



ADVANCING NEAR  
FIELD COMMUNICATION  
TECHNOLOGY

# Building the Foundation for NFC

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# The Promise of NFC

NFC technology makes life easier and more convenient for consumers around the world by making it simpler to...

...perform transactions...

...exchange digital content...

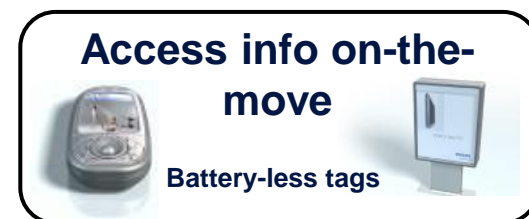
...connect electronic devices...

... with just a touch.



# The Harmonization of NFC And Contactless

- NFC harmonizes today's diverse contactless technologies, enabling current and future solutions including:
  - Access control
  - Consumer electronics
  - Check in
  - Healthcare
  - Information collection and exchange
  - Loyalty and coupons
  - Payments
  - Transport



- 130+ leading NFC companies working together to advance the use of NFC technology by:
  - Creating a comprehensive set of standards-based specifications to enable interoperability among devices and services
  - Introducing a certification program to enable developers to build and test products that comply with the specifications
  - Promoting and helping to build the ecosystem needed for successful global deployments

## SPONSOR MEMBERS



## PRINCIPAL MEMBERS

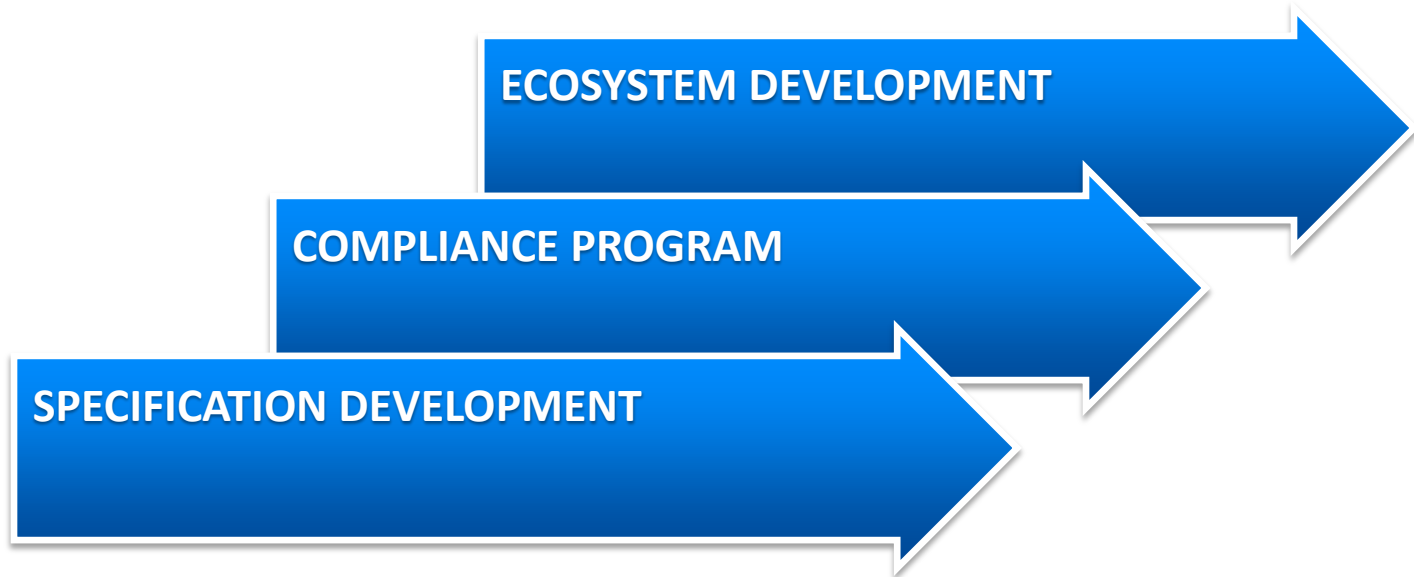


## NONPROFIT MEMBERS


## ASSOCIATE MEMBERS


## IMPLEMENTER MEMBERS


# Steps to Success



# Step 1: Flexible and Stable Specifications

- NFC Forum specifications form a solid base that supports all implementations and approaches
  - Global, device independent
  - Building blocks applicable to many verticals and use cases
- The specifications enable basic interoperability
- Ecosystem players are implementing them today
- Can be downloaded free of charge

