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BARCELONA'S T-MOBILITAT PREMIERES CIPURSE STANDARD IN EUROPE

Text: Contactless Intelligence

Barcelona may only be Spain's second largest urban area but, according to Juniper Research, it is the country's smartest city. Smart is, for one, the new "T-Mobilitat" electronic fare collection system, designed to improve urban mobility. The aim is to make getting around the city much easier for both the inhabitants and millions of tourists: The "T-Mobilitat" smart card will provide all-in-one access to the city's transport network including Barcelona's metro system, bus or any other transportation means. In addition, "T-Mobilitat" will also enable a user to rent a bicycle at the train station or pay at toll barriers on motorways. The long-term plan is that Catalonia's entire mobility will be powered by chip technology. The metropolitan transportation authority ATM (Autoritat del Transport Metropolità) will start switching the electronic ticketing system of the metropolitan region of Barcelona from magnetic stripe cards to chip-based tickets in 2016. In the second phase, the system will also be

rolled out into the region of Catalonia. The "T-Mobilitat" ticket is issued as a transport app or an all-in-one ticket in the form of a smart card. Here user data is stored on the Infineon CIPURSE™ Security Controller. With this product, Infineon is the first certified supplier to ATM for the "T-Mobilitat" project. The decision by the ATM in Barcelona marks another important milestone in the global launch of the new CIPURSE security standard of the OSPT Alliance. CIPURSE can work alongside existing individual solutions, so there is the possibility of modernizing entire systems seamlessly and gradually. Another advantage is that the open security standard is also designed for mobile devices, such as NFC-enabled cellular phones or smart watches. We met up with Infineon's Thomas Rosteck, Vice President and General Manager of Infineon's Secure Mobile & Transaction business, to get some insights on the project – which is one of the biggest transport ticketing projects worldwide.



*An interview with Thomas Rosteck,
Vice President and General Manager
Secure Mobile & Transaction,
Infineon Technologies*



What is so unique about Barcelona's new electronic fare collection system?

For starters, it is a cashless system. With T-Mobilitat, travelers no longer have to search for cash at ticketing machines and they don't need to carry different cards in their wallet. Also, the electronic ticket can be used many different ways, which is highly appealing to a younger demographic: contactless smart card, a mobile phone or wearables can be used to pay with T-Mobilitat.

Secondly, it is an all-in-one solution supporting everything from public buses through underground trains to private services such as bike sharing. It is even used for motorway and parking lot access.

What exactly is the scale of this project?

The metropolitan transportation authority ATM (Autoritat del Transport Metropolità) will start switching the existing electronic ticketing system from magnetic stripe cards to the chip-based T-Mobilitat system in 2016.

As a first step, T-Mobilitat will be rolled out in the greater Barcelona region to service approximately 5 million inhabitants and more than 8 million tourists every year. In the second phase, the solution will be extended to the whole region of Catalonia.

ATM will issue T-Mobilitat smart cards for subscription users, a transport app for mobile devices and also limited-use tickets for tourists and occasional users. The whole system will be based on contactless technology. And it is in fact one of the first large-scale roll-outs of a transport ticketing system based on the CIPURSE™ security standard in Europe.

To support this project, we partner with system integrator Indra and supply the Infineon CIPURSE™ Security Controller for T-Mobilitat smart cards and our SLE 97 security chip as hardware platform for the security access module for ticket validators.

Why did ATM premier an Open Standards solution with T-Mobilitat?

Future proof and more flexibility, I would say. Most electronic transport ticketing systems in use today have one major disadvantage: they are based on proprietary technologies. This restricts the flexibility of transportation service providers and reduces cost transparency. Security is also an issue: It is generally accepted that existing proprietary systems are not secure enough – and robust security is a key success factor for emerging multi-application scenarios, where one card can be used for different

“Smart transportation infrastructure is key for sustainable urban development. With the ‘T-Mobilitat’ project based on the CIPURSE security standard we implement a very flexible, cost-efficient and particularly future-proof system.”

Josep Anton Grau i Reinés,
CEO of the ATM

Infineon offers a comprehensive security chip portfolio based on CIPURSE™ for all application levels – from limited-use tickets and dedicated solutions for mobile ticketing to security-certified multi-application ICs.

