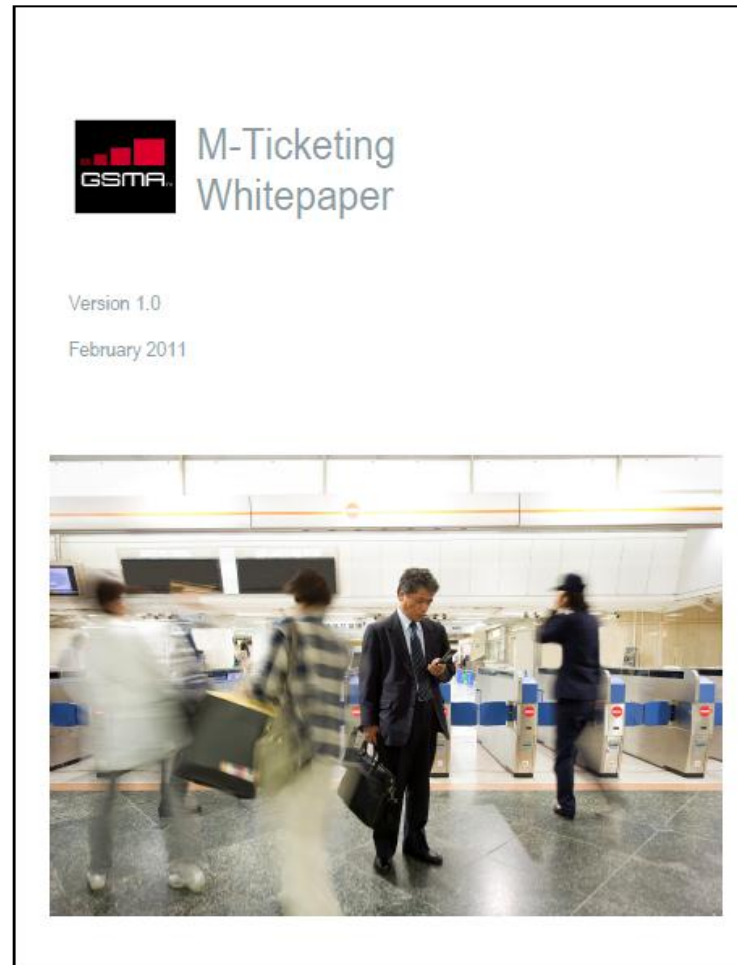
■ GSMA Requirements for SWP NFC Handsets V4



- EPC/GSMA TSM document V2



- **M-Ticketing White Paper**



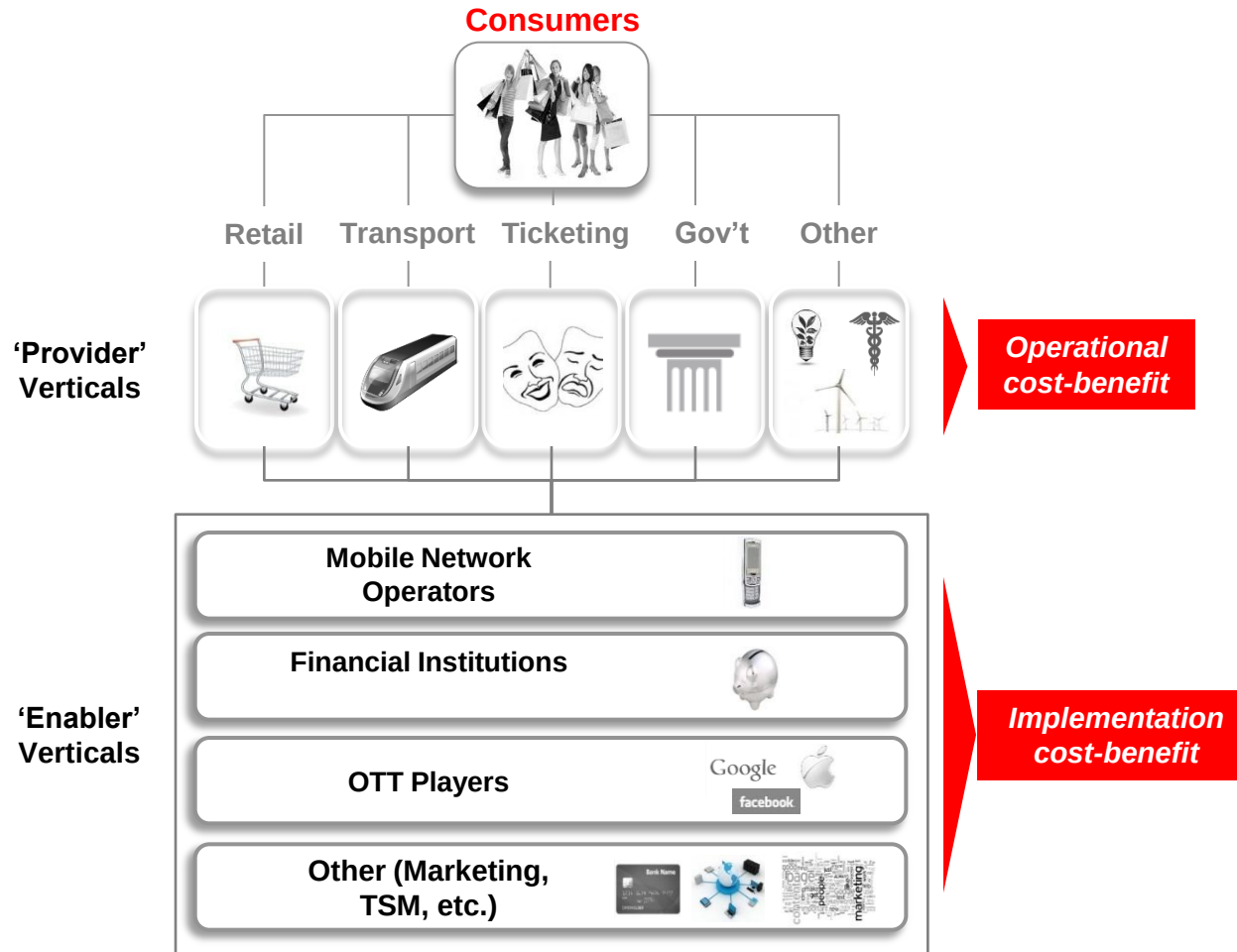
- **GSMA-IATA White Paper v1 published February 2011**



