



ADVANCING NEAR  
FIELD COMMUNICATION  
TECHNOLOGY



# NFC Use Cases

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NFC Forum

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**Paula Berger**  
NFC Forum  
Today's Moderator

# Audio Tips

- All audio comes through your computer**
- Use your computer mixer to adjust master volume
- Use Webcast audio slider to fine tune volume

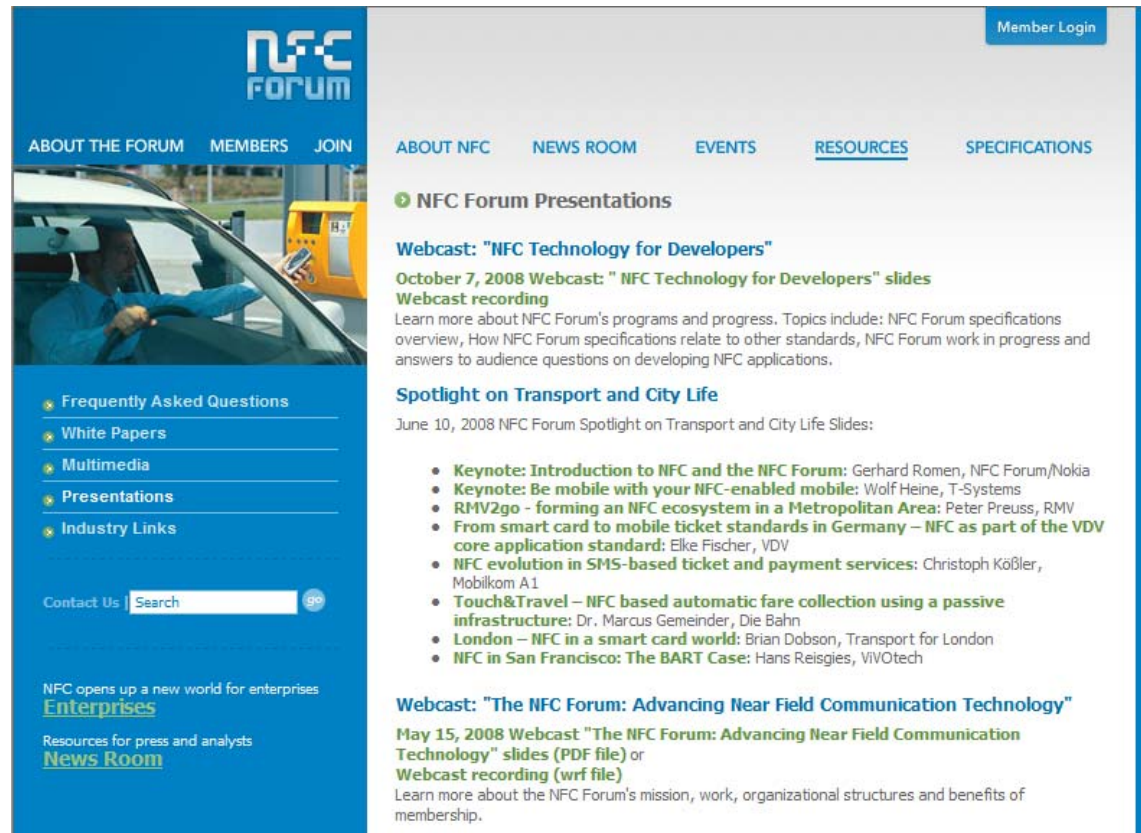
Send questions at any time here

Click here for technical help

The screenshot shows the NFC Forum webcast interface. At the top left is the NFC Forum logo. To its right are input fields for 'Name' and 'Email', followed by a 'SEND' button and a 'HELP' button. Below these is a text area with the prompt 'Ask a question here, or click help for technical support.' To the right of the text area is a video player with a play button and a volume slider. A red arrow points from the volume slider to the 'All audio comes through your computer' text box. Another red arrow points from the 'HELP' button to the 'Click here for technical help' text box. At the bottom of the interface, there are links for 'HELP', 'WebcastGroup', and 'RESET'. The main content area features a blue background with the NFC Forum logo, a banner that reads 'ADVANCING NEAR FIELD COMMUNICATION TECHNOLOGY', and the text 'The NFC Forum NFC Technology for Developers' with the date 'October 2008' at the bottom right.

