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CONTENTS

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MEDELLÍN –
TAKING THE OPEN STANDARDS
ROUTE TO INNOVATION

*An Interview with Jaime Patiño Escobar,
CEO Stratosgroup*

"Medellín has found new solutions to classic problems of mobility and environmental sustainability. Today, gondolas and a giant escalator shuttle citizens from steep mountainside homes to jobs and schools in the valley below… A modern underground metro system has eased pollution and crowding in the city's main arteries." This was the laudation from the Wall Street Journal, which teamed up in 2012 with Citi bank and the Urban Land Institute to determine which city – wherever in the world – deserved the title "Innovative City of the World".

In Medellín, transportation projects are financed through public-private partnerships. It has successfully implemented participatory budgeting, a system which allows citizens to define priorities and allocate a portion of the municipal budget. The responsibility of the implementers is, therefore, to investigate the most budget-friendly and innovate technology to run its award-winning infrastructure. ESP spoke to Jaime Patiño Escobar, CEO Stratosgroup, to find out more about the latest developments in this exciting city.

Jaime Patiño Escobar,
CEO Stratosgroup

The Medellín Transportation System has been described by many as one of the most innovative systems in the world. Please can you elaborate on the complexities of this particular infrastructure and the companies involved?

The infrastructure in Medellín can be described as very complex. One can find a Metro line, but also cable car and bus lines, which are not interoperable to each other as different companies are operating them. To optimize the Logistics for the city and the larger urban zone, the decision was made to invest in a new technology bringing quality, safety and comfort to the passengers.

Involved companies are on the one hand private Companies, such as bus operators and taxis. But also the Agencia de Mobildad y Transporte (AMVA), the Transport Authority of Medellín and the Secretary of mobility.

Together with the Stratos Group, the city is trialing a new technology standard, CIPURSE. How important is it, to stay at the forefront of technological innovation?

Staying at the forefront of technology innovation needs to be understood as the need to be aware what is going on and what is coming next. It is about preparing yourself for the key

trends of the industry, to allow systems to overcome the limitation of existing implementations by, in parallel supporting simple and easy upgrades towards future needs.

For the transportation & ticketing market this means leaving the path of proprietary, locked in solutions – moving towards truly open standards such as CIPURSE.

In almost any discussion about the future of transport ticketing trends, such as multi-application, convergence with payment or identification as well as mobile ticketing are being elaborated on. While the above is describing different system elements there is one thing they all have in common – the need for truly open standards. This ensures a highly competitive environment, fair and transparent conditions for all stakeholders, as well as easy implementation of new applications, along with a high level of flexibility for evolving a system towards that kind of future use.

On what scale is the CIPURSE pilot implemented? How many carriers are involved?

Involved are the 8 most important transport operators in Medellín and the lager urban zone, which have

a fleet of about 885 buses and mobilize 304,500 passengers. To compare the usage: Currently the Metro carries 750,000 passengers / day and the buses 1,050,000 passengers / day.

Adding additional applications, such as payment, onto public transportation is quite the trend internationally. How relevant is this for Medellín?

Indeed for Medellín it is very important to implement different applications on one card, such as a payment application combined with transport. In this regard we are already in negotiation with different Colombian banks.

What are the next steps in the CIPURSE trial phase? Has there been any feedback?

Already today CIPURSE has been implemented by Stratos very successfully into different transport media for a first field try, which will take place with a dedicated test group within the next few weeks. The intent of Stratos to participate in the world standard CIPURSE, is to offer a complete solution and platform to transport operators beyond Medellín and Colombia, to share the benefits generated by CIPURSE as an open standard.

Infineon Technologies is a leading supplier of secure semiconductor solutions for transport ticketing applications and offers the market's most comprehensive portfolio of chip solutions based on open standards. Infineon supported this project with its CIPURSE™ Security Controller SLS 32TLC100, the Sesames Award winner for the most innovative product in the category "Transportation".

The project has been conducted by the 8 most important transport operators in Medellín and the lager urban zone. 1000 cards have been distributed among authorities, carriers and a pilot group of people. The project ran for at least 6 months to a year.