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SPECIFICATION DEVELOPMENT

2010

# 15 Specifications Published

Specification	Milestone	Date
<b>Data Exchange Format Technical Specification</b>		
NFC Data Exchange Format (NDEF) Technical Specification	Adopted	24-JUL-2006
<b>NFC Forum Tag Type Technical Specifications</b>		
NFC Forum Type 1 Tag Operation Specification	Adopted	9-JUL-2007
NFC Forum Type 2 Tag Operation Specification	Adopted	9-JUL-2007
NFC Forum Type 3 Tag Operation Specification	Adopted	16-AUG-2007
NFC Forum Type 4 Tag Operation Specification 2.0	Adopted	18-NOV-2010
<b>Record Type Definition Technical Specifications</b>		
NFC Record Type Definition (RTD) Technical Specification	Adopted	24-JUL-2006
NFC Text Record Type Definition (RTD) Technical Specification	Adopted	24-JUL-2006
NFC URI Record Type Definition (RTD) Technical Specification	Adopted	24-JUL-2006
NFC Smart Poster Record Type Definition (RTD) Technical Specification	Adopted	24-JUL-2006
NFC Generic Control Record Type Definition (RTD) Technical Specification	Adopted	7-MAR-2008
NFC Signature Record Type Definition (RTD) Technical Specification	Adopted	18-NOV-2010
<b>Reference Application Technical Specifications</b>		
NFC Forum Connection Handover 1.2 Technical Specification	Adopted	7-JUL-2010
<b>Protocol Technical Specifications</b>		
NFC Logical Link Control Protocol (LLCP) Technical Specification	Adopted	11-DEC-2009
NFC Digital Protocol Technical Specification	Adopted	17-NOV-2010
NFC Activity Technical Specification	Adopted	18-NOV-2010

# Step #2: Certification Program

- Deliver on the NFC brand promise of compliance to specifications and interoperability
- Build a process by which devices can be certified to comply with the Forum's open standards
- Promote interoperability between:
  - Certified devices
  - Certified devices and other products such as tags, etc.



# Certification Program Launched

- “First Wave” launched December 2010
- Formally tests devices for compliance to specifications
- Certification Program includes:
  - High level conformance requirements
  - Certification policy and procedures
  - Test cases, test procedures, validated test tools, and test laboratory relationships
- Plugfests used to test interoperability

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**December 7, 2010  
Launch**

# Promoting the Marks

## N-Mark



- Consumer-facing mark
- Shows where to touch another N-Mark to use NFC
- No cost to use, free license, available to everyone
- For use TODAY on smart posters, cards, labels, etc. using NFC Forum tags
- For use as a touchpoint on certified devices