- Socio-Economic Benefits of SIM based NFC Services



Analytical approach covers multiple stakeholders and sectors



Two market scenarios underpin key study messages and outputs



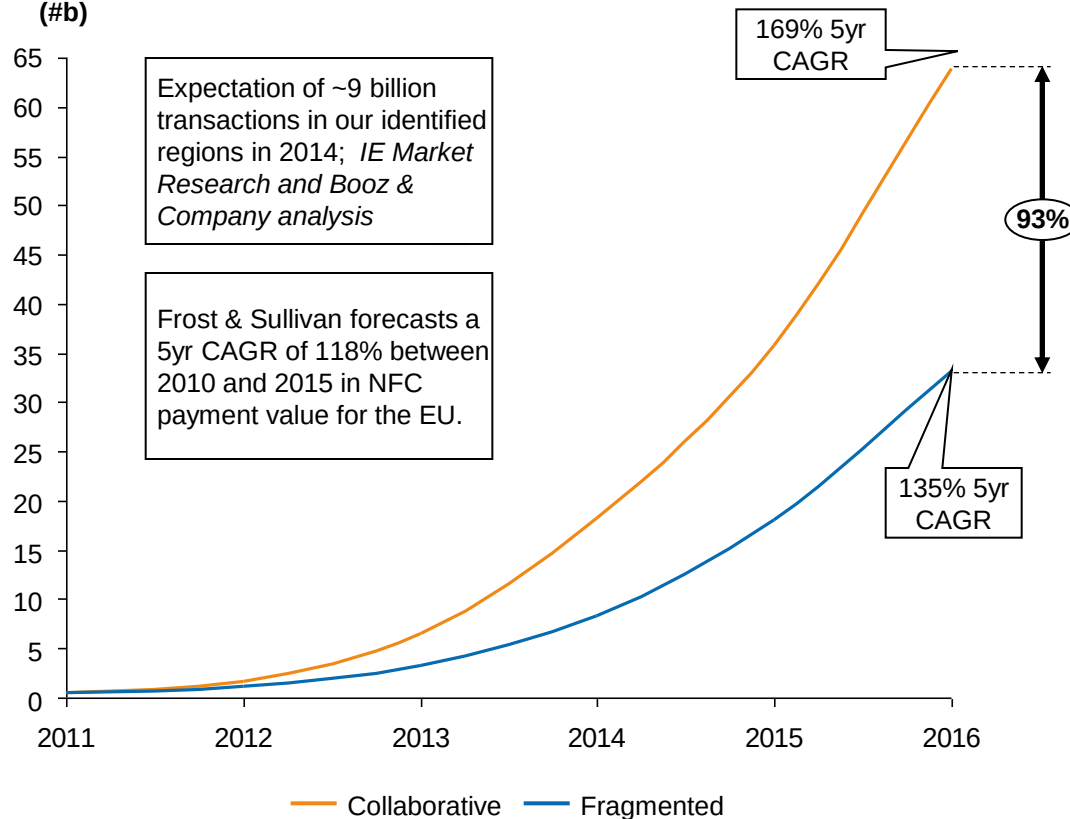
- Scenario 1: Collaboration and Standardisation
- Scenario 2: Fragmented and Proprietary

Standardisation drives greater aggregate transaction volume



Total NFC Transaction Volume (across all sectors and markets)

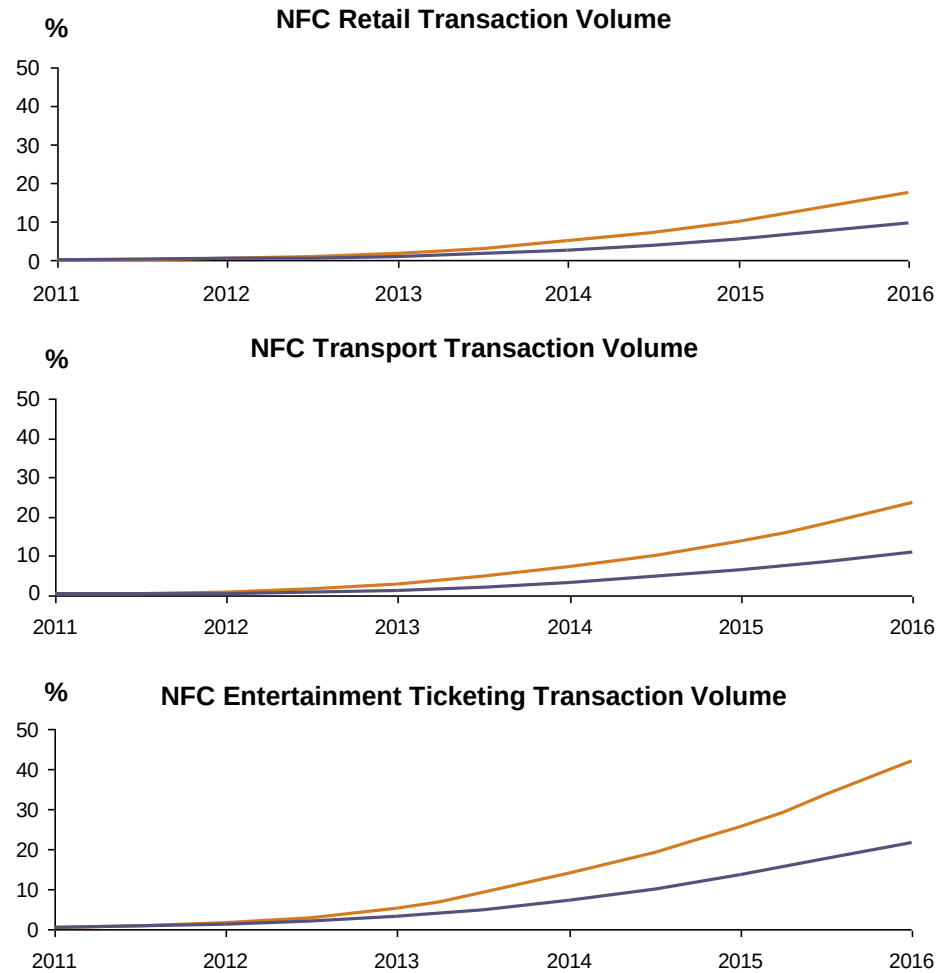
Number of NFC Transactions
(#b)



- **Standardisation reduces cost and infrastructure barriers, creating a more conducive enabling environment for national as well as local market players**

Source: Juniper, ComScore, Frost & Sullivan, IE Market Research, Booz & Company analysis