For this project Infineon applies its CIPURSE™ Security Controller, because it offers a Mifare Classic* emulation which allows the customer a real, flexible migration to a more secure solution based on CIPURSE™. Furthermore the customer can add up to 8 different applications on one card. This is of high importance, as also a payment application is to be implemented in cooperation with one of the biggest financial institutions in Colombia.

Infineon's SLS 32TLC100 is the first security controller compliant with CIPURSE™ V2 and featuring Mifare Classic* compatibility. It is the ideal migration product to upgrade existing transport solutions to more advanced security based on AES 128. The SLS 32TLC100 is based on Infineon's SLE 7x SOLID FLASH™ family successfully used in many applications.

* MIFARE is a registered trademark of NXP

DIGITAL REMEDY
FOR HIGH STREET MALAISE

Text: Endless Shelf Plaform

Industry leaders, organized as the Digital High Street Advisory Board, have announced a five-year strategy to reinvigorate the UK's traditional High Streets and proposed the adoption of four major inter-dependent digital initiatives by 2020.

The Digital High Street 2020 Report addresses how stakeholders in town centre communities, including small businesses, public service providers and charities, can benefit from integrating traditional High Streets with digital technologies, and compete more favourably to serve customers as they embrace proliferating digital alternatives.

It observes that although a "digital divide" is growing between those national and international firms investing aggressively in digital capabilities, and the many small, independent High Street proprietors, the groups are interdependent and success of those across the divide is critical to the success of our communities.

"The recent release of the Digital High Street 2020 report is testimony to the realization by the major UK High Street stakeholders that the general level of digital maturity on behalf of the smaller businesses in all sectors poses a significant barrier to the adoption of technological innovations that are lining up to be part of the modern consumer omni-channel experience.

Digital maturity is a term that covers a number of critical capabilities, including sufficient connectivity and a range of digital skills on behalf of the retail, hospitality, leisure and service businesses in the High Street. The purpose of the report is to address the low level of digital maturity across the range of key cities, smaller cities, large towns and small market towns.

Taken individually, the four recommendations in the report do not appear to introduce anything radically new and innovative, however when the four items are viewed together, they represent the first serious effort that has received government support to bring UK High Streets to a state of digital capacity commensurate with the aspirations of both the modern consumer and the technology sector that wishes to engage with them." Says Guy Douglas, Connected Places UK, principal consultant to the Digital High Street Advisory Board.

The Report also reinforces the importance of the digital economy to driving the economic and social vibrancy of High Streets, which stand to generate billions of pounds of additional revenue from digital interactions with the public. The Report suggests a framework to accelerate their capabilities through private, public and third-sector collaborations and leadership from local authorities. Helen Dickinson, Director General of the British Retail Consortium was upbeat when speaking about the report and its findings, "British high streets have weathered sweeping changes in society, economic cycles, property development and retail expansion, and the seismic impact of digital technology on communications, entertainment and commerce. Our communities have survived these changes to varying degrees but while what makes a successful high street has not fundamentally changed, the ability to achieve wider future success is now absolutely dependent on embracing the impact of digital and the recommendations of this report provide a strategy to do just that."

High Streets need to change to remain viable. 24/7 "always on" Internet 'window shopping' has changed shopping forever. The range of goods, pricing comparisons and home delivery can appear more attractive to consumers, while ease of parking and lack of congestion can make out of town retail parks appear attractive when compared to what could be the intrinsic benefits of many High Streets. New solutions in retailing, logistics and traffic management are required to enable towns and cities to regenerate their High Streets to cope, take advantage of technological changes and provide solutions that mix virtual and physical in new ways, offering genuinely new and attractive shopping experiences.

With 60% of adults using a mobile phone or tablet to access the internet on the go, digital transformation of high streets would generate significant social and economic value for our communities around the country. High streets are worth investing in with more than £150bn of retail sales influenced by digital, but retailers with services that fail to meet customers' expectations risk losing over £12bn sales a year. Only half of small

> *"The four recommendations in the report do not appear to introduce anything radically new and innovative, however when the four items are viewed together, they represent the first serious effort that has received government support to bring UK High Streets to a state of digital capacity…"*

businesses (SMEs) and charities have a website and just 33% of SMEs currently transact online, as 31% of all such organisations lack basic online skills. Recent estimates show that digital technology could unlock £18.8 billion of revenue for SMEs, while reducing their costs by up to 20% and increasing customer satisfaction and retention. The estimated annual social and economic value of digital inclusion for a new user going online is £1,064, rising to £3,568 for a more advanced individual or small business user. "Today, the vast majority of UK shoppers research online before they buy from a store. This means that every business is a digital business because every consumer is a digital consumer. We hope that this report will be a first step towards improving digital access and expertise among small businesses and help them grow faster and reach more customers," confirms Peter Fitzgerald, Director of Google UK.

