

**SPECIAL
CARTES & IDENTIFICATION****ePassport and eID: CETECOM with more than 5 years experience in testing**

Since 2006, CETECOM plays an active part in testing ePassports, ePassport reader devices, and eID solutions. One of CETECOM's services is conformity testing according to BSI TR-03105 as well as to ICAO and ISO standards – with CETECOM being the only laboratory recognized by the German BSI (Federal Office for Information Security) for Layer 1-4 (card side) resp. Layer 2-4 (reader side) certification testing.

With the of the introduction of the new German eID card (called "nPA") last year, CETECOM extended its portfolio of testing to additionally cover the BSI TR-03119 reader specification. This document contains basic requirements as well as test scenario definitions for end-customer reader devices. Those devices are divided into three classes: Cat-B, Cat-S, Cat-K (Basic, Standard, Comfort). Due to the large number of newly issued nPA cards in Germany (8.5 million documents since November 2010, for an estimated number of 10 million cards at the end of 2011), the development of such devices allows the entrance into a quickly propagating market. CETECOM is able to support its customers during this process by providing not only (final) conformance testing but also with in-development testing and consultancy (in order to ensure that the reader device matches the requirements defined by the German BSI).

The German nPA project is a typical example for the difference in-between ePassport and eID: While ePassports – independent from the issuing country – have to be constructed to exactly match a well-defined standard (ICAO Document 9303) eID specifications are not standardized but individually defined by each issuing country. CETECOM has successfully accompanied several eID projects during the past years and thus we are experienced in providing both testing and consulting services in this area (in case that the eID specification in use is "similar" to ePassport even a certification acc. to BSI TR-03105 is possible).

In addition to compliance testing (which has to be performed according to some exactly defined specification), CETECOM is also able to offer individual test solutions – tailored to optimally match customers' requirements. Based on the different versions of the available ISO/IEC 10373-6 standards (both the 2001 and 2011 versions as well as the "ePassport" amendment no. 7 are supported), we can create test plans covering exactly those scenarios which are of special interest for our customers. CETECOM also offers multiple supplementary and consulting services (as, e.g., training sessions) with one overall goal: enabling CETECOM customers an easy and successful market entry in time.

CETECOM - opening markets**Always the right contact person for your request**

With some new colleagues on board we're starting into a new quality offensive to improve CETECOMs services for our customers.

- **Bernhard Mommenthal**
Sales Manager Smart Card Technology
- **Dr. Jean Creignou**
Expert EMVCo, ICC Cards, NFC Device Testing
- **Romain Gordon**
Testing Manager Sesame Vitalé, EMVCo Contact Terminal L2, MasterCard Paypass Terminal L2

- **Steven Becker**
Expert EMVCo Contactless Terminal L1+2,
MasterCard PayPass Terminal L2

And the whole rest of the Smart Card Technology Team:

- Jens Feldmann
- Peter Hupperich
- Dominic LaVecchia
- Kerstin Philippi
- Thomas Velhagen
- Oliver Altmeyer
- Joachim Wolf

CETECOM**consulting
testing
certification****Identification**

Qualification testing

ePassports

ePassport readers

BSI

ICAO

opening markets >>>

www.cetecom.com**ePassport and eID testing standards in an overview:**

- BSI TR-03105 Parts 2+4
- ICAO RF test standard parts 2+4
- ISO/IEC 10373-6:2001 Amd.7:2010
- ISO/IEC 10373-6:2011
- ISO/IEC 10373-6:2001
- BSI TR-03119

**More information on eID issues:
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**SPECIAL
CARTES & IDENTIFICATION****Mobile payment and NFC technology:
CETECOM in pole position**

Near Field Communication (NFC) will become the key technology for contactless payment services. Recent analysis and reports comparing different mobile payment technologies clearly show that NFC is the preferred solution for contactless mobile payment services with a longterm perspective. From the very beginning of the NFC market development, CETECOM has recognized the potential of NFC technology and solutions and invested very early in testing and certification process competence.

What is NFC? Technically spoken, NFC is a well established form of radio frequency identification (RFID) with NFC chips to be embedded in devices and offering a variety of active or passive solutions for mobile services (payment, sharing, reading content, ticketing). NFC is a proximity coupling technology extending the existing Smart Card contactless standards. NFC mobile service is primarily focussing mobile (smart) phones as device for transactions.

With an NFC-based mobile payment system and its applications inside, one could use a smart or mobile phone (or whatever NFC-enabled and accepted device) by holding it near to a compatible NFC reader/writer device for a payment transaction to be completed. NFC chips therefore include a so called "card emulation mode" for payment services. In 2011, more and more handsets and devices will be equipped with a NFC-chip which is a very good sign for future market acceptance of NFC-technology.

CETECOM with its testing and certification services is in the center of the NFC-ecosystem. As an associate member of the NFC Forum, CETECOM is actively participating in several working groups (Compliance Program WG, Test Mode Taskforce, Testing WG, RF Testing Taskforce) and offers different NFC-services to customers:

- **Prequalification in the CETECOM lab acc. to the "NFC Forum analog specification" with validated equipment**
- **Qualification tests of NFC devices based on existing ISO standards ISO 14443 and ISO 10373**
- **CETECOM is "NFC Forum Certification Test Lab" and offers NFC Certification Tests (1st certification wave).**



**More information on NFC issues:
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The future of NFC-based mobile payment

The convergence of smart card technology and NFC-based mobile services will continue rapidly in the next two years. We will see in 2012 the NFC Forum 2nd wave of certification for NFC-devices as well as a lot of NFC-payment scenarios and testing around the world. The ecosystem players like NFC-chipset manufacturers, NFC-handset, component or tag manufacturers, mobile network operators and service providers will find their market. And last but not least, a key factor for building a NFC-based mobile payment market will be user acceptance. Users are looking for a valuable and secure technology, smart and easy to use for everyday purchase. They can have it! with devices tested and certified by an accredited services laboratory like CETECOM.

- **N-Mark for Devices**
The N-Mark on a device shows that the device has passed certification testing. Once a device is certified, the N-Mark can be used as the touchpoint for NFC interactions on the device.
- **Certification Mark**
Devices passing certification testing will also receive the NFC Forum Certification Mark as proof of compliance. After the product is certified, the Certification Mark can be used on product packaging, websites, sales materials and manuals to add credibility to the product.

**MASTERCARD PayPass - Contactless Payment testing**

A first but major step for the NFC digital payment breakthrough has been the market launch of MASTERCARD PayPass@solution for contactless payment in 2008. MASTERCARD PayPass@solution developed very well and is a good example for the acceptance of NFC-based payment solution. CETECOM started MasterCard PayPass Test and Approval Services for terminals already in 2009. Services for respective cards followed in 2011.

CETECOM offers consulting, testing and certification services for MasterCard PayPass Card Testing V1.1 with analog test bench, Protocol and Application: EMAP, Performance and Combination tests setup and Integration Test Bench.

CETECOM has achieved the following accreditations (to be continued in 2011/2012) for contactless terminal/card:

- **EMVCo Accreditation for C'less Terminal L1 Type Approval Test in 2009**
- **MasterCard Accreditation for PayPass Terminal L2 Approval Test in 2009**
- **Accreditation for MasterCard PayPass Card achieved in Q2/2011**