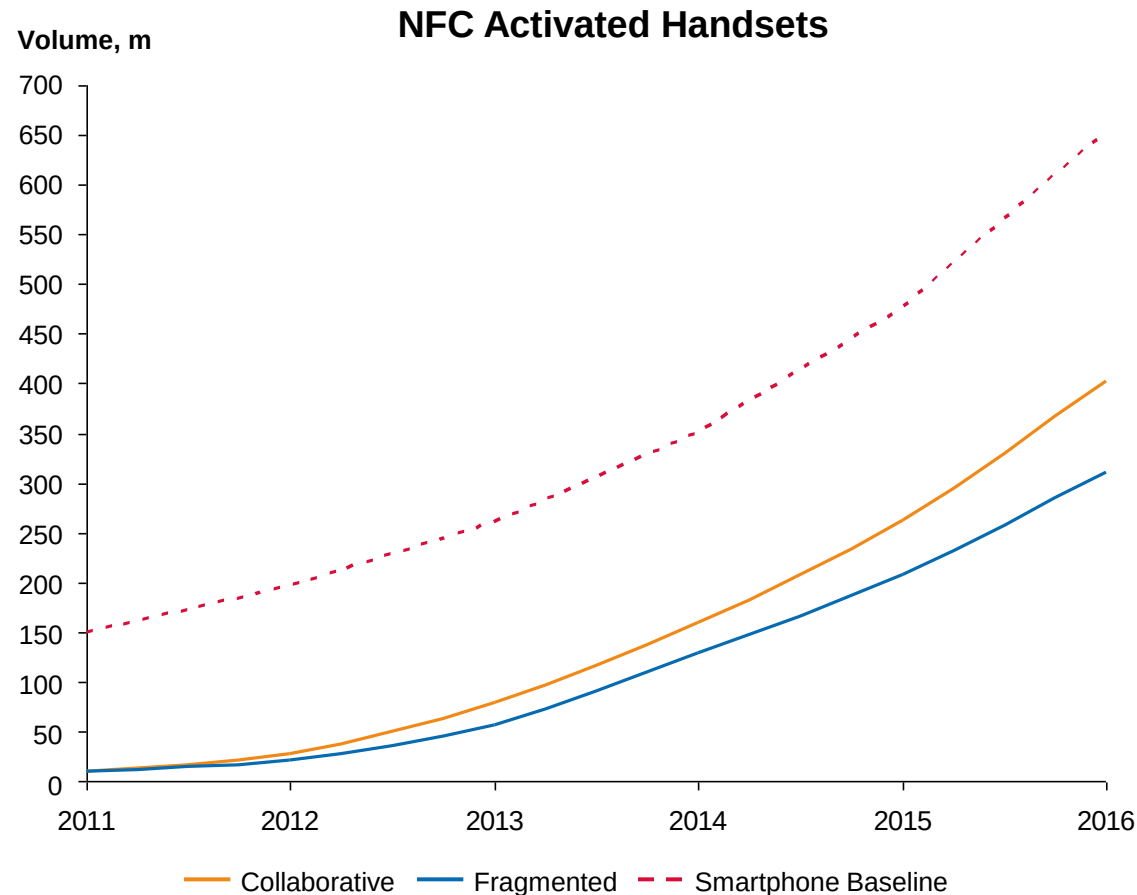
Increased transaction flows underpin these impact areas



Source: Juniper, ComScore, Frost & Sullivan, IE Market Research, Booz & Company analysis

— Collaborative — Fragmented

Penetration of activated handsets increases with standardization



Source: Juniper, ComScore, Frost & Sullivan, IE Market Research, Booz & Company analysis

Standardisation and collaboration can drive five key socio-economic impacts



	Key Impacts	Key Messages
1	Greater Consumer Choice + Value	Increased competition drives greater product innovation and price differentiation, providing consumers with more choice and value
2	Increased Competition	Standardisation reduces cost and infrastructure barriers, creating a more conducive enabling environment for national as well as local market players
3	Increased Financial Transparency	Widespread adoption of NFC can provide improved insights on financial transactions, including tax, customs, and Anti-Money Laundering
4	Improved Public Sector Servicing	Infrastructure standardisation can stimulate public sector adoption of NFC-enabled identity cards (e.g., health, social security)
5	Reduced Carbon Footprint	Increased growth in electronic payments, reduced cash processing and card manufacturing, and improved incentivizes for public transport can drive carbon offsets

Source: Booz & Company analysis

© GSM Association 2012

SIM Based NFC phone availability

...but there aren't any handsets...are there?

Take Janus KM-S220

KT Take 2



...but there aren't any handsets...are there?

Samsung Wave 578



Samsung Galaxy Note



...but there aren't any handsets...are there?

Samsung A170 Show Touch



Samsung Wave M



...but there aren't any handsets...are there?

Samsung Player City (Star II)



Samsung Galaxy SII

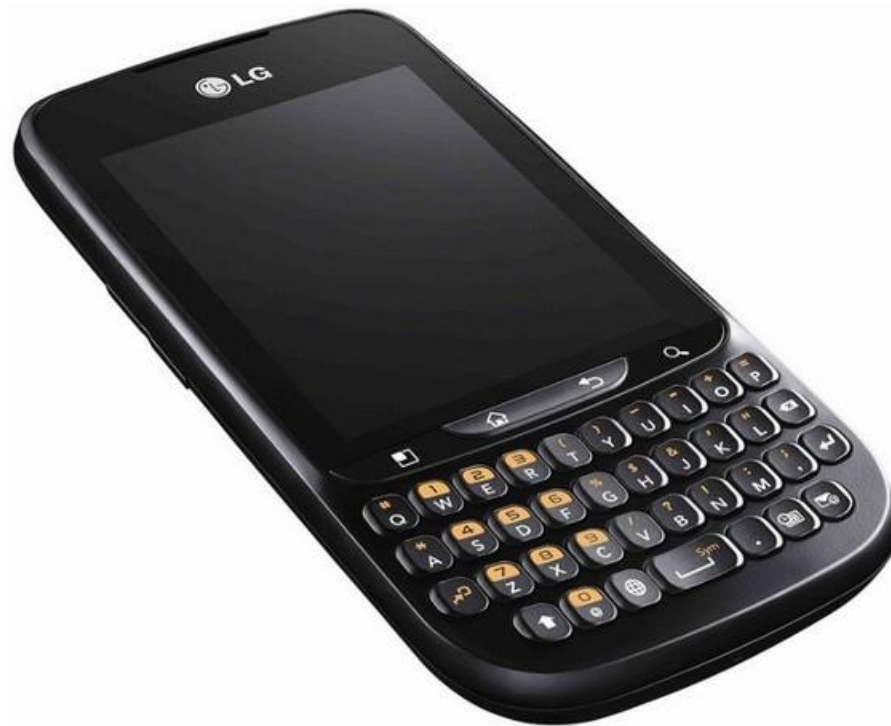


...but there aren't any handsets...are there?

LG T530



LG Optimus Pro



...but there aren't any handsets...are there?

LG Optimus Net



BlackBerry Bold



...but there aren't any handsets...are there?

Nokia 'Oro' C7



Nokia C7



...but there aren't any handsets...are there?

ZTE Skate



ZTE 233



...but there aren't any handsets...are there?