/ Town centres need to significantly raise infrastructure and connectivity standards for 2020, by developing sufficient digital access through infrastructure beyond existing Government targets for 2017, including;
  a. universal fixed connectivity of not less than 24 Mbps, with 75% of the UK's residences and businesses having access to fixed broadband speeds of 100 Mbps,
  b. high speed mobile data coverage with 4G available, from multiple operators, to 98% of the population across both indoor and outdoor geographies, and
  c. clear public access WiFi standards, for consumer experiences to ensure non-disruptive handoffs as consumers move among venues and providers and to encourage broader deployment.

/ Basic Digital Skills program to be developed to eliminate the current gap in digital skills in our communities by 2020, to ensure that all digitally capable residents of our communities – individuals, SMEs and the voluntary, community and social enterprise sectors have basic digital skills. Go ON UK to coordinate the management, funding and implementation of digital skills priorities as a holistic program, with a range of public and private delivery partners.

/ The first High Street Digital Lab will provide the UK's 1,200 towns and their businesses with digital capabilities from a central not-for-profit organization. This will include the aggregation of generally available technologies, digital applications, tools, methods and training programs, in order to provide a platform for digital consumer services for each community across the UK on behalf of its local authority, high street businesses and charities. Services will be in the form of a separate marketplace, or portal, for each community, launched and operated by the Lab through a local team of digital apprentices, leveraging TheGreatBritishHighStreet.co.uk as an external consumer brand.

/ In a first for the UK, a Digital High Street Health Index will enable towns, national and local authorities to
  a. assess the competitiveness of a particular local high street community or high streets generally,
  b. understand the key measures of economic value creation from digital developments, and
  c. inspire local authorities, town teams and private enterprises to make positive change.

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"Lloyds Business Digital Index research has shown that 31% of organizations in the UK are lacking Basic Digital Skills. This means they could be missing out on a range of benefits, such as taking payments or donations online, or having access to a wider range of services and suppliers. Lowering this figure represents huge value both socially and economically for the UK. The proposed digital apprentices will proactively help these organizations to realize the value of being digitally skilled, and potentially help them generate more revenue from customers and donors,"

said Baroness Lane-Fox, Chair Go ON UK.

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"Over the next five years, we will continue to see digital technology redefining how consumers, businesses and public services interact. The Digital High Street Health Index will be a unique and critically essential part of enabling towns and villages to understand how they can put technology at the heart of their community, so that local customers and citizens can truly benefit,"

commented Ben Dowd, Business Director at O2.

"Crucially, they must work with retailers to ensure they understand how technology can complement – not replace – their physical presence, as those that fail to take an integrated approach risk being left behind."

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John Walden, Chief Executive of Home Retail Group and Chairman of The Digital High Street Advisory Board, said,

"The digital revolution is arguably the most disruptive factor affecting our communities, but its effects are not often considered central to high street revitalisation. Many members of UK town centres are struggling to keep up with consumers in terms of their digital capabilities, and given the pace of digital growth many towns lack sufficient infrastructure and basic digital skills. I believe that the business-oriented Board has provided recommendations that, taken together, can restore our High Streets to vibrancy in a digital future, into 2020 and beyond."
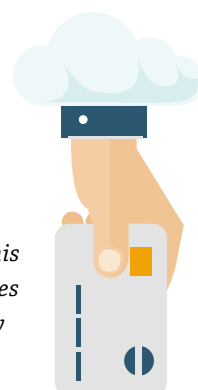
INTRODUCING THE
SMART TICKETING ALLIANCE

Text: Ralph Gambetta, Smart Ticketing Alliance

The Smart Ticketing Alliance has been founded by representatives of the Smart Ticketing organisations in Germany (VDV-KA KG), UK (ITSO), France (AFIMB) and the Calypso Networks Association, together with the UITP, following their February 2012 agreement to cooperate on the development of Smart Ticketing interoperability based on the principles of Interoperable Fare Management (IFM) set out in the EU-IFM Project funded by the European Commission and the developments in contactless bankcards and NFC-enabled devices, particularly mobile phones.

