

# NFC: Cool Trends and Data

Amir Khoshniyati  
RFIDJournalLive! 2022

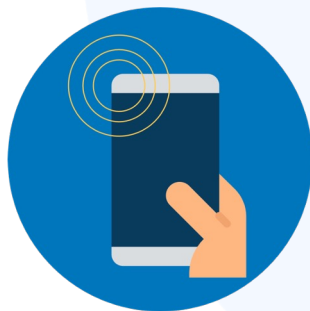
# AGENDA



What is NFC?  
& Survey  
Results



NFC  
Wayfinding Mark



NFC  
Applications



NFC  
Certification



About the  
NFC Forum

# WHAT IS NFC?

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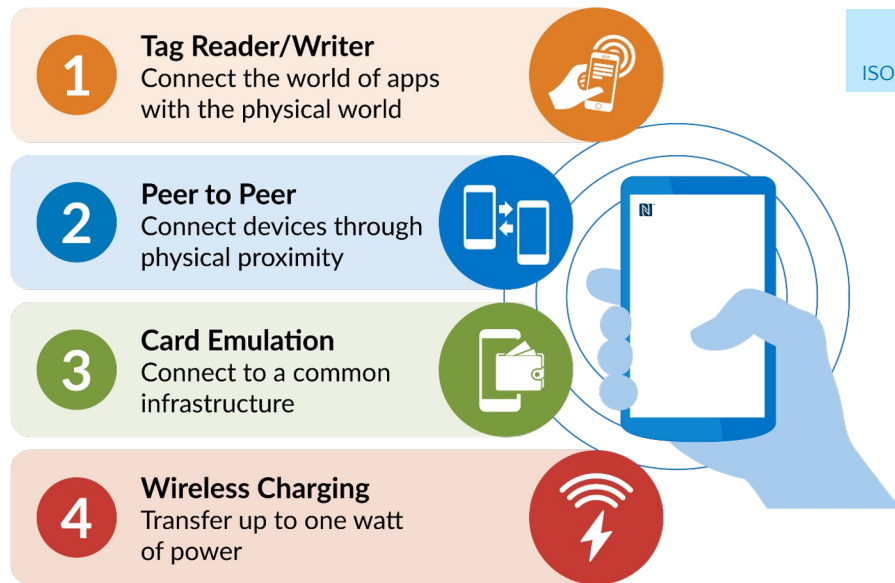
Near Field Communication (NFC) is a standards-based short-range wireless connectivity technology that makes life easier and more convenient by making it simpler to make transactions, exchange digital content, and connect electronic devices with a touch. NFC is compatible with hundreds of millions of contactless cards and readers already deployed worldwide.