As payment or ID functionality is increasingly being combined with transport ticketing, CIPURSE™ functionality is now offered on all contactless security controllers.

CIPURSE-BASED SECURITY PRODUCTS FROM INFINEON

- / hit the mark with data transfer rates that are far faster than the industry standard transaction time of 0.2 seconds on average,
- / are based on a radio link that is particularly stable so that the data can be transmitted quickly while the person is still moving,
- / meet requirements of the internationally recognized “Common Criteria” security standards and are certified by the OSPT Alliance, which defines the CIPURSE standard.

transactions. The CIPURSE™ security standard overcomes these limitations.

Firstly, as an open standard defined by the OSPT Alliance, CIPURSE™ grants open access to the market. This promotes transparent and healthy competition, particularly important with regards to the scale of this project. This also improves interoperability across numerous supplier networks. Ultimately, both of these factors combine to give transportation service providers the freedom of greater flexibility and independent decisions.

Secondly, it is particularly secure, thus protecting transport operators against fraud and users against theft of their private credentials.

And finally, CIPURSE™ is future-proof, scaling from limited-use tickets up to mobile solutions, also allowing providers to smoothly migrate to next-generation transport ticketing systems.

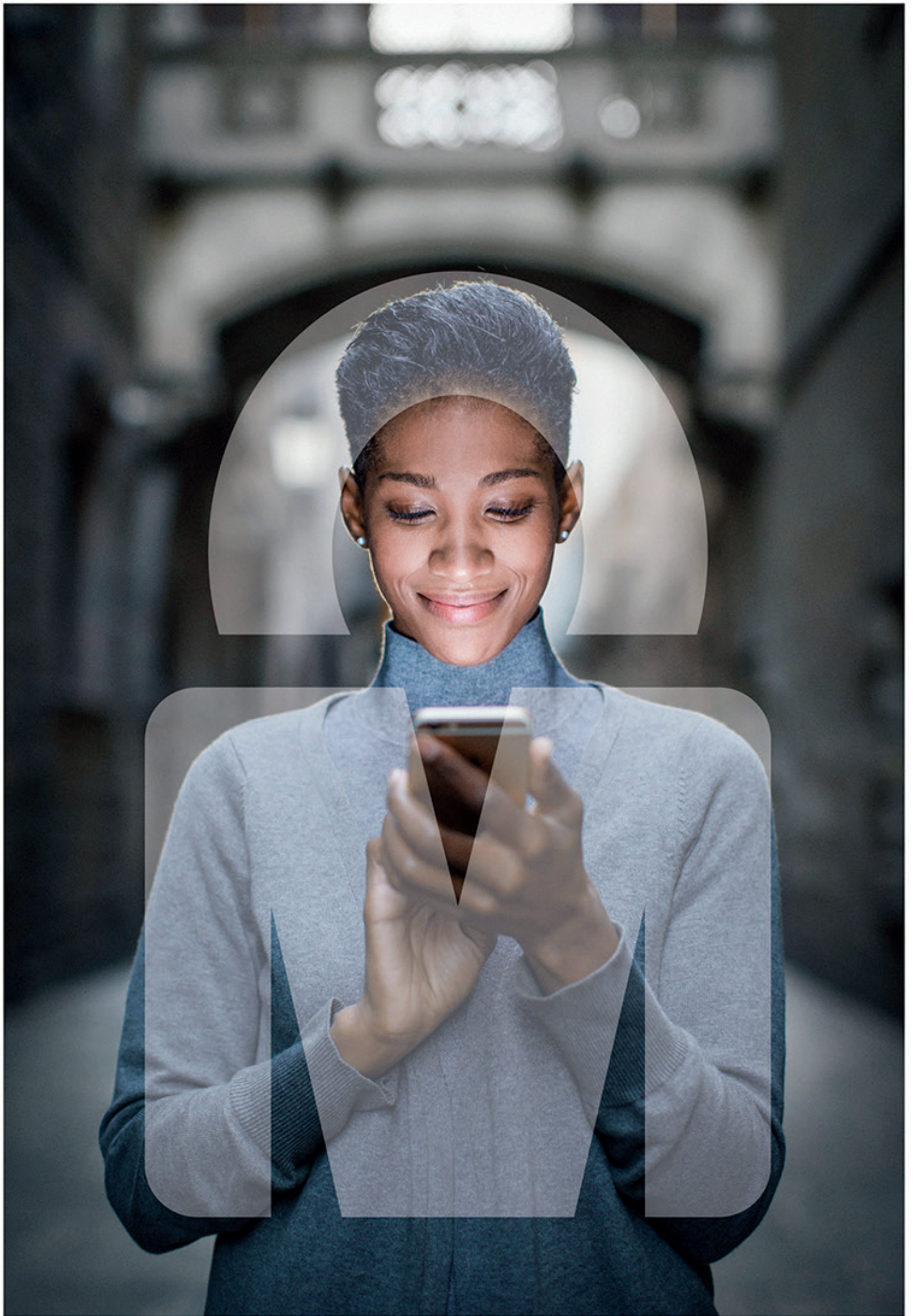
Are there any specific difficulties transport operators are facing and how can you help to solve them?