# Get Slides and Recording

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[www.nfc-forum.org/resources/presentations/](http://www.nfc-forum.org/resources/presentations/)



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➤ NFC Forum Presentations

**Webcast: "NFC Technology for Developers"**  
**October 7, 2008 Webcast: " NFC Technology for Developers" slides**  
**Webcast recording**  
 Learn more about NFC Forum's programs and progress. Topics include: NFC Forum specifications overview, How NFC Forum specifications relate to other standards, NFC Forum work in progress and answers to audience questions on developing NFC applications.

**Spotlight on Transport and City Life**  
 June 10, 2008 NFC Forum Spotlight on Transport and City Life Slides:

- **Keynote: Introduction to NFC and the NFC Forum:** Gerhard Romen, NFC Forum/Nokia
- **Keynote: Be mobile with your NFC-enabled mobile:** Wolf Heine, T-Systems
- **RMV2go - forming an NFC ecosystem in a Metropolitan Area:** Peter Preuss, RMV
- **From smart card to mobile ticket standards in Germany – NFC as part of the VDV core application standard:** Elke Fischer, VDV
- **NFC evolution in SMS-based ticket and payment services:** Christoph Köbller, Mobilkom A1
- **Touch&Travel – NFC based automatic fare collection using a passive infrastructure:** Dr. Marcus Gemeinder, Die Bahn
- **London – NFC in a smart card world:** Brian Dobson, Transport for London
- **NFC in San Francisco: The BART Case:** Hans Reisgies, VIVOTech

**Webcast: "The NFC Forum: Advancing Near Field Communication Technology"**  
**May 15, 2008 Webcast "The NFC Forum: Advancing Near Field Communication Technology" slides (PDF file) or**  
**Webcast recording (wrf file)**  
 Learn more about the NFC Forum's mission, work, organizational structures and benefits of membership.