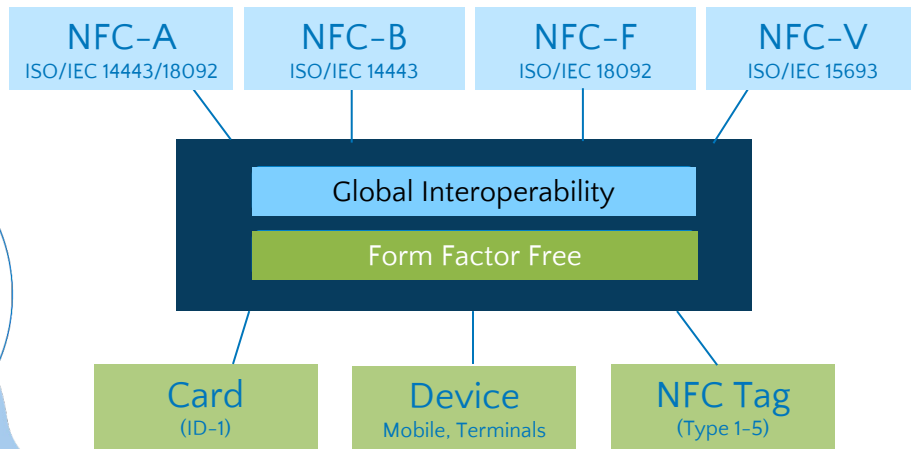
# NFC AS DEFINED BY THE NFC FORUM

## MODES AND COMPATIBILITY

### NFC Operates in Four Modes



### NFC is Compatible with Global Communications Standards



# ONLY NFC PROVIDES...



Easy Network Access  
and Data Sharing



User Control with Deliberate  
Expression of Intent



Ability to Connect  
the Unconnected

# Introduction and Methodology 2022

## Survey Overview

- The goal of the survey was to provide a greater understanding of consumer adoption, familiarity, and experiences with Near-Field Communication (NFC)/contactless technology at both a global and regional level. The survey takes into account the COVID-19 impact after significant efforts were placed on contactless migration strategies and increasing contactless spending limits. The survey's first question asked respondents if they had used a contactless payment card or mobile wallet, such as Apple Pay, Google Pay, and Samsung Pay, among others.
- For those respondents who had not used either of these options, the survey was **terminated**. This meant that only respondents who have used contactless technology were included in the survey results.
- The survey had 2,620 respondents across the following countries and regions, covering a variety of age ranges.
  - United States: 509
  - China: 505
  - Japan: 504
  - South Korea: 505
  - United Kingdom: 124
  - Spain: 116
  - France: 121
  - Germany: 118
  - Italy: 118
  - 18 to 24: 366 (14%)
  - 25 to 34: 787 (30%)
  - 35 to 44: 804 (30%)
  - 45 to 54: 429 (16%)
  - 55 to 64: 173 (7%)
  - 65 to 74: 41 (2%)
  - 75 and over: 20 (1%)

# Key Findings and Takeaways

- Contactless payment card usage continues to **exceed** that of mobile NFC wallets
- Overall user experience is **extremely high**
- The security message is clear, and the vast majority of respondents are **confident (at some level)** with the security or perceived security that contactless cards/mobile wallets provide.
- Most respondents are at least **somewhat familiar** with NFC as a technology.
- Contactless usage is also **very high**