It is important that transport operators see the advantages of migrating to open standard-based systems. Electronic fare collection systems have already been implemented in major cities worldwide. Some regions such as South American and Asian countries are particularly advanced. In these regions either legacy systems are used or national standards are defined. As many of these legacy systems come of age, transport operators now have the chance to select flexible, future-proof and cost-efficient solutions based on open standards such as CIPURSE™. We have been supplying chip-based security for transport ticketing for more than 25 years and provide transport operators with state-of-the-art solutions that allow smooth migration – take the city of Perm in Russia, for instance.

To conclude, what is your vision for electronic fare collection in smart cities?

Seamless and convenient transportation infrastructure is a key pillar of smart cities. Already today, public transportation includes much more than bus and train. Private car sharing services and bike rentals are increasingly part of the game. In addition, automated fare collection will call for a comprehensive payment infrastructure that works with all kinds of contactless devices. With contactless technologies, users will expect convenience and will not want to worry about security issues.

We believe that open standards are the only way to effectively meet these challenges. CIPURSE™ is the perfect platform to make public transport systems attractive, accessible, affordable, secure and flexible enough to support changing demands.



MOBILE CONNECT: THE RAPIDLY GROWING DIGITAL IDENTITY SOLUTION MALAISE

Text: Claire Maslen, GSMA

Across all sectors, next generation connected solutions have the potential to transform the delivery of services and enrich the lives of billions of people throughout the globe. Yet, while the market opportunity is widely understood and myriad proofs of concept firmly established, those developing digital services need to rise to meet the demand for solutions that are not only convenient, but secure and respect user privacy.

The latest innovation in this space is Mobile Connect, the Operator-facilitated universal digital identity solution that allows users to log-in to websites and applications quickly without the need to remember passwords and usernames. Instead, Mobile Connect works by combining the user's unique mobile number and PIN to verify and authenticate them online.

In the wake of several high profile hacks and data breaches, consumer confidence in online and digital services is at an all-time low. Mobile Connect can help restore trust and enable digital services to scale by enabling service providers to use a secure, private and convenient means in which consumers can access goods and services through multiple channels.

There are a number of signs that mobile could be the most suitable platform for a secure digital identity solution. Perhaps most importantly, is the rapid growth of smartphone ownership; this has resulted in mobile surpassing traditional devices such as PC and laptop, as the predominant means by which people access to the internet.

As such there is a huge opportunity for service providers to harness the power of mobile to enhance digital services in both the private and public sector. In the private sector, one of the primary applications of Mobile Connect is in commerce. Merchants and retailers are utilising mobile to increase engagement, sales and loyalty. However, digital retailers must increase both confidence and convenience for the consumer, as a huge number of transactions are never completed. According to Barilliance, an e-commerce personalisation solutions provider, 74 per cent of online baskets were abandoned in 2013 alone.

In the public sector too, Mobile Connect has the potential to transform the delivery of services. The political momentum behind digital identity is greater than ever with governments around the world realising that it can enable the delivery of convenient and secure public sector services

at a greatly reduced cost. According to the World Bank Group, \$50 billion could be saved by governments globally due to digital identity enabled services.