Sagem Cosyphone

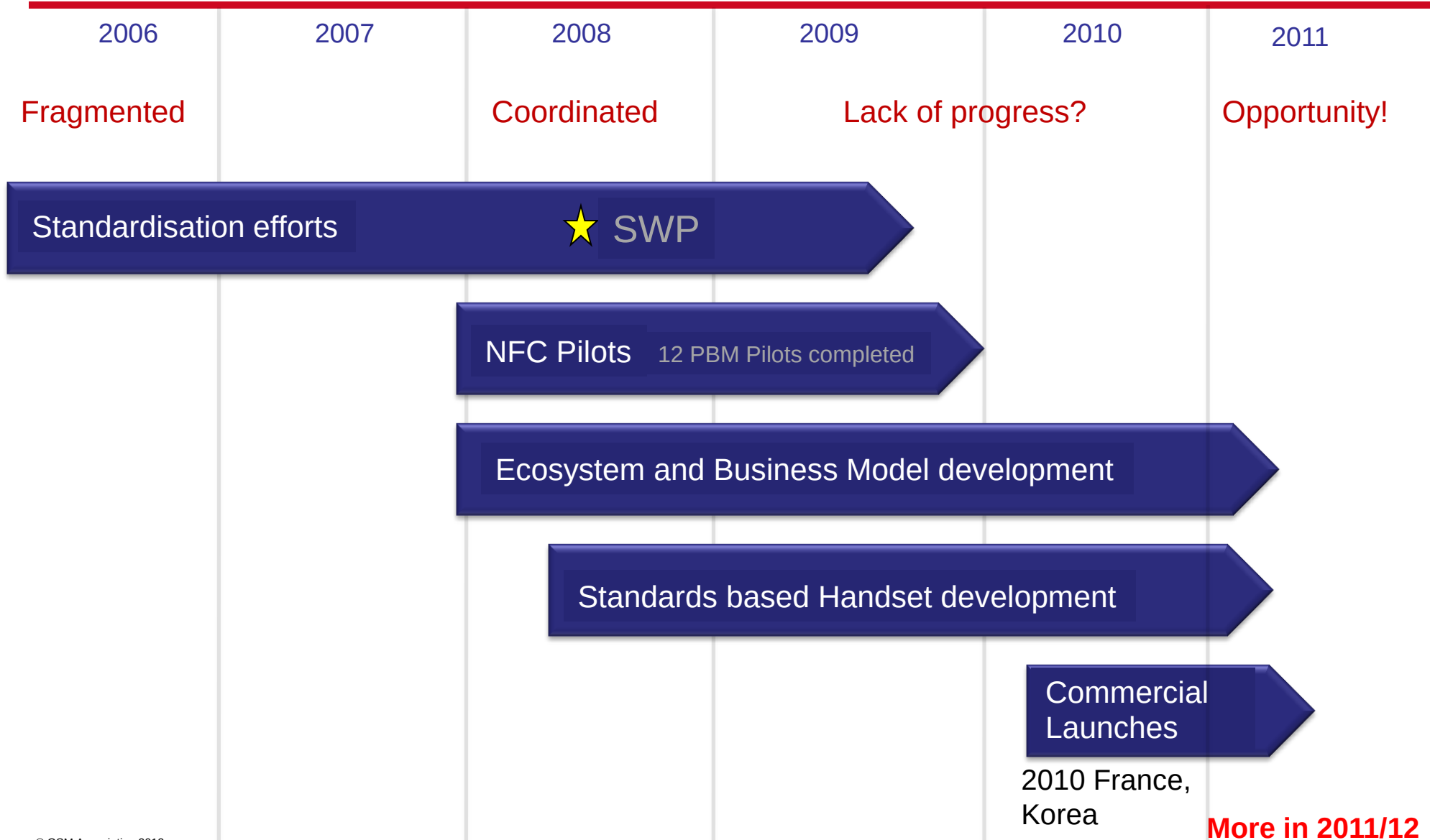


LG T20



NFC Trends

Mobile NFC progress to date



NFC Momentum is growing



SIM based Mobile NFC : Global Activity

Further collaborations forming in:

- China, Japan, Korea
- Belgium
- Poland
- Hungary
- Norway, Finland, Denmark, Sweden
- Czech Republic
- Brazil



Canada: Bell, Rogers, Telus

Launch planned: 2012

Services: Payment, Ticketing, Couponing, Loyalty

Partners:

Banks: CIBC, RBC, Scotia Bank, TDC

Retailer: TBC

Transport: TBC

USA: ISIS (AT&T, T-Mobile, Verizon)

Launch planned: 2012

Services: Payment, Ticketing, Couponing, Loyalty

Partners:

Card Issuer: Barclaycard

Retailer: TBC

Transport: UTA

France, Germany, Italy, Spain, UK: DT, Orange, Telecom Italia, Telefonica, Vodafone

Launches planned: 2011/2012

Services: Payment, Ticketing, Couponing, Loyalty

Partners: TBC

2010 Bouygues, Orange and SFR launched services in France

2011 Orange launched services in UK

Netherlands: 6-Pack (KPN, Vodafone)

Launch planned: 2012

Services: Payment, Ticketing, Couponing, Loyalty

Partners:

Banks: ABN Amro, ING, Rabobank

Retailers: Albert Hein (TBC)

Japan: Docomo (launched 2004), Softbank Mobile and KDDI (preparing for service launch)

Services: Payment, Ticketing, Couponing, Loyalty, Commerce

Partners: More than 40 Service Providers

More than 37m subscribers and available in more than 1.4m shops

Korea: KT, SKT

Launched: 2010

Services: Payment, Ticketing, Couponing, Loyalty, Commerce

Partners:

Card Issuers: Shinhan, Lotte, KEB, NHCard, KB, Bcard, Citi, SamsungCard, Hana SK Card, Hyundai Card

E-payment: T-money, Myb, Eb

Loyalty: Over 20 different loyalty and couponing companies

Retailers: Lotte, ParisBaguette, GS, CGV, Dunkin Donuts

Movie-Theatre: Cinus Megabox

China: China Mobile, China Unicom and China Telecom

Many pilots completed

Services: Payment, Ticketing, Couponing, Loyalty, Commerce

Preparing for service launch

Commercial NFC service launches



■ France

- Multi-MNO, Multi-Bank, Multi-TSM service launched in Nice, 22 May 2010
- Further rollout planned in 9 more French cities in 2012.

■ Netherlands

- Multi-MNO, Multi-Bank JV announced 09th September 2010, rollout 2012

■ Korea

- KT announced commercial launch in October 2010

■ USA

- AT&T/Verizon/T-Mobile announced ISIS JV (to launch 2012)

■ Further announcements expected throughout 2012 and 2013

- UK, Spain, Poland, Czech Republic, Belgium, Hungary

Key Messages: Call to Action

- Collaboration is essential
 - Reduces fragmentation
 - Improves interoperability
 - Government backing (e.g. France, Singapore) was extremely important to help ecosystem building and triggering collaboration

- Interoperability
 - Open standards are essential
 - Increases competition by lowering barriers to entry
 - Increases diversification and so allows new players to offer services
 - Increases consumer choice

- Security
 - Consumer Security and Privacy comes first
 - There is no compromise on the bank grade security offered via SIM-based NFC

Thank You!