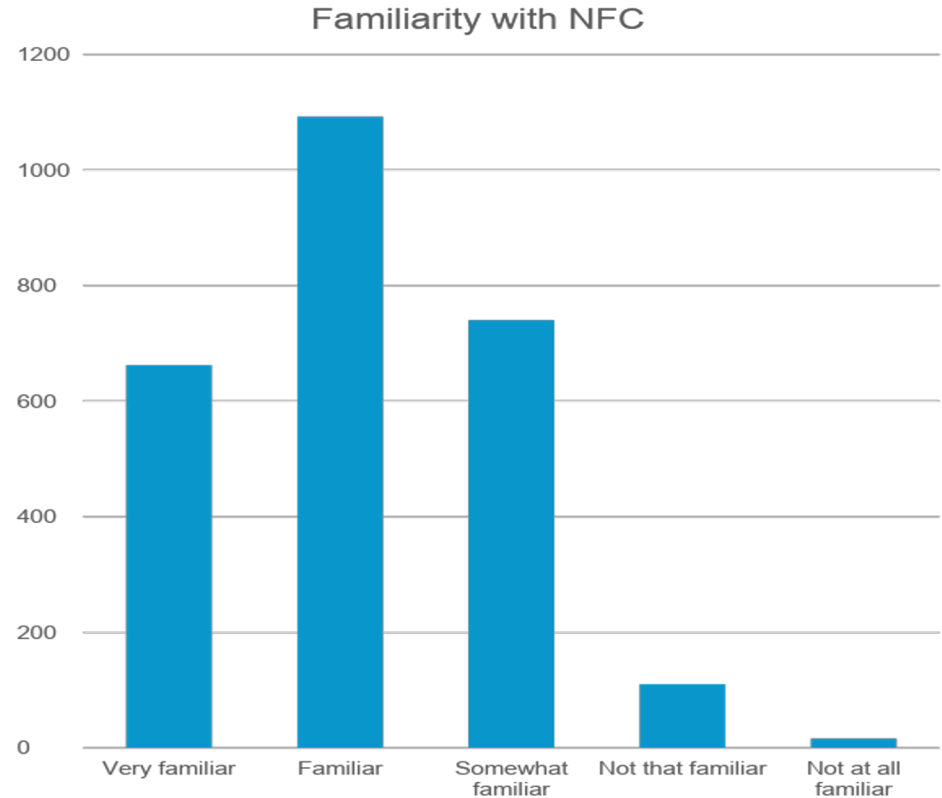
# Familiarity with NFC 2022

Q10: How familiar would you consider yourself with NFC (Near-field communication) contactless technology?

- **42%** of respondents regard themselves familiar with NFC technology
- **28%** somewhat familiar
- **25%** very familiar
- **4%** not that familiar
- **<1%** not at all familiar

## TAKEAWAYS:

- **95%** of respondents at least somewhat familiar with NFC technology
- Over 2/3 (67%) respondents are familiar or very familiar with NFC technology
- Only 5% of NFC users are still not familiar with the technology
- Familiarity with NFC as a technology has significantly increased, aligned with increased exposure to mobile wallets and higher user rates



# Other Use Cases 2022

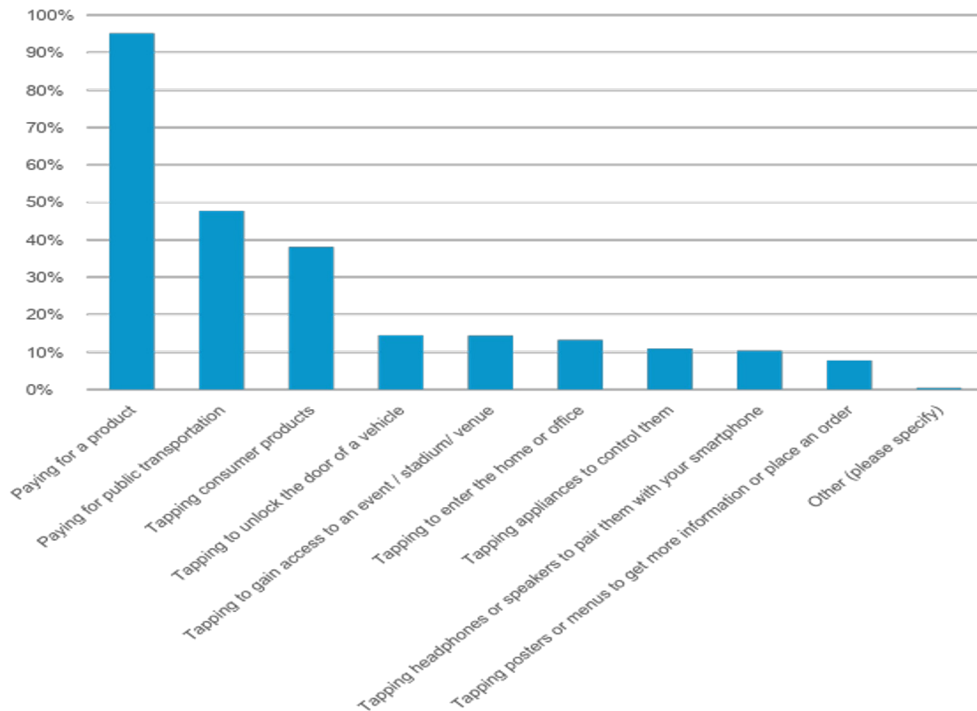
## Q11: Have you ever used the NFC contactless technology in your smartphone or smartwatch for any of the following?