The Smart Ticketing Alliance Charter represents a coordinated approach for establishing Smart Ticketing interoperability in the Public Transport sector.

THE MAIN GOALS OF THE ALLIANCE ARE:

/ Cooperation between national and regional Smart Ticketing schemes to establish interoperable Smart Ticketing in Europe and elsewhere
/ Develop, agree and publish the functional and technical requirements for smart ticketing interoperability
/ Cooperation for the establishment of Trust Schemes, Specifications and Certification
/ Cooperation with other European and International bodies to promote interoperability in Smart Ticketing

THE SMART TICKETING ALLIANCE MEMBERS COOPERATE WITH THE PURPOSE OF:

/ Sharing experience and Best Practice
/ Cooperating in Working Groups, bringing in Alliance members' knowledge and expertise
/ Coordinating the Alliance members' submissions to the standardization process
/ Setting up Trust Schemes

THE ACTIVITIES OF THE ALLIANCE INCLUDE:

/ Coordination of contact between the Smart Ticketing Alliance and its Members
/ Establishing and supporting Working Groups for identified topics
/ Supporting standardization and certification processes including the establishment of a formal liaison role with CEN TC224 and TC278, and with ISO TC204
/ Developing and implementing agreed Trust Schemes for Smart Ticketing and its interfaces with other Industry Certification Schemes
/ Disseminating information on activities and development through an Alliance website
/ Representing Smart Ticketing Alliance with other European/global organisations such as GSMA, NFC Forum, SEPA, European Commission, UIC and IATA

Spurred on by endorsement from the former EU's Transport Commissioner, Siim Kallas, the Smart Ticketing Alliance has been busy setting up Working Groups looking at the contactless interface, NFC, certification and media security.

1 Public Transport, through the Smart Ticketing Alliance, is committed to using ISO/IEC 14443 (2005 version for ID1 smartcards and current version for other media) for interoperable schemes.

2 The Smart Ticketing Alliance wishes to set up a certification scheme(s) for Public Transport devices to ISO/IEC 14443 (readers and media) to show interoperability.

3 Public Transport is willing to consider other devices and certification schemes that are compliant with (1) above.

4 Public Transport recognises it specifies and certifies Public Transport devices to ISO/IEC 14443 (readers and media); it recognises NFC Forum specifies and certifies mobile devices for the consumer market.

5 Public Transport wishes to have compatibility with other devices (such as those using NFC Forum) but Public Transport is not willing to change its existing infrastructure of readers. This objective can be met if an NFC Forum device interoperates with a reader to CEN TS16794 Part 1.

6 Public Transport is willing to use NFC Forum devices as readers if they are compatible with media to CEN TS16794 Part 1.

7 An alliance has been initiated between the Smart Ticketing Alliance, the GSMA, the NFC Forum and CEN TC278 WG3 to bring about harmonization of our specifications with regard to NFC technology for the public transport industry.