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# Today's Speaker

## Hans Reisgies



NFC Forum  
Chair  
North American Events

Director  
NFC Business  
Development  
ViVOtech

# NFC Technology

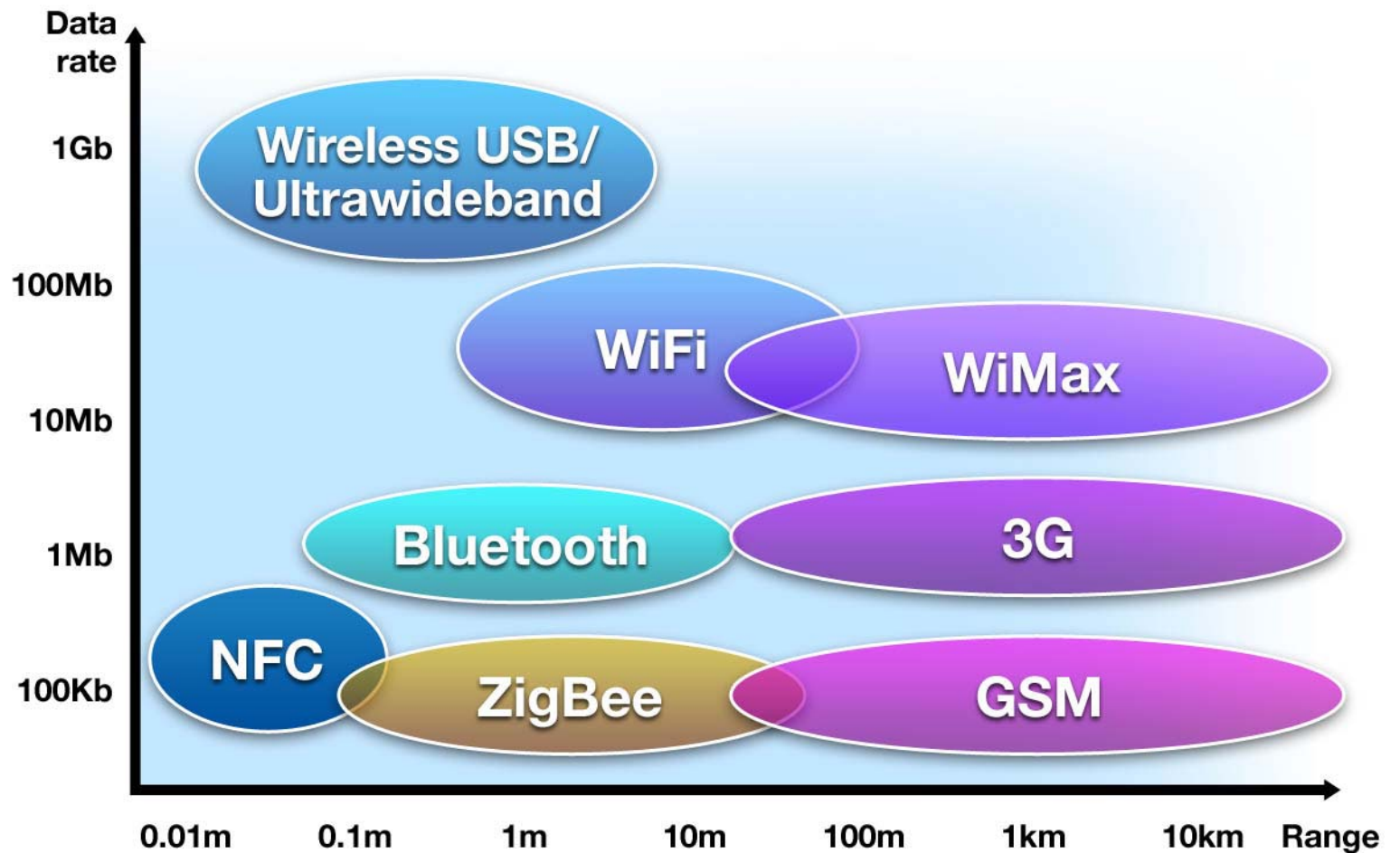


## Near Field Communication (NFC)

is a standards-based, short-range (a few centimeters) wireless connectivity technology that enables simple and safe two-way interactions between electronic devices.

*What is unique about NFC?* It allows electronic devices to interact with the physical world with just an intuitive touch.

# Wireless Market Space



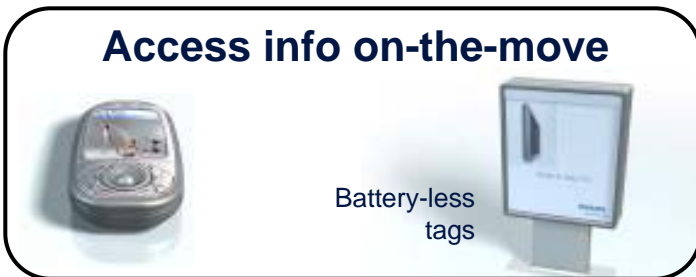
# NFC Core Capabilities

## Data transfer between devices



**Connect Electronic Devices  
(Peer-to-Peer Data Exchange)**

## Access info on-the-move



**Access Digital Content  
(Reader/Writer)**

## Mobile Payment & Ticketing



**Make Contactless Transactions  
(Card Emulation)**

# NFC can be put in Multiple Devices for Multiple Purposes

Get information by touching smart posters



Use your NFC phone as an event ticket



Print from your camera by holding it close to the printer

Set up your wireless home office with a touch



NFC Consumer Device



Share business cards with a touch

Get on the bus by waving your NFC phone



Pay for goods with a tap of your NFC phone

# Payment and ticketing with mobile have lead the way

- Easy to build on existing contactless infrastructure
- Mobile devices are becoming personal devices and easy for the consumer to use and understand
- Players are in place
- Business case issues being worked out



# But NFC is not just mobile

- Early applications have exploited the convenience of today's mobile phone
- But NFC brings value to many other electronics as well



# And there are many other use cases

- Enhance loyalty programs
- Deliver coupons
- Gather content
- Access rooms and buildings
- Transfer content
- Manage assets
- Provide reporting
- Make connections