- **95%** of respondents have used contactless technology for paying for a product
- **48%** have used it for paying for public transport
- **38%** have used it for consumer product interaction
- **15%** have used it for vehicle access
- **14%** have used it for venue access
- **13%** have used it for home or office access
- **11%** have used it for appliance control
- **10%** have used it for headphone / speaker pairing
- **8%** have used it to tap posters or menus

### TAKEAWAYS:

- Beyond mobile payments, public transportation is a key driver for contactless use cases
- Tapping consumer products is also becoming increasingly important, with over 1/3 of respondents having leveraged NFC to interact with some form of consumer product, e.g. clothing, alcohol, luxury items
- Some percentages such as automotive, venue entry, and home office access seem high, it is very possible that "contactless" technology is taking the credit for non-NFC applications and that clearer messaging is needed on the specific capabilities of NFC

Other use cases



11 others including tapping to access computer, share photos and videos

# Conclusion and Future Expectations 2022

- Frequency of usage is expected to increase as the world enters the post COVID era
- Exposure to contactless payments will continue to increase and accelerate as the contactless card fast becomes the standard card form-factor issued
- Issuers (both traditional and neo/challenger banks) placing emphasis on digital first approaches will further accelerate mobile wallet usage, as the paradigm shifts from physical first to digital first card implementations
- Contactless limits continue to be increased, paving the way for transaction limits to be abolished in the mid to longer term.
- NFC security perception remains strong and should continue to be message reinforced as security concerns related to card transactions at higher values can be eliminated via mobile wallets and multi-factor authentication processes
- Usage for ticketing will continue to increase as more transportation authorities look towards EMV/open loop acceptance
- The user experience issues reported demonstrate that users are facing issues with the NFC technology and/or implementation rather than it being an infrastructure or merchant related problem
- NFC will become more widely adopted outside of payments, as leading wallet providers look towards new application enablement to expand their respective wallet use cases and increase wallet reliance

# NFC WAYFINDING MARK

# WAYFINDING MARK

A new global identifier to increase interoperability and improve the user experience of NFC connected applications and use cases. The Wayfinding Mark System will provide designers and product manufacturers flexibility while enhancing those brands that integrate contactless connections in their consumer journey.

## Resources:

- [Wayfinding Mark Guidelines](#)
- [Wayfinding Trademark License Agreement](#)
- [How to Use the Wayfinding Mark](#)



# WHY WAYFINDING?

- Other wireless technologies indiscriminately broadcast their presence to the world around them – only NFC is centered on user intent.
- Marks that simply indicate the existence of a technology, are not sufficient for NFC. To be successful we must guide users to a tapping location.
- To orient users to the proper tap location of our technology. The foundational NFC wayfinding mark, also known as the “Directional variation,” guides users to the precise location of the NFC antenna, ensuring an optimal connectivity experience.
- This fresh new mark overtly invites users to tap and unlock the full potential of connectivity.



## How to Use the Wayfinding Mark

The NFC Wayfinding System is designed to adapt for the diverse uses and consumer awareness of the technology while leveraging the continuity of learned behaviors. While the Directional variation gives the most explicit tap location guidance, certain use cases may merit the use of a variation or a complementary mark.



### Directional

The Directional variation is most helpful for tags and on occasionally used devices to overtly guide the user to the precise location of the NFC antenna for an optimal connectivity experience.



### Simplified

The Simplified variation can be used in everyday use cases where users have a high degree of familiarity. Adopters should be careful in their choice of this variation because it provides significantly less wayfinding guidance which may be an issue for the less familiar user.



### Charging

The Charging variation provides users with confirmation of NFC charging functionality and the location of the antenna. It is reserved for this use case only.



