

**PRESS RELEASE**

**Ultra-fast and secure: Franz Amtmann, Philippe Maugars and team named finalists for the European Inventor Award for
their development of NFC data transfer**

* **Austrian and French engineers develop NFC with a team at NXP Semiconductors – a spin-off of Dutch electronics giant Philips**
* **Easy connections, quick transactions and simple data sharing: NFC (Near Field Communication) is a secure method of data transfer between mobile devices**
* **From the Internet of Things to Industry 4.0, NFC makes it possible for people to interact with the world around them in new ways**
* **Fast and easy payments, access to secure areas, warehouse logistics – the possibilities are almost endless**
* **EPO President Battistelli:** **“Near Field Communication is a milestone in contactless mobile data transfer.”**

**Munich/Eindhoven, 21 April 2015** -- Chatting, surfing, sharing photos or streaming music: these days smartphones are our daily companions, allowing us to do much more than simply make phone calls or send text messages. And in future we expect mobile devices to evolve even further into other interactive fields of use: they will serve as our wallets, access cards for secure areas such as aircrafts, or as vital tools in warehouse logistics. They will support functions in the future connected car and smart home and contribute to the Internet of Things and Industry 4.0. All of this is only possible, however, with secure contactless data transfer. Near Field Communication (NFC) provides just that. It enables the transfer of data – always encrypted – via an electromagnetic field at a distance of just a few centimetres. For the ground-breaking development of NFC, the European Patent Office (EPO) has named Franz Amtmann (Austria), Philippe Maugars (France) and their teams as finalists for the 2015 European Inventor Award in the Industry category. The winners of the 10th edition of the annual award will be announced at a ceremony in Paris on 11 June.

“The technology developed by Franz Amtmann, Philippe Maugars and their teams make a crucial contribution to the development of data transfer between mobile devices,” said EPO President Benoît Battistelli, announcing the 2015 European Inventor Award finalists. “Not only does NFC make life easier and more convenient for consumers around the world; it improves the security of this process decisively and, in doing so, opens up new applications, even in highly sensitive areas. In our world of increasingly interactive communication, this invention is a true milestone.”

**Secure connections for a smarter world**

Amtmann and his team developed NFC at multinational manufacturer NXP Semiconductors, a spin-off of Dutch electronics giant Philips. NFC builds on the principles of RFID (Radio Frequency Identification), a technology for the automatic, contactless detection of objects using radio waves. The advantages of RFID were combined with a set of other connection technologies including MIFARE – a contactless chip card solution developed in the 1990s by a team at Mikron (now a part of NXP) in Gratkorn, Austria, of which Franz Amtmann was a part – to provide a highly secure, fast connection technology. For the encrypted data transfer, a weak electromagnetic field is used that requires the immediate proximity of both devices – not exceeding a distance of ten centimetres. NFC employs simple and highly-integrated circuits which make it highly economical – an excellent basis for the successful standardisation and marketing of the technology. As a co-inventor of the NFC technology along with Sony, NXP has led the effort to establish its acceptance and has helped found the NFC forum, a standards-based organisation that now includes more than 170 member companies. NFC complements other wireless technologies and is fully compatible with the established infrastructure behind contactless smartcards.

Franz Amtmann is Senior Principal and RFID Lead Architect at NXP. Born in 1963 in Hartberg, Austria, he studied electrical engineering focused on communication engineering at Graz University of Technology and joined Mikron in 1991 which was taken over by Philips Semiconductors in 1995. He is involved in more than 50 patents or patent filings dealing with RFID technology. In addition he has been a major contributor to several international standards in this field.

Philippe Maugars worked for Philips, later NXP, as a software developer for consumer electronics products and was instrumental in the development of NFC and its applications. In addition, he worked on the development of smart card readers, Energy Aware platforms for LTE-based communications systems and on LED-based lighting systems. After 30 years at Philips and NXP, he now heads his own company which still works with NXP. Born in Paris in 1958, he holds a degree in applied mathematics from the Institute Pierre et Marie Curie in Paris, and is inventor or co-inventor on more than 25 patents.