Mobile Connect also has the potential to help governments become more socially responsible by virtue of enabling digital inclusion for 1.5 billion unregistered people in the world, most of which are disproportionately located in developing countries. Digital inclusion can vastly improve peoples' access to essential services and can also create a huge business opportunity in the private sector.

In November last year, Mobile Connect was used in a cross-border public sector pilot which made it the first private sector cross-border public service authentication solution compatible with European Union eIdentification and Trust Services (eIDAS) Regulation. The pilot demonstrated how Mobile Connect can be used to identify an EU-citizen of one Member State in order to gain access to a public service of another. Mobile Connect offers a simple way of achieving pan-European federation of cross-border services for the EU governments compatible with the eIDAS regulation, whilst enabling growth in digital public services nationally.

Mobile Connect has a variety of public sector use cases including, taxes, healthcare and payments. One of the reasons it is uniquely placed to serve the public sector is because many such services, such as annual tax returns, occur infrequently, meaning there is less likelihood that other private sector universal solutions will be developed for such a purpose.

Since the solution was introduced in 2014, 34 Operators have launched the service in 21 countries and the solution is now available to 2 billion consumers globally. At Mobile World Congress 2016, Mobile Connect was showcased across a number of sectors including, health, commerce and eGovernment. To discover more about Mobile Connect, please visit GSMA.com/mobileconnect.

A STANDARDS-DRIVEN MARKET IS DIFFICULT TO DISRUPT

*An interview with Liz Coode,
Head of Payment Services,
Creditcall*



OSF Magazine met up with Creditcall's Liz Coode to talk about standards, contactless and charities. The Bristol-based FinTech company's solutions ensure payments flow securely and reliably – whether attended, unattended, online or mobile.

Creditcall positions itself as an omnichannel payment gateway provider – could you explain to us what is meant by this?

Omnichannel to us means the ability to accept transactions through a variety of environments. For example, a business may do a lot of trans-

actions through eCommerce, but may also need to take purchases face-to-face. You may have a kiosk to take unattended payments and then perhaps also have an app for a card-on-file or a card not present (CNP) transaction. Creditcall's omnichannel position is to support a number of different de-

vices and technologies and to provide a payment solution throughout all of these different environments.

EMV continues to be the payment technology of choice. In your opinion, how important are open standards for the adoption of new technologies?



The payment industry is not so much about open standards but more about layers of standards and approval authorities. Creditcall has to work with a number of different certification and approval bodies, such as PCI or EMVCo, for instance. We also work with a number of specific schemes (such as us seeking approval from Visa for key injection after becoming PCI PIN certified) and acquirers (gaining approval from First Data for key injection after becoming PCI PIN and TR39 certified). If payments are going to take more of a standardisation route in the future,

this layered structure would have to reduce significantly.

Fundamentally, it is important that all payment-orientated companies design to the same standards and ensure that inter-device connectivity is as easy as possible. In principle, that should ease some innovation, mainly for incumbents. However, a market that is standards driven is difficult to disrupt as you have to provide exactly the same functionality as everyone else – as such you can only disrupt by reducing prices for your solution. This drives the price level down in the market and con-

sequently shifts the balance of power from suppliers to operators and sometimes hampers innovation and entry of start-up companies.

Contactless technology seems ubiquitous in the UK, yet has not been rolled out as successfully in many other European countries. Creditcall has been very active in implementing contactless technology. What are the rules of using contactless successfully?

The key point here is to understand what the technology is, how new it is and how rapidly the standards and availability of different

solutions change. It's easy for someone to think that you can just choose any contactless reader, install it and start taking payments. However, because of these standards and regulations just mentioned, the various hardware has to be integrated and certified with each acquiring bank first, which is actually quite limiting in real deployment terms. Creditcall has to work with hardware providers and the acquirers to finally get a solution to market. It is vital that merchants speak to us at the very earliest opportunity and get advice on what is actually available for deployment.

Some of the reasons why we have been so successful is that we actually recommend a specific combination of hardware and acquiring banks to our customers at an early stage. For example, in vending we work with partners like the Vianet Group, OTI and Crane Payment Innovations. They come to us with a new bespoke device for the vending market and ask us how to go about implementing contactless technology. We work with them to identify the best acquirer to work with, to have the widest reach, being realistic about delivery timescales, explain to them why they must go to the market with a message for their customers based around what's available, when and most importantly what the limitations are.

