



## About Near Field Communication (NFC)

**Near Field Communication in a handset makes many day-to-day tasks more convenient for consumers. Based on a short-range wireless connectivity, NFC is enabled by bringing two compatible devices within a few centimeters of one another or for the two devices to literally “touch” one another.**

Handsets like the Nokia 6216 classic change the way consumers interact with everyday devices and services. For instance, NFC-based interaction between two handsets or between a mobile phone and another device allow consumers to easily share content such as business cards, images and calendar entries or to conveniently obtain information such as web links or phone numbers, provided by NFC tags. In addition, consumers can replace the multitude of cards in their wallet by using the NFC for a number of common services. An NFC-enabled mobile phone can also be utilized as a travel card, contactless credit card or for loyalty programs.

Among the first commercial NFC-enabled devices on the market, the Nokia 6216 classic supports SIM-based NFC transactions. In practice this means that payment and ticketing applications are stored on the SIM card (previously in the device memory), and that mobile operators are now able to start building services on the SIM card.

### **Share and connect**

NFC-enabled handsets make it easy for consumer to share content. By simply “touching” another NFC device with their handset, consumer can conveniently exchange business cards, images or videos. With NFC, consumers will be able to pick up information from their surroundings. NFC allows mobile devices to read information stored in NFC-tags that have been included on everyday objects – e.g., posters, bus stop signs, street signs, medicines, certificates and food packaging, as well as in device sales packaging. By adding NFC-tags to posters or magazines, readers can access existing mobile services like hotlines, sms and network or internet based content and services with their NFC phone. Consumers can also use NFC to connect and pair their handset to compatible accessories such as printers, headsets or loudspeakers, utilizing Bluetooth technology.

### **Tickets and payments**

NFC allows contactless tickets and cards to be held on the compatible SIM card in handsets like the Nokia 6216 classic. Instead of carrying transport tickets, loyalty and credit cards separately, consumers can choose to store several cards on their compatible SIM card in an NFC-enabled device. The Nokia 6216 classic offers functionality similar to that found in standard contactless smart cards used worldwide in credit cards and tickets for public transit systems.

NFC tickets mark a new era for transport and event ticketing with their speed, flexibility and convenience. Using NFC-enabled mobile phones, consumers can buy tickets, receive them on their handset and then go through “fast track” turnstiles. A travel card balance can be checked online and it can be topped-up and paid directly from an NFC device like the Nokia 6216 classic. As well, information such as a bus or train timetable can be made available for downloading to an NFC-enabled device.

Once an application, for instance a credit card, has been securely supplied to the compatible SIM card, customers can use the card to pay for an item simply by waving the device at a point-of-sale reader. At the same time the NFC-handset offers enhanced security as each transaction requires a separate user confirmation. For added convenience, a transaction history can be made easily available.

Secure applications for payments, loyalty programs and ticketing are stored on the SIM card in the Nokia 6216 classic. Typically SIM cards are capable of holding multiple applications – payment, ticketing and loyalty -- in a trusted environment.



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## NFC Technology

Near Field Communication (NFC) is an evolution of contactless and short-range radio frequency identification (RFID) technologies. NFC enables easy and intuitive ways of using mobile phones with touch-based technology – operating at a distance of only a few centimeters. NFC is based on pre-existing contactless payment and ticketing standards that are used on a daily basis by millions of people and devices worldwide.

Nokia participates actively in developing NFC standards through the open NFC Forum, of which Nokia is one of the founding members. Nokia aims to create an interoperable environment with other members of the NFC Forum, in which the tags within smart objects and devices can communicate with each other using clearly defined and published interfaces and tag formats. Nokia and Giesecke & Devrient have founded a new company called Venyon which will provide services to manage over-the-air (OTA) consumers' applications.

## Near Field Communication Trials

O2, TFL, Barclays	UK	Payment and transport
Mobilkom	Austria	Payment and transport
Rabo, Roda JC	Netherlands	Payment
City of Oulu	Finland	City services
Helsinki Airport	Finland	Business solution
Amsterdam, JCB	Netherlands	Payment
RMV	Germany	Transport, consumer services
Nedap	Netherlands	Healthcare business solution
Manchester City Football	UK	Stadium
Biffa	UK	Asset management
BBVA	Spain	Payment
SBI	India	Payment
Xiamen	China	Payment and transport
Chungwa	Taiwan	Payment and transport
KL, May Bank	Malaysia	Payment and transport
Atlanta, Chase, NXP	USA	Payment, ticketing, consumer services
7 Eleven, PeopleBank	USA	Payment
Philadelphia, Bank of America	USA	Payment
New York, Citibank	USA	Payment, ticketing, SD
HSBC	USA	Payment
Well Fargo	USA	Payment
US Bank	USA	Payment