8 We welcome wider public transport industry participation in this effort through the Smart Ticketing Alliance.
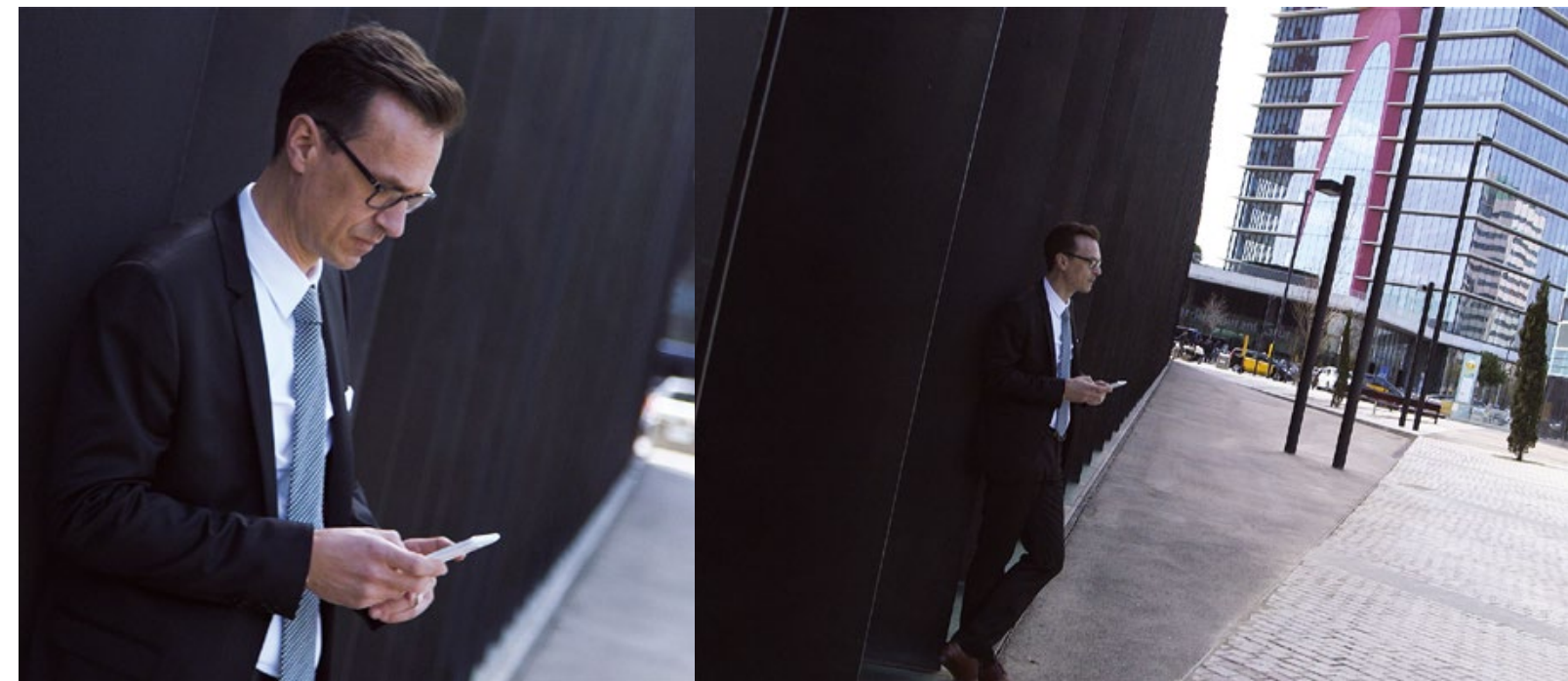
" WE HAVE TAKEN
A GIANT STEP
TOWARDS CHANGING
THE CONTACTLESS
INDUSTRY "

*An interview with Jörg Suchy,
Samsung Semiconductor Europe*

This year, at Mobile World Congress 2015, Samsung Semiconductor presented its jointly developed Open Contactless Application Platform to a chosen few industry representatives. The feedback was outstanding. ESP Magazine caught up with Jörg Suchy to find out what is behind the new platform.

Mr. Suchy, Samsung Semiconductor has been very active in the OSPT Alliance. What is the motivation behind this commitment?

At the risk of sounding like a tech evangelist, our motivation stems from a vision that we share with our partners. For us at Samsung Semiconductor, this vision encompasses a new way to use contactless technology. And yes, if you are following a vision to fundamentally change a technical infrastructure, it is a good idea to team up with like-minded companies. It accelerates change. The OSPT has played an important role. The CIPURSE ™ secure open standard, which is defined by the OSPT, is the foundation for developing highly secure, interoperable and flexible contactless and mobile solutions.

Has there been a tangible output from this cooperation within the OSPT?

Yes, there has. Together with our partners, Samsung Semiconductor has co-developed a concept for an Open Contactless Application Platform that supports both NFC and Contactless Card technology. All partners are committed OSPT alliance supporters.

Which companies were involved in the development of the Open Contactless Application Platform and what is the overall objective?

The key partners of Samsung are the EMoney Group, Deutsche Telekom, MS4B and ZeitControl. The primary goal of this cooperation is to give system integrators the chance to have reduced upfront cost and faster return on investment when implementing contactless applications.