The unattended market is one of the core markets for Creditcall. What role does contactless play in this field?

Unattended is one of the key areas where contactless has been long overdue because there have been numerous obstacles. In a classic retail environment, full Chip and PIN is required because the transaction value can be much higher. In addition, for the time being, Visa and MasterCard say that you will not be able to deploy a contactless only solution in retail, as not everyone has a contactless card. The merchant needs to ensure that they can accept all cards including Chip and PIN and mag stripe. Contactless is a nice to have, certainly, but it is not as transformative in retail as it is in the unattended market.

In unattended, a full Chip and PIN reader can be very expensive and the values are often lower (classic

markets include transportation such as bus and train tickets, parking tickets or vending of small transaction value items such as snacks). There are several reasons why contactless will work great in this environment. Firstly, contactless hardware is less expensive, secondly the transaction time is much quicker – a big benefit in high traffic areas and during rush hour – because contactless is generally performed offline meaning an almost instantaneous transaction timeframe.

The other issue is that scheme rules favour unattended environments for contactless. Since November 2010 merchants in an unattended environment have been able to take card payments without a PIN pad for certain values if a solution had

“It is vital that merchants speak to us at the very earliest opportunity and get advice on what is actually available for deployment.”

contactless. More recently contactless only has become acceptable in certain environments. Vending was the first and in July 2015, pay and display parking was added to the list. I guess, the reason being that if you can't buy a soft drink with a contactless card then it's not the end of the world, it won't ruin your day and you may, in fact, have enough change on you to make the purchase anyway. It could be a similar scenario with parking. Using a contactless only solution is possibly more effective in an unattended environment.

In the UK, charities play a huge role in everyday life and charity collections are an integral part of the high street. Only recently, Creditcall has been involved in

the Cancer Research UK's World Cancer Fundraising Campaign. Do you believe contactless and mobile is the future for charities?

Yes. Absolutely. For a number of reasons, charity could be the ultimate unattended success story.

Charity donations in the street, ad-hoc collections or collection boxes outside shops etc. lend themselves very well to a contactless transaction scenario. For pretty much the same reason as vending or parking; it's quick, it's easy and if it doesn't work it's not going to ruin your day. It's a way of facilitating contributions for people who don't normally pay cash and a lot of people these days don't carry spare cash on them. If you look at the number of people walking down the street who have any coins on them to spend, it's probably a fraction of what it was ten years ago. So providing a quick and easy method of card payment is absolutely critical.

Now to be honest, it's not strictly speaking unattended. The project that we did with Cancer Research UK had its roots in a proof of concept we did with Visa last year for Save The Children. We had developed an on-street collection tin, working with a company called Payter who produce a contactless card reader solution that we actually supply the contactless kernel for, as well as the payment gateway at the back end.

Now, strictly speaking, in an attended environment you are supposed to provide a Chip and PIN option as well. We had to get a waiver that could offer a contactless only acceptance. We are working with a lot of different charities at the moment and it lends itself very well to museums, or exhibits where it may not be appropriate to have a person with a tin collecting. At the same time you want to offer people the opportunity to contribute to the maintenance of a particular exhibit environment. This is a perfect environment for unattended contactless. It's safe, it's secure, it's cost effective, it's easy and it's permitted by the various card schemes. So yes. Card payments fill a gap for charity organisations and contactless is the best system for providing donation collections to these worthwhile causes.



Delivering true value to the connected lifestyle of today

Our latest NFC products can provide globally compatible and highly reliable solutions for active or passive device environments. We offer several NFC solutions along with high-density flash chips with the capacity to store various user details. Samsung NFC utilizes a highly advanced multi-application embedded Secure Element which can offer large memory. It allows easy deployment of secure NFC payment, strong authentication, transit, access and loyalty applications which address the mobile, contactless lifestyle of today's connected world.