# Example: Transit

- **Payment**
  - Pay for tickets or taxi rides with NFC phone
  - Pay at transit area retail stores with NFC phone
  - Top up a transit card stored in an NFC phone
- **Ticketing**
  - Download tickets to NFC phone
- **Access**
  - Use an NFC phone to enter gates/ board transit vehicles
- **Information Gathering**
  - Schedules read from smart poster to NFC phone
  - Download maps from smart poster to NFC phone
  - Special offers downloaded from smart poster to NFC phone
  - Order a taxi or bus via tag and phone
  - Transfer address and map phone-to-phone for taxis
- **Loyalty**
  - Get discounted travel offers for frequent travel to your phone



# Example: Airlines

- **Ticketing**
  - Download tickets to NFC phone
- **Payment**
  - NFC phones to pay for airport purchases
  - NFC phones to pay for in-flight services
- **Loyalty**
  - Store frequent flyer mileage number and check balance on NFC phone
  - Redeem miles at the gate for upgrades
- **Access**
  - Store boarding pass on NFC phone and tap to enter gate
- **Information Gathering**
  - Special offers for premium passengers transferred from smart poster to NFC phone
  - Schedules downloaded from smart posters / URLs to NFC phone
- **Asset Management**
  - Baggage tracking
  - Luggage ID tags



# Example: Retail

- **Payment**
  - Pay with NFC phones at contactless POS
  - Add and use a prepaid gift card in an NFC phone
- **Loyalty/ Couponing**
  - Add or redeem points with NFC POS and NFC phone
  - Download coupons from smart poster to NFC phone
  - P2P - transfer coupon to friend, recommend products
  - Redeem / send coupons between NFC phone and POS
- **Information Gathering**
  - Read product history / warnings from tag to NFC phone
  - Touch tags to collect shopping list
  - Touch a tag and opt-in to get SMS store or mall offers (tracks customer entry as well)
- **Asset Management**
  - Use NFC phones to read smart tags per product
- **More...**
  - Collect deposit from bottle recycling machine
  - Activate electronic devices after purchase



# Example: Public Sector

- **Payment**
  - Pay with NFC phones at contactless POS
  - Store vouchers –
  - Pay for parking
- **Information Gathering**
  - Download benefits phone numbers from smart posters to NFC phone
  - Record parking stall in NFC phone
- **Access**
  - Secure building access with NFC phone and contactless reader
  - Access to parking stalls
- **Phone as ID Card**
  - Physical and logical log on
  - Replaces passport



# Example: Health Care/ Social Benefits

- **Payment**
  - Pay with NFC phones at contactless POS
- **Information Gathering**
  - Use NFC phones to read patient history from smart card or phone-to-phone
- **Access**
  - Ensure secure hospital area access for personnel with NFC phone and contactless reader
- **Asset Management**
  - Use NFC phones to read smart tags on prescriptions to track inventory
- **Reporting**
  - Use NFC phones to track patient visits
  - Record activities performed by health care workers with NFC devices and smart tags



# Example: Medical/ Pharmaceutical

- **Payment**
  - Pay with NFC phones at contactless POS
- **Information Gathering**
  - Read prescription information from smart tag to NFC phone
  - Check authenticity of drugs by reading tags with NFC device
  - Read dosage information from tags with NFC phone
- **Asset Management**
  - Use NFC phones to read smart tags on prescriptions to track inventory
- **Reporting**
  - Transfer prescription from phone to pharmacy
- **Online Medicine/ Telemedicine (patient monitoring)**
  - Capture readings from blood glucose measurement or blood pressure meter



# Example: Automotive

- **Payment**
  - Use NFC phones with contactless car reader to buy music/video content
- **Access**
  - Store electronic keys on NFC phones; use to open car with contactless reader
- **Information**
  - Access car service information (km driven, tire pressure, remaining fuel, service appointments, etc.)
  - Personalize vehicle (seat position, favorite radio station, heating/cooling...)
- **Loyalty**
  - Bonus / loyalty programs from car dealer or service stations
- **Asset Management**
  - Use NFC phones to read smart tags per part
- **More...**
  - Use with GPS for route planning
  - Bluetooth coupling with car phone / radio