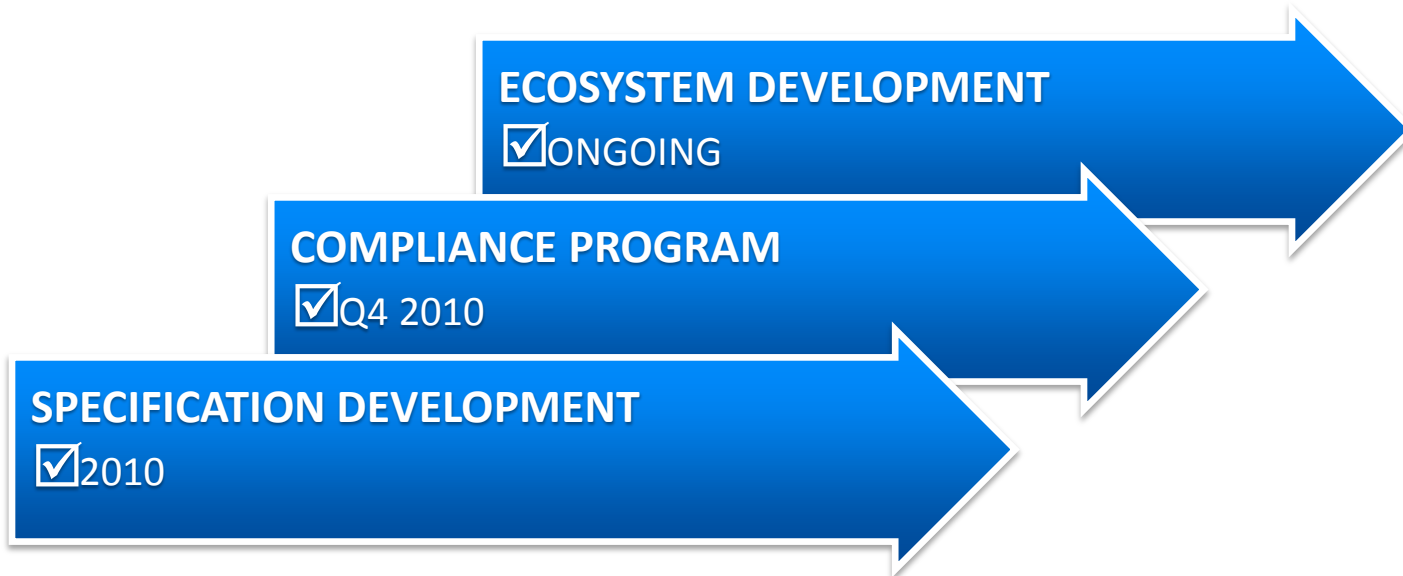
## NFC Forum Certification Mark



- Industry-facing mark
- Granted to products that complete NFC Forum certification
- For NFC Forum members only
- Available TODAY

# Step #3: Build the Ecosystem

- Industry liaisons formed
  - GSMA, Mobey Forum, ETSI, Smart Card Alliance, EMVCo
  - More in progress
- Liaisons are key to building out the ecosystem and ensuring interoperability



# The NFC Ecosystem is Broad and Complex



# The Foundation is Working

- We have learned that one size does not fit all!
  - Different markets have different needs
  - Different combinations of players lead to different solutions and vice versa

**The foundation is solid...**

**NFC Forum specifications are flexible enough to support all programs to date**

# Global Market Developments

- Business models are coming together to launch major NFC initiatives
  - MNOs and financial service providers are collaborating
  - Handset manufacturers, governments, financial service providers, universities, and retail companies are joining forces
- Transport operators are mandating use of NFC
- Stadiums are implementing NFC for ticketing
- NFC enables quick and secure connection handover, which is useful for Bluetooth pairing, WiFi set up, and more
- Consumer acceptance and excitement are high with approval ratings up to 85%

## Finding success and growing in many countries

- Austria
- China
- Czech Republic
- Finland
- Germany
- India
- Ireland
- Italy
- Japan
- Malaysia
- Netherlands
- South Korea
- Sweden
- Taiwan
- United Kingdom
- United States

# Growing NFC Device Support

- Leading US PC maker is including NFC in laptops shipped to enterprise customers
- Global handset/platform companies adding NFC to smartphones in 2011
- Global consumer electronics leader has shipped 10 million reader/writers, including NFC for PCs and TVs
- Juniper Research: 1 in 6 users worldwide will have an NFC-enabled phone by 2014
- NFC-like solutions are testing business cases and user uptake



# Joining the NFC Forum Helps Move the Market

- Levels of membership

- Sponsor (Board of Directors)
- Principal (Voter)
- Associate
- Implementer
- Non-Profit



- Benefits

- Influence new technical work
- Get devices certified
- Ensure your business requirements are incorporated
- Interact with major global players for new business opportunities
- Be the first to hear about new developments, both technical and market
- Publicize your company and its products and services

**NFC is on solid ground...**

**The foundation has been  
laid for enormous  
growth...**

**We are inventing the  
future!**



**NFC Forum**

<http://www.nfc-forum.org>

**Questions?**

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