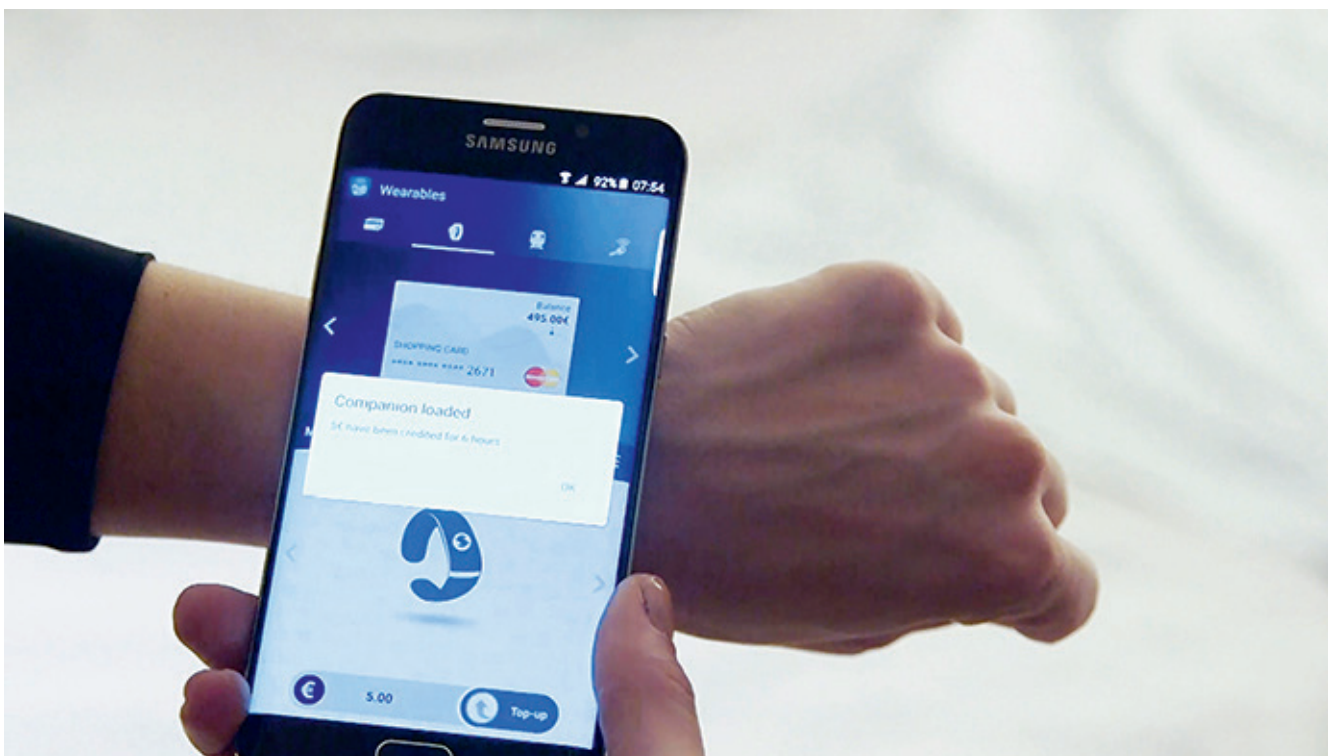
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VIRTUAL POCKET MONEY WITH THE CONTACTLESS COMPANION PLATFORM

Text: Jörg Suchy, Samsung Semiconductor

The use of NFC technology in a variety of applications may have become more accepted, but NFC services are still tied to the phone. The result is that where you go, your phone goes. Even though technologies such as tokenization and host card emulation (HCE) are now readily available, NFC-based services are still not a part of every-day life. At Samsung Semiconductor we believe that the reason behind this may lie with the phone itself.



What if the phone is not the user's form factor of choice? Would NFC services be more successful if we were accessing them in a different way?

What if these services could easily be transferred from one NFC device to another? In this world, the phone's not only a means for mobile payment – it turns into a convenient distribution and management interface for NFC services and moves them onto other companion devices.

“Imagine that NFC services could be transferred from one NFC device to another by means of a quick tap. In this scenario, the NFC phone is not only a means for mobile payment – it is a convenient distribution and management interface for NFC services, moving them to various other wearable companion devices.”

“We asked ourselves: Could it be that NFC phones are not a user's form factor of choice? Would NFC be more successful if we were using it in a different way?”

With a growing user base, this capability could extend the range of NFC usages beyond already existing services and groups. And if we could replace cash, keys, access, transport tickets or loyalty cards within a single passive device, it could lead to a real, positive impact on our lives.