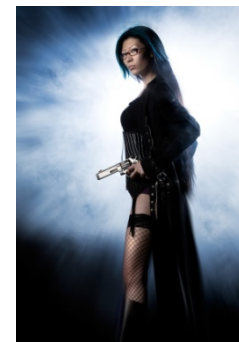
# Example: Consumer Electronics

- **Pairing NFC Devices**
  - Home computer components
  - In-car devices
  - Home entertainment systems
  - Headsets and handsets
  - Cameras and printers / digital frames
- **Connectivity**
  - Quick and secure WLAN set-up
  - Fast data transfer
  - Audio handover
- **Information Gathering**
  - Read product history from smart tag to NFC phone
- **Asset Management**
  - Use NFC phones to read smart tags per product for inventory control



# Example: Travel and Entertainment

- **Payment**
  - Use NFC phones to pay with contactless POS within venues
- **Loyalty**
  - Add or redeem points with NFC POS and NFC phone
- **Ticketing**
  - Store theater / attraction / event tickets on NFC phone
  - Collect tickets using NFC phone
- **Access**
  - Redeem tickets to enter venue using NFC phone and contactless reader
  - Hotel check-in
  - Order food with “tagged” menu/ read food ingredients, wine detail
- **Information Gathering**
  - Read smart posters to NFC phone with information such as:
    - Movie/ show schedules
    - Upcoming movie trailers
    - Tourism information (historical background, maps, etc)
    - Favorite sports team updates
  - Read smart billboards to customize traveler experience



# Example: Business

- **Payment**
  - Store and access vouchers
  - Make cafeteria/ vending purchases
- **Access**
  - Create secure building access
  - Perform secure PC log-in
  - Report work time
  - Track conference/ meeting attendance
- **More...**
  - Exchange electronic business cards in a quick and simple way



# What Else?

- Our challenge to you:
  - What other businesses can use NFC to move into the physical world??

The possibilities are endless!

# Q&A Session

Q&A Dialog Box – Enter your name and question here

The screenshot shows a web-based Q&A interface. On the left is the NFC Forum logo. To its right is a form with two input fields labeled 'Name' and 'Email'. Below these is a text area containing the prompt 'Ask a question here, or click help for technical support.' and two buttons: 'SEND' and 'HELP'. To the right of the form is a video player with a play button and volume controls. Below the form and video player is a large slide. The slide has the NFC Forum logo at the top left. The main text on the slide reads 'The NFC Forum' followed by 'NFC Technology for Developers' in a larger font. At the bottom right of the slide, it says 'October 2008'. A blue banner at the bottom left of the slide contains the text 'ADVANCING NEAR FIELD COMMUNICATION TECHNOLOGY'. At the bottom of the slide area, there are three buttons: 'HELP', 'WebcastGroup', and 'RESET'.

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# Q&A Session



## **Peter Preuss**

NFC Forum Marketing Committee Chair

Senior Manager at Nokia  
responsible for NFC Business Development in  
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## **Hans Reisgies**

NFC Forum North America Events Chair

Director, NFC Business Development  
ViVOtech

# The NFC Forum

**The mission of the NFC Forum is to advance the use of NFC technology by:**

- Developing standards-based specifications that ensure interoperability among devices and services
- Encouraging the development of products using NFC Forum specifications
- Educating the market globally about NFC technology
- Ensuring that products claiming NFC capabilities comply with NFC Forum specifications

We do NOT sell NFC services or products!

# Why Join?

- Gain an in-depth understanding of how NFC works and its many applications
- Influence how the technical specifications are written and get an advance look at how the technology will evolve
- Meet other organizations that are working with NFC and jointly find new uses for the technology to create new business opportunities
- Contribute your knowledge to build the infrastructure faster and more profitably
- Highlight your company as “tech savvy” and consumer friendly
- Create a platform to be represented at global trade shows, have speaking opportunities and participate in meetings

# Upcoming NFC Forum Events

- NFC Forum Members Meeting
  - December 1-5, Monaco
- NFC Forum Global Competition Entry Deadline
  - January 20, 2009
  - Learn more at: [www.nfc-forum.org/competition](http://www.nfc-forum.org/competition)
  - Send questions to: [competition@nfc-forum.org](mailto:competition@nfc-forum.org)
- GSM Mobile World Congress, February 16-19, Barcelona
  - Visit us at Booth 2 D93

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