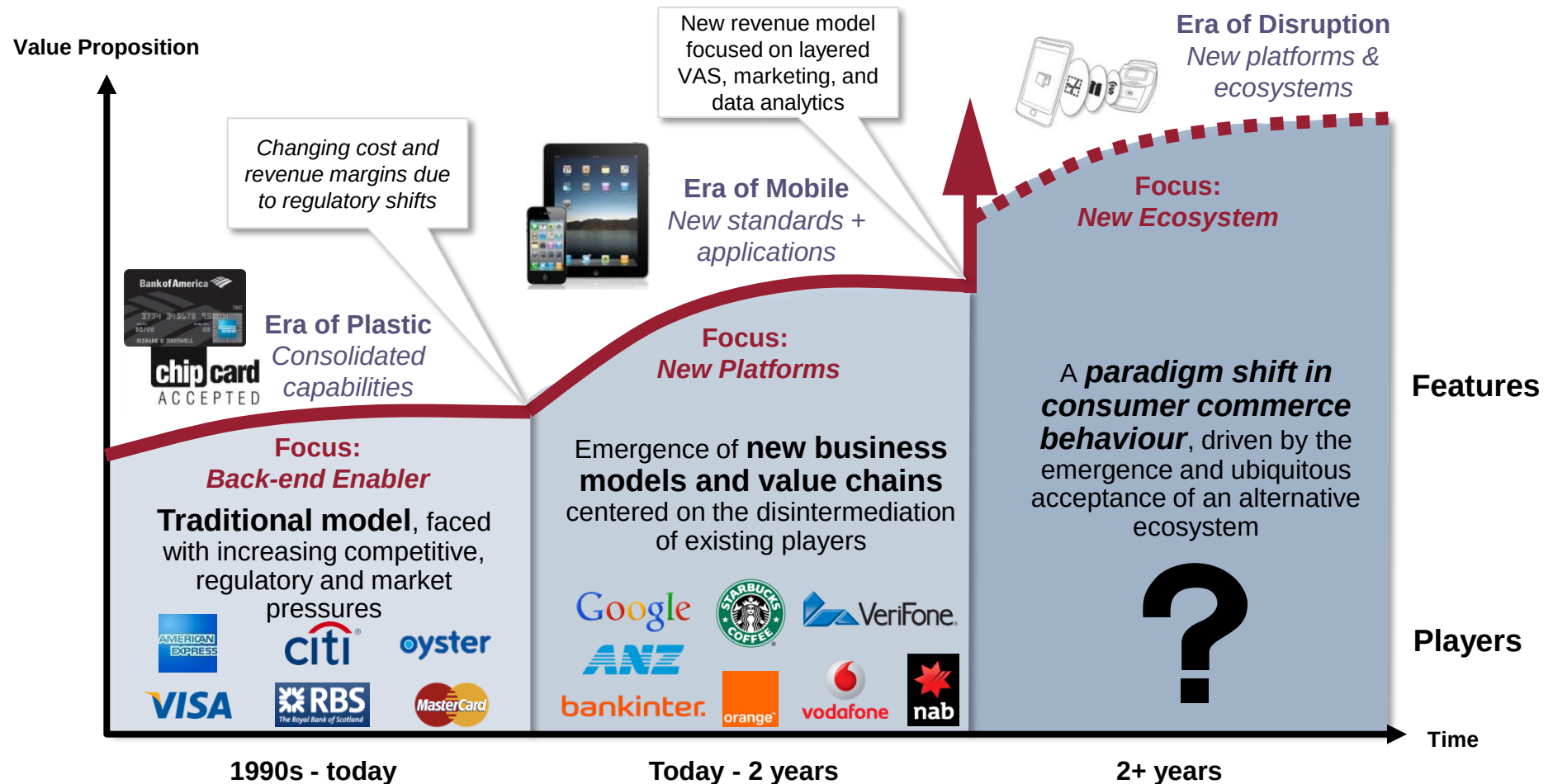


booz&co.

Socio-economic benefits of SIM NFC

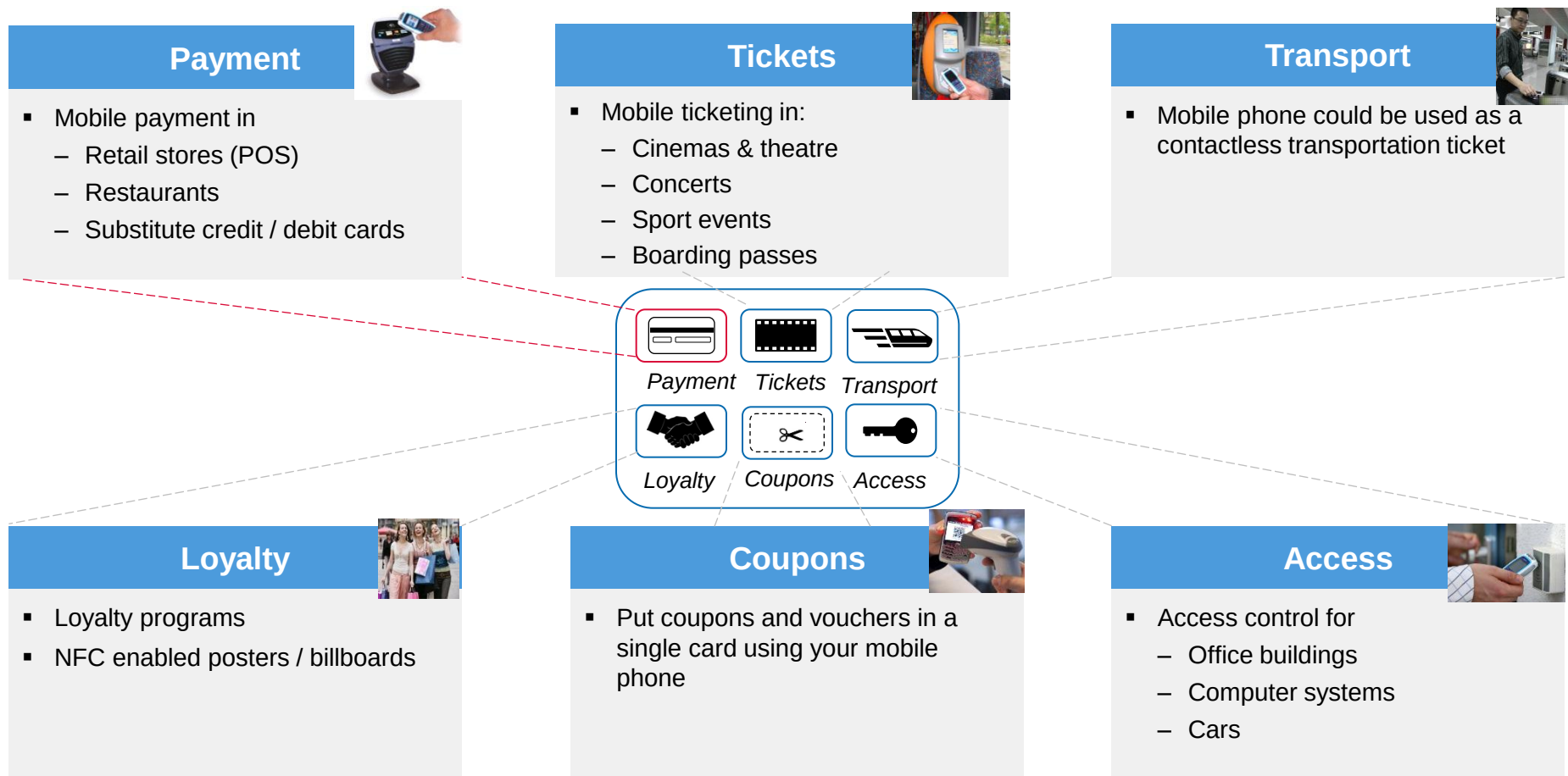
Study Conclusions and Key Messages

NFC is part of a larger shift in market models and consumer behaviour



Source: Booz & Company analysis

Our *study* assumed, in addition to SIM-based NFC, an open multi-functional *m-wallet* construct (similar to Korea)