To work towards this vision, Samsung has been cooperating with Swiss company SmartLink to develop the Contactless Companion Platform. This innovative platform is a direct result of the previously introduced, CIPURSE-based, OCAP (Open Contactless Application Platform) but with a dedicated focus on wearables and standards.

Here is a potential use case for the Contactless Companion Platform: When you are planning a run or a visit to the spa, you don't necessarily want to take your phone with you, but a bit of hassle-free pocket money. And here is where the CCP comes in: Request €10 on your NFC phone

for a wearable and transfer a token with limited validity (e.g. a 6 hour time stamp...) with a simple tap.

Using the same simple method, you could transfer money to the wearable of your kids for usage at school or outdoor activities. Here you could add more token properties, such as validity, amount, and the shopping location. Based on the backend system intelligence, the money loaded onto the wearable can then only be spent at, for example, the school canteen or designated tennis club.

But the Contactless Companion Platform is not just limited to payment. With the same process, transport or event tickets, vouchers, coupons, door keys, and many more could easily be transferred from an NFC phone to a wearable, a key fob, or any other form factor of choice equipped with a minuscule chip and antenna. Apart from NFC phones, other load and top up options can of course also be used. Merchants could use the POS and activate services during the payment process, for example. An IT-infrastructure equipped with a contactless reader could distribute services; this could be anything from your laptop up to your local ATM. The simplicity of the concept is what makes it truly exciting.

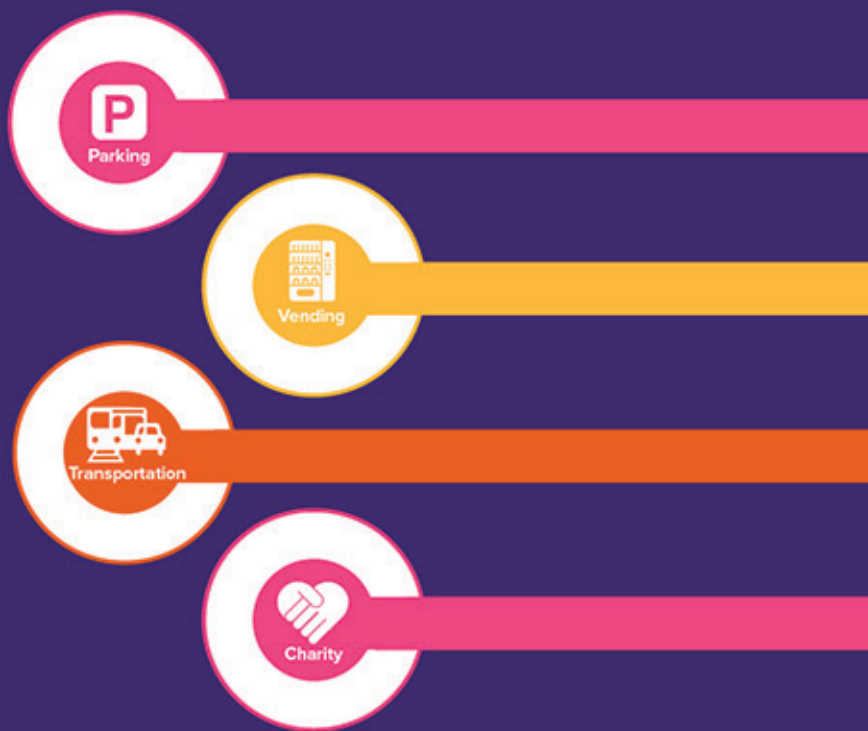
Running the CCP are Samsung's contactless smart card products. They have industry certification and are available in volume today. Using Dual Interface chips for the Contactless Companion Platform has the advantage that the CCP runs independent from the companion main system and doesn't consume any battery power.

Furthermore, existing wearable products could be upgraded immediately by adding the CCP. High security is achieved due to smart card technology, token concept and token properties.

The Contactless Companion Platform has a dedicated focus on standards and wearables. This platform targets every NFC phone user and is considered to support EMV, closed loop payment, transport, access control, and value added services globally. With such a versatile platform and a growing use of wearables, isn't it time to leave the phone behind?

creditcall

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Live Demo

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