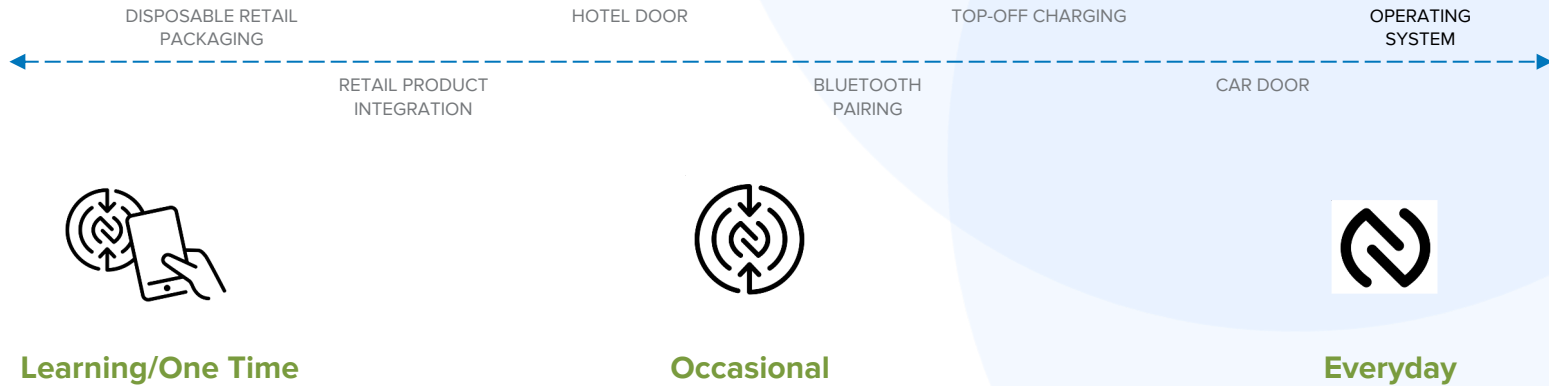
### Instructional

The Instructional variations are complementary marks that can be used in cases where user awareness and knowledge of NFC technology are presumed to be low. It provides the most literal guidance of tapping from a mobile device to establish a connection.



# SYSTEM RATIONALE

**Application should be determined by frequency of use-case and ownership.**





# CONCEPTS & SAMPLE APPLICATIONS



# INTRODUCING: NFC WAYFINDING SYSTEM

- Launched earlier this month
- Flexible **system** for wide variety of use cases
- Multi-year effort to develop more intuitive “tap mark”
- Available NOW for free from the NFC Forum website
  - Visit [nfc-forum.org](https://nfc-forum.org) to signup
  - Assets available online
  - Wayfinding Usage Guidelines