Source: Booz & Company analysis

A number of key trends are defining a tipping point for NFC

NFC - Supporting Trends

Increasing Smartphone Penetration

- Sales of smartphones have rocketed, changing how users perceive and are willing to use their phones
- In Western Europe it is estimated ~60% of handsets shipped in 2011 will be smartphones



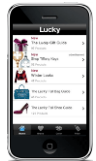
Contactless Technology Roll-out

- Contactless card payments have helped the roll-out of NFC-ready terminals to stores
- Google wallet can already claim more than 120,000 merchants in the US able to offer the “tap to pay” service



Shifting Consumer Behaviour

- Consumers are increasingly willing to access the Internet and make transactions using mobiles
- In the U.S., 20 percent of adults who can access the web use their mobile devices to shop, and almost as many use them to make banking transactions



Take-up of Mobile Advertising

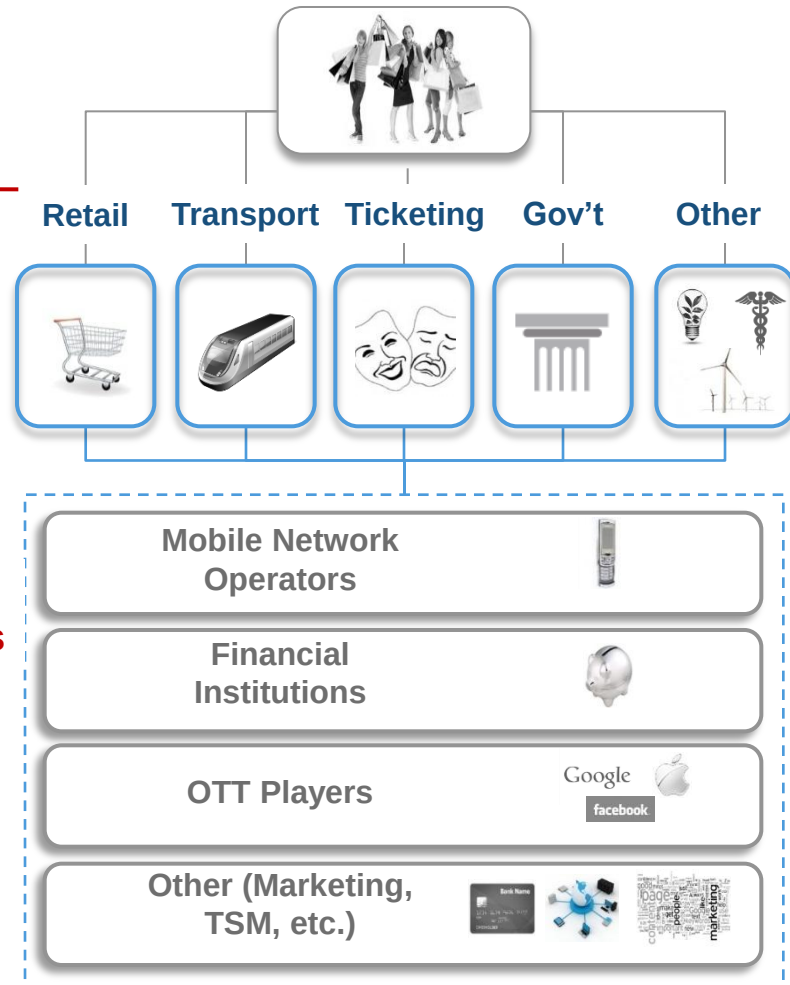
- The lure of relevant and personalised offers has seen mass subscription to mobile advertising
- Groupon claims more than 80 million subscribers to its local deep-discount service globally



Source: Gartner, Forrester, Company websites, Booz & Company analysis

Our *study* attempts to articulate the benefits of standardisation & collaboration regarding SIM-based NFC

Consumers



Two Scenarios Were Developed

Standardisation/Collaboration Scenario

- Assumes collaboration and standardisation of SIM-based NFC
- MNO manages the secure element
- Consumer experience defined by broad interoperability

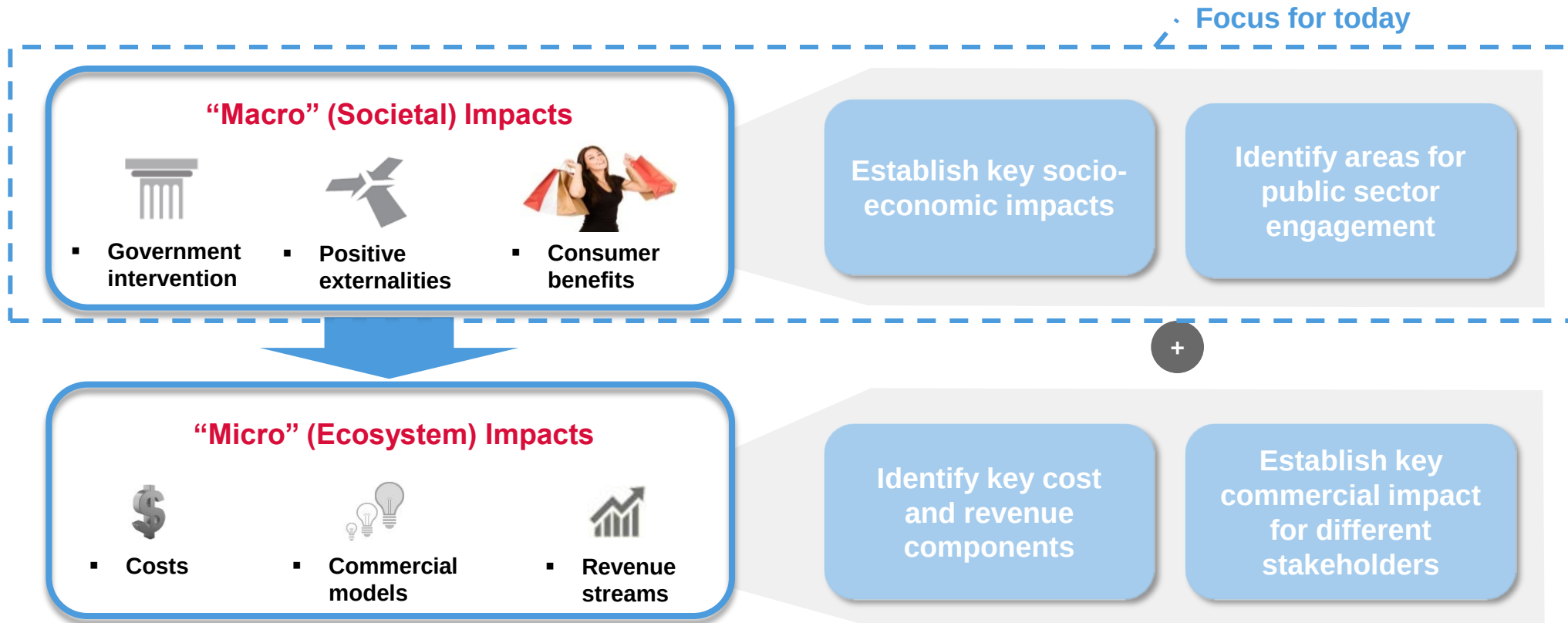
Fragmentation Scenario

- Assumes fragmented adoption of NFC standards and business models
- Applies a historical baseline and uses existing growth projections
- Assumes that NFC activities will be done on an opportunistic basis