**Smartphones as cash cards of the future**NFC enables simple and safe two-way interactions between electronic devices, allowing consumers to perform contactless transactions, access digital content, and connect electronic devices with a single touch. NFC can be used for greater efficiency in everyday processes. With NFC, for example, payment could hardly be faster or easier, as smartphones become virtual pocketbooks: you simply hold your phone to a point-of-sale terminal, tap and *voilà*, the transaction is complete. A repeated authorisation via PIN or comparable system is no longer necessary; the payment occurs within seconds. Transfers are even possible when the phone battery is low: NXP engineers Philippe Maugars and Patrice Gamand patented a method that covers this exact case and ensures a secure connection within an NFC circuit. The NFC signal itself then supplies enough energy to complete at least one NFC transaction.

**Gatekeeper to the Internet of Things**

NFC is also an important part of the transition to connected living. Being complementary to other wireless technologies like Bluetooth and WiFi, devices can be added to the home network with a simple tap. NFC-enabled smartphones, tablets or wearables can be used to control or configure just about anything from the oven which adjusts cooking settings automatically to the TV that applies parental controls to ensure that kids watch suitable channels. NFC also enables personalised settings, authentication, one-step payments, efficient data tracking, interactive advertising to just name a few benefits which add value to the Internet of Things.

**Enabler of Industry 4.0**NFC can be used in the industrial sector as well: The emergence of smart manufacturing facilities is creating a new level of automation. NFC has an important role to play in this new environment, because it helps reduce the time it takes to process items, can enable customisation at any point in the production process, allows cloud access from the manufacturing floor, can document maintenance work seamlessly and simplifies logistics. In short: NFC makes production lines smarter.

**A large – and growing – market**
Analysts agree that NFC is the standard for future technology developments. By 2018, more than 1.7 billion people will own NFC-compatible smartphones, by some estimates. The rapidly growing penetration of NFC-enabled mobile devices will bring NFC infrastructure to life. According to Transparency Market Research, NFC technology already generated revenues of EUR 864 million in 2012. The fact that global players like Apple are deciding to integrate NFC in their devices has boosted its perception in the public eye and the technology’s success on the market. The market is expected to grow at an annual rate of around 44 per cent until 2019.

**Additional resources**

[**Video and photo material**](http://www.epo.org/news-issues/press/european-inventor-award/amtmann.html)

[**Read more**](http://185.49.16.67:8080/razuna/raz1/dam/index.cfm?fa=c.sf&f=4ABEFD2D89CA4322B7887A4A4AD78D9D&v=o) **about the inventor**

 **View the patents:** [**EP1488375**](http://worldwide.espacenet.com/publicationDetails/biblio?DB=worldwide.espacenet.com&II=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20041222&CC=EP&NR=1488375A1&KC=A1)**,** [**EP1247410**](http://worldwide.espacenet.com/publicationDetails/biblio?DB=worldwide.espacenet.com&II=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20021009&CC=EP&NR=1247410A1&KC=A1)**,** [**EP1272973**](http://worldwide.espacenet.com/publicationDetails/biblio?DB=worldwide.espacenet.com&II=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20030108&CC=EP&NR=1272973A1&KC=A1)**,** [**EP1081630**](http://worldwide.espacenet.com/publicationDetails/biblio?DB=worldwide.espacenet.com&II=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20010307&CC=EP&NR=1081630A1&KC=A1)**,** [**EP2002376**](http://worldwide.espacenet.com/publicationDetails/biblio?DB=worldwide.espacenet.com&II=1&ND=3&adjacent=true&locale=en_EP&FT=D&date=20081217&CC=EP&NR=2002376A1&KC=A1)**,** [**EP1851865**](http://worldwide.espacenet.com/publicationDetails/biblio?DB=worldwide.espacenet.com&II=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20071107&CC=EP&NR=1851865A1&KC=A1)

[**Ten years of the European Inventor Award: a retrospective look at the inventors and ideas that have changed our lives**](http://www.epo.org/news-issues/press/releases/archive/2015/20150122.html)

[**About the European Patent Office (EPO)**](http://www.epo.org/news-issues/press/background/epo.html)

[**Study on the economic impact of patents and other IP rights**](http://www.epo.org/news-issues/news/2013/20130930.html)

**Contacts:**

Rainer Osterwalder

Director Media Relations

European Patent Office

Tel. +49 (0)89 2399 1820

rosterwalder@epo.org

Jeremy Philpott

Project Manager

European Patent Office

Tel. +49 (0)89 2399 1805

jphilpott@epo.org

Bernd Münchinger
Managing Director
echolot public relations
Tel. +49 (0)71 1990 1480

muenchinger@echolot-pr.de