Generation One N-Mark



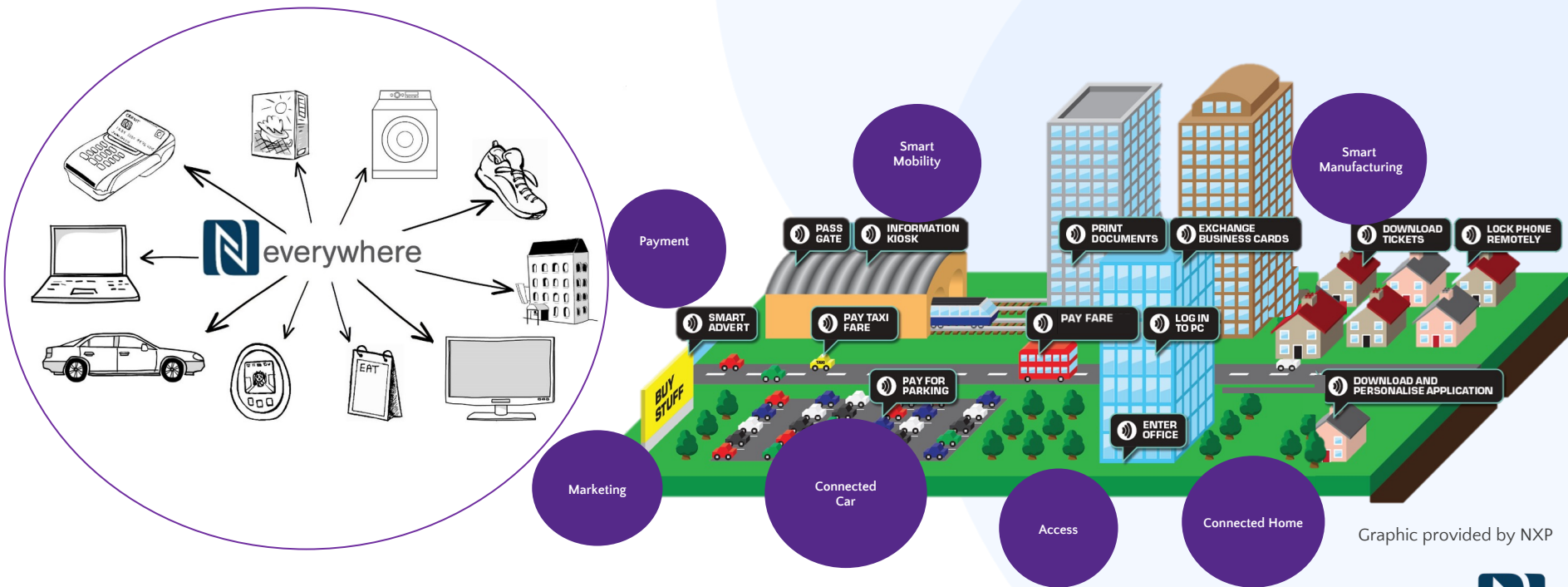
Wayfinding Mark

# NFC APPLICATIONS



# AN NFC-ENABLED WORLD

## WIDE-RANGING USER EXPERIENCES – NFC EVERYWHERE



Graphic provided by NXP

# NFC APPLICATIONS ACROSS INDUSTRIES



IOT



Automotive



Retail and Payment



Mobility, Identity,  
and Transport

# NFC IS EVERYWHERE!



Nike NFC-enabled  
NBA Jerseys



Mercedes-Benz &  
Samsung NFC Car Key



JR East NFC-enabled  
Mobile SUICA



# NFC IS EVERYWHERE!



L'Oréal NFC-enabled UV  
Sense *My UV Patch*



Adidas  
World Cup Ball 2018



Apple Watch

# NFC CERTIFICATION



# NFC FORUM CERTIFICATION

## TOP 4 REASONS TO CERTIFY WITH THE NFC FORUM CERTIFICATION PROGRAM



INTEROPERABILITY



QUALITY  
ASSURANCE



PRODUCT  
DIFFERENTIATION



USEFUL  
METRICS

More info here: <https://nfc-forum.org/certification-program-overview/>



# NFC FORUM CERTIFICATION PROGRAM IMPACT



## NFC FORUM CERTIFICATION PROGRAM FOUNDATION



Interoperability



Product integrity



Performance

... Across the NFC Ecosystem

## WHAT THE CERTIFICATION PROGRAM MEANS TO PARTICIPANTS

- ✓ Recognition
- ✓ Product differentiation
- ✓ Brand Protection

- ✓ Improved customer experience
- ✓ Worry free introduction and operation of product in NFC ecosystem

# ABOUT THE NFC FORUM

# THE NFC FORUM AT A GLANCE

The Forum's **120+ global member companies** are currently developing specifications for a modular NFC device architecture, and protocols for interoperable data exchange and device-independent service delivery, device discovery and device capability.



# BECOME A MEMBER

- The NFC Forum offers four membership levels designed to match your organization's interests and market plans. All levels provide excellent business networking and time-to-market opportunities.
  - **Adopter.** Our entry-level membership for access to networking and market requirements discussions. No Annual Dues.
  - **Associate.** Monitor and influence key work items and specifications for the NFC Marketplace.
  - **Principal.** Strategic level of leadership, participation and influence of NFC Forum deliverables and 1st Party Testing Privileges.
  - **Sponsor.** Shape the mission and direction of the organization at all levels and for every market. Includes Board seat.



# LEARN MORE ABOUT NFC

Visit the NFC Forum Website and  
LinkedIn, Twitter and Facebook



# THANK YOU! QUESTIONS?

Amir Khoshniyati  
akhosh@identiv.com



@nfcforum