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South Korea is well-known as an early adopter of leading-edge telecoms tech, driven by forward-thinking government policies and strong consumer demand for innovation. In fact, according to the GSMA, at the end of 2013, it was the most advanced Long Term Evolution (LTE) market in the world.

Its Mobile Network Operators (MNOs) and Mobile Virtual Network Operators (MVNOs) have been using Gemalto technology to power a range of applications since the telecoms tech market took off a number of years ago. Before the advent of NFC, Gemalto was already the go-to firm for MNOs that wanted the equivalent of today’s contactless NFC SIM cards for transport solutions. These RFID-based combi-cards were customized to meet specific country standards, unlike NFC, which conforms to international standards.

Keen to maintain their reputation as innovators, South Korea’s MNOs decided to switch from combi-cards to NFC so they could be involved in a massive deployment of the technology that could open up more opportunities, both domestically and overseas. Firms such as SK Telecom, KT Corp and LGU+, plus the country’s MVNOs, wanted to build on their long-established relationship with Gemalto – the only provider for 3 MNOs in the local market – when they moved to SIM-based NFC for transportation, with the company first starting to deliver the solutions in early 2011.

US$124 million of transportation transactions were made using mobile NFC prepaid cards in South Korea in 2012 compared with US$16 million spent on retail and US$7 million on online transactions, according to a 2013 report from Celent. This means that transportation has driven the success of mobile NFC in the country.

Why NFC?
Although the MNOs had already given their customers a handy way of carrying out transactions via their cell handsets, they wanted to deliver even more. They wanted to provide them with a convenient, globally recognised technology that could be easily used for a number of applications, such as transit fares, payment and couponing, all on one simple device.

The MNOs also wanted to introduce NFC to generate greater revenue through new-use cases.

South Korea knew that even greater success was guaranteed once Cashbee cards in Busan and T-money technology in Seoul were able to speak to each other for a nationwide interoperability. This accomplishment has now been achieved thanks to a project initiated in 2008 by the Ministry of Land, Infrastructure and Transport (MOLIT) through the Korean Communication Commission (KCC). Since June 2014, this has enabled the use of a single prepaid card nationwide. This project is continuing to expand to include railways, motorways and other means of transport.
Successful deployment meant working with a host of stakeholders. The South Korean government played a part through the KCC. As well as the MNOs and MVNOs, several organizations and a number of major companies, including Samsung, were involved, so cooperation and coordination were at a premium.

In addition, most of the partnerships that South Korea’s MNOs have forged overseas are with foreign MNOs that have also purchased Gemalto’s SIM-based NFC with transportation solutions. They include China Mobile, which is in the Asia NFC Zone with KT Corp, and China Telecom and the Taiwanese Chunghwa Telecom, which belongs to the Asia NFC Alliance with SK Telecom.

Gemalto's approach
Gemalto delivers consulting services and production capacity as well as a solution that has already been tried and tested in the prepaid market. Its technology enables a smartphone to be used as a travel pass, to allow payment, and to provide access control at various locations – and with various organizations – throughout the country. The Gemalto solution has a large memory, which means it can offer more services, while ensuring greater security and better performance for mobile ticketing compared to QR codes, SMS ticketing, visually validated mobile tickets and Bluetooth technology (BLE and Beacons).

The solution uses high-end USIM technology that supports LTE and NFC features. It includes a personalized T-money application that is preloaded for transit, prepaid and automatic top-up.

Gemalto partnered with LG CNS and Coregate to deliver the technology for this project. The two local firms developed the T-money applet that was loaded into the Gemalto NFC USIM and managed the T-money certification.

Since deployment began in early 2011, Gemalto has delivered several millions of LTE+ NFC SIMs annually to South Korea.

Benefits
Since rolling out the technology, the new added-value services it supports have enabled South Korea’s MNOs and MVNOs to reduce churn and provide economic benefits for the country as a whole. The KCC estimates that NFC will generate around US$1.2 billion for the South Korean economy each year. This is likely to rise as the use of the technology expands globally and the country starts to export its NFC expertise. The technology also provides employment opportunities. For example, the KCC estimates that by 2016 around 5,700 jobs will be created in South Korea to support NFC.

It also has the potential to support new services that act as a bridge between the Asian and European markets. This will enable domestic companies to forge partnerships with European MNOs and service providers, and make it easier to coordinate services and support NFC roaming. For example, Orange and KT Corp have already teamed up to create the Welcome to Paris mobile app (available on iOS and Android platforms) in order to offer KT Corp customers a unique, convenient and seamless experience in France’s capital city that’s fully digital. Orange has also collaborated several times with Gemalto to deploy transport NFC.

Customers can now enjoy the ease and convenience of using NFC for transport applications. In particular, queues at ticket barriers and buses have been slashed because travelers simply need to tap their phone against the validator to pay and validate at the same time. They’ve also benefitted from being able to recharge the card directly on their phone anytime, anywhere. According to estimates, T-money mobile NFC service now surpasses 20% adoption rate among Korean commuters. They’ll also be able to access a host of NFC-based services when roaming abroad.

A global hitter that can be trusted
South Korea opted for Gemalto because of its strong production capacity and wide range of end-to-end products and solutions, which are innovative and continually updated. It knew it could trust the technology of a global market leader offering field-proven products that are reliable, safe and secure, and with an extensive list of satisfied customers worldwide. The existing, long-standing relationship between Gemalto and South Korean MNOs, was also important because the country knew that it could rely on the company to act as the only European bridge for Trusted Service Manager (TSM) and Trusted Services Hub (TSH) solutions.