What are the key characteristics of the new platform?

A multi-application form factor approach was imperative to achieve the overall objectives based on the interoperability, flexibility and security of the CIPURSE standard. The maximum flexibility and ease of use approach of the cooperation gives the customer the chance to activate contactless and NFC services wherever they are and whenever they would like to use a service. This simple and speedy approach will accelerate the contactless usage based on the CIPURSE standard.

Which applications and customers are you targeting?

Today, there are many end-users that don't have an NFC phone but still want to use services that are available, be it in their hometown or when they are travelling to other cities. For that reason, our partners' concept starts with contactless technology:

Assume you arrive in Barcelona at the airport and you are going to a service point where you can get a contactless card that supports local offerings, like public transport, loyalty, ATM, public restaurant offers and so on. Our solution starts with the point that you take the contactless card, go

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"Samsung Semiconductor has co-developed a concept for an Open Contactless Application Platform that supports both NFC and Contactless Card technology"

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to a terminal and activate the services you would like to use. To this end, you start to create an account by entering your name, credit card details if you want to use payment schemes and of course a secure access to your account by adding a password. You can then select local services such as cinema ticketing, parking, public transport, payment, loyalty and couponing. After the registration to the service, you can load the card with money, for example top it up with 50 €. A typical journey starts with parking. The cardholder can now drive in the parking garage and use the activated card. That same card can still be used to access all the services I previously selected, such as contactless payment for cinema tickets, shopping and/or to make use of a loyalty offer from a local retail partner.

How does the concept of the Open Contactless Application Platform differentiate from other approaches out there?

The concept of our partners is so flexible that all the services I just mentioned can be done on other form factors as well. Take the mobile phone, for example; here the same service implementation can be done like on the contactless card. The process is identical to the one with the contactless card. Registration is done at the service point, top up and usage is the same, simply by tapping the phone to the reader. This works smoothly because both the contactless card and the phone, use the same implementation based on CIPURSE™ technology.

The concept also allows users to use TSM over the Internet to personalize the services or to top up payment schemes. It is that simple. You access the site of the TSM provider, log in, upload new services or top up services simply by requesting. Later, the user can decide whether to store the services on the SIM card or to load them onto a different form factor, such as a wearable. At Samsung Semiconductor, we believe this is vital nowadays, as users have more and different form factors they like to use to access contactless services. So now, it is possible to load new services via a TSM service to a phone or smart watch using the NFC interface.

So how close are you to making your vision of a new contactless world a reality?

With the development of our new platform, Samsung Semiconductor and its partners have definitely taken a giant step forward. This can really change our industry. Our target was to be form factor independent for all the opportunities in the market – NFC, contactless, wearables. The second point was to reduce the upfront investment and increase the ROI. Make an application user-centric – so the user can decide which service he wants to use. With this platform, we have achieved our objectives and we are very excited at the prospect of really accelerating the use of NFC and contactless in many different scenarios.

" *"We at Emoney are very happy to be part of the OPST Alliance because we believe that open standards are the future of the way the mobile world will work. Therefore we were very happy to participate in the project, which shows how these things can work in practice for the consumer. Which means unlocking new experiences for the consumers such as purchasing cinema tickets, paying parking fees and so on with a card, mobile or wearables. We believe that OSPT and CIPURSE™ is one of the things that will be shaping the mobile world of the future, and we are very happy to be a part of it!"*

Petr Stránsky, CEO Emoney Group

If Only Everything Could Work In Such Perfect Harmony

On a mobile, perhaps it can.

The truly open, **CIPURSE™** based, **Open Contactless Application Platform** enables mobile contactless card and NFC use cases within one unified ecosystem. Working without complex wallet applications it can significantly reduce time-to-market of new contactless service offers. Developed by a partnership of Samsung Semiconductor, Deutsche Telekom, EMoney Group, MS4B and ZeitControl, The **Open Contactless Application Platform** supports different form factors – from cards to wearables – and offers interoperability, security and flexibility.

The new **Open Contactless Application Platform** – enabling multi-applications to exist and thrive together on a single mobile platform. In perfect harmony, one might say.

Members of

ospt ™
ALLIANCE

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