Source: Booz & Company analysis

The *study* had two key objectives – to look at both the “macro” and “micro” benefits of standardisation & collaboration

Key Objectives of the Study



Source: Booz & Company analysis

We conclude that standardisation & collaboration can drive five key “macro” socio-economic benefits

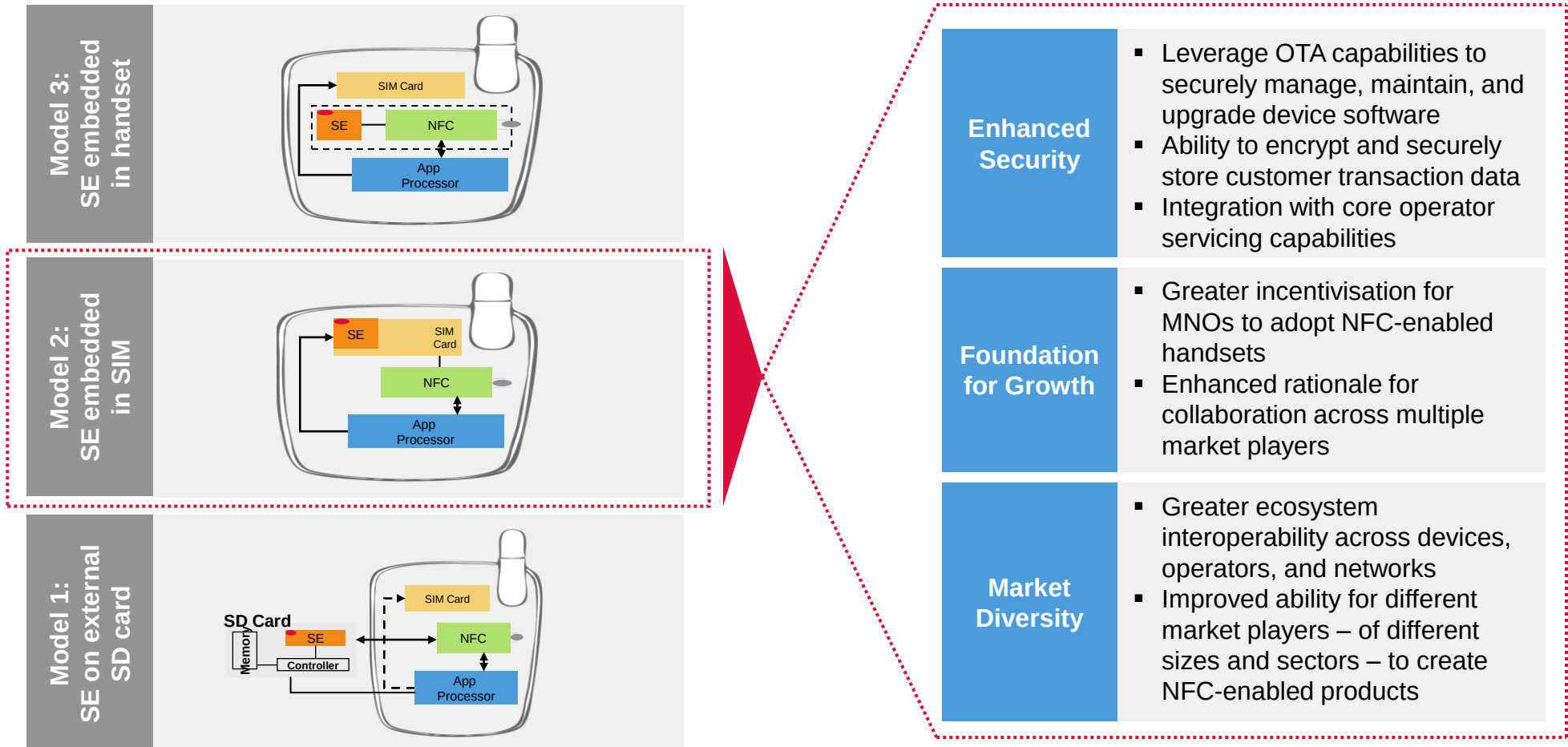
Key Benefits	Key Messages	Overall Market Impact
1 Increased Competition	Platform standardisation reduces cost and infrastructure barriers, creating a more conducive enabling environment for both local and global service providers	SIM-based NFC standardisation creates market conditions that deliver indirect, non-financial value across a range of market actors ▪ Externalities are centred on scale; they are amplified by infrastructure development and increased transaction volume ▪ NFC standardisation drives greater infrastructure development and uptake by creating a common framework for implementation and product interoperability ▪ Industry collaboration on SIM-based standards and/or regulatory engagement to support or mandate these standards, are critical to realizing macro benefits ▪ In addition to products requiring secure elements, SIM-based NFC can also benefit non-secure offerings (e.g., access, tagging)
2 Greater Consumer Choice + Value	Increased competition drives greater product/service innovation and price differentiation, providing consumers with more choice and value	
3 Increased Financial Transparency	Widespread adoption of NFC can provide improved insights on financial transactions, including tax, customs, AML/CFT, and fraud	
4 Improved Public Sector Servicing	Infrastructure standardisation can stimulate public sector adoption of NFC-enabled identity cards (e.g., health, social security)	
5 Reduced Carbon Footprint	Increased growth in electronic payments, reduced cash processing and card manufacturing, and improved incentivizes for public transport can drive carbon offsets	

Source: Booz & Company analysis

We attempted to quantify a number of macro benefits from standardisation & collaboration

Benefits	KPI	Model Conclusions (for W. Europe, 2016)			Comments
		Fragmented	Standardised	%Difference	
- More rapid & sustainable customer adoption, resulting in: - increased competition - increased consumer choice	- Active NFC as % of smartphones - # of NFC transactions - Service value per wallet	79% 11.8b (13%) \$114	89% 19.1b (20%) \$128	+27% +62% +12%	✓ Greater baseline number of NFC-enabled smartphones ✓ Higher percentage of activated NFC mWallet; ✓ Increased usage across different verticals due to infrastructure penetration and consumer-oriented benefits
Increased Financial Transparency	Fraud (\$b)	\$2.6b	\$2.3b	-13%	✓ Multi-factor authentication ✓ More rapid (and OTA) de-activation
Reduced Carbon Footprint	Carbon emissions (b gms)	800b	600b	-20%	✓ Reduction in paper coupons ✓ Reduction in paper ticketing ✓ Reduction in plastic cards

Similar benefits *could* be achieved through non SIM-based NFC platforms but we believe SIM-based is optimal



Source: Booz & Company analysis

Key conclusions

- 1 **Transaction volume is significantly augmented** when the consumer has the ability to conduct NFC transactions across a range of sectors and use cases.
- 2 Increased usage is not just a question of replacing existing transaction form factors (e.g., cards) but also in **providing a more interactive and compelling user experience** (one that links social, transactional, and loyalty – all in a real-time, location-based environment).
- 3 The **penetration of NFC infrastructure is a significant driver for adoption and usage**. This is determined by the efforts of different market stakeholders and is unlikely to be achieved through one entity alone.
- 4 **Increased transaction volume creates greater market benefits** that impact individual consumers, commercial stakeholders, and government entities.
- 5 These benefits are not solely centred on commercial impact but also **drive a set of socio-economic impacts that in aggregate create a range of positive externalities**.
- 6 NFC is a very national play with very different models per nation imaginable; **There is no one size fits all approach**.

Booz & Company contact information

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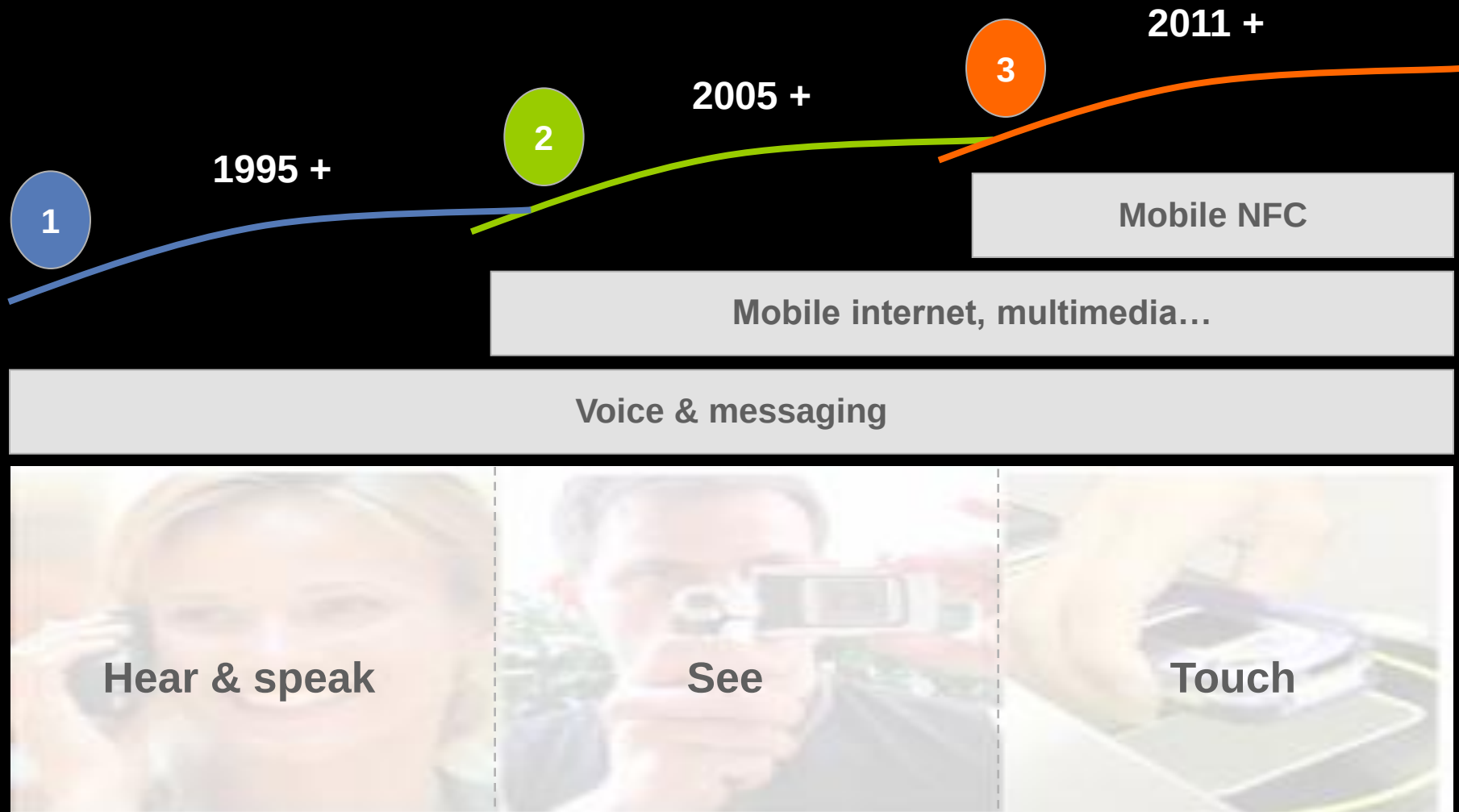
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Mobile NFC

Daniel Gurrola: VP Consumer Mobile Strategy, Orange
Barcelona, February 2012



NFC will launch the 3rd revolution of mobile



Connecting our mobile digital world with the physical world around us

More than a product - a rich platform for service innovation



card emulation

your phone securely stores money and entitlements. With a tap, it transacts in a trustworthy way



tag reading/writing

your phone picks up web links, phone numbers and other info from nfc tags on posters and stickers



peer to peer

you exchange information with other people, just by tapping your phones together

Building an ecosystem with all the partners is key to the success

Mobile NFC will enable simple transactions and a range of bank services on the phone

Quick and simple payments



My bank in my pocket

Peace of mind

No need to carry cash or look for an ATM

My life in control

Real time statement of payments

Transfer money immediately to friends and family

Payments linked directly to loyalty schemes

Convenience

Efficiency



Mobile NFC has the potential to transform the airport experience

Automatic check In

Self-service bag drop

Security check

Coupons for retailers

Lounge access

Boarding the plane

Mobile NFC
used
throughout
the airport
journey

Simplify today's mobile experience

- More than 70% of passenger would like to use mobile for check-in and boarding *
- Between 2% and 3% succeed*

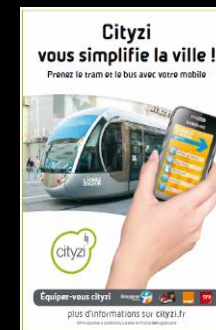


Orange is a pioneer of Mobile NFC in Europe, with launches and trials in all major markets



UK: Barclaycard and Orange UK payment partnership

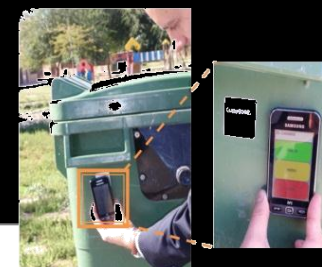
Nice, France: Multi-service commercial launch



Warsaw, Poland: Trial with bank WBK



Malaga, Spain
Transportation pilot



Madrid, Spain:
Waste management trial

The successful launch in Nice was a 1st for Europe

All three mobile operators have participated

Full range of services

Customer acquisition through 'standard' channels

9 cities now plan to deploy mobile NFC services



NFC will launch a revolution on mobile

- Most new smartphones will be enabled by the end 2012
- More than a product - a rich platform for innovation
- Working together to build national ecosystems is key
- Other players are now launching services

The time to act is now!

Thank You



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Q&As





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Closing

Nav Bains,
Business Lead Mobile NFC Services,
GSMA

