Contactless Payment
Latest Trends

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CONTACTLESS PAYMENT LATEST TRENDS

Figures
EMV contactless is now in mass deployment in all parts of the world

40% Of all cards shipped in 2014 were Dual Interface

3m Contactless-enabled Point of Sales

700m Contactless purchases in Europe from Sept ‘13- Sept ’14 (Visa)

600m NFC handsets forecasted to be shipped in 2015*

Breakdown

+900m

+350mu issued in China
240mu issued in the rest of the world

Number of Dual Interface Cards Shipped between 2011 and 2014

2011 2012 2013 2014F
ONE BILLION

contactless cards were in circulation by the end of 2013.
900M contactless cards were issued in 2014 alone.
Deployments Worldwide

North and South America
- USA*
- Canada
- Mexico
- Brazil
- Chile
- Colombia

Europe
- UK
- Poland
- Russia
- France
- Germany
- Portugal
- Turkey
- Italy
- Switzerland
- Lithuania
- Spain
- Romania
- Hungary
- Greece
- Ukraine
- Slovakia
- Czech Rep

Middle East and Africa
- South Africa
- Tunisia
- Egypt
- UAE

Asia
- Taiwan
- Korea
- Singapore
- Indonesia
- Australia
- New Zealand
- Japan
- Malaysia
- China
- Hong Kong
- Thailand
CONTACTLESS PAYMENT LATEST TRENDS

Going beyond Low Value Payments – developing High Value Payments
Transformation…

Contactless is generally associated with Low Value Payments

- Transport
- Vending Machines
- Cinema
- Fast Food
- Parking

But now, is taking a leap towards High Value Payments

- Supermarket
- Retail
- Restaurant
- Much More…
Introducing: Online PIN for High Value Payments

For high-value transactions, additional security helps reduce fraud risk, with still a smooth experience in both card & mobile

Tap + PIN entry (online transaction)

Seamless Experience For Users In Both Situations
Contactless Everyday for Everything

100 AUSD (no pin)  +100AUSD (Online PIN)

+400K  Contactless POS
30M    Contactless Cards
58M    of transactions on June 2014 (Visa Paywave)
$31,38  Avrg. Transaction
+50%   of transactions under 100AUSD are contactless
coles of transactions
+70%    are contactless
CONTACTLESS PAYMENT LATEST TRENDS

Mandates
Regulations (Europe)

- **2015**: Any terminal installation with a NEW merchant must accept contactless payments.
- **2016**: Any terminal infrastructure upgrade with an existing merchant must accept contactless payments.
- **2017**: All POS terminals in Europe must support contactless functionality as a standard offer.
- **2019**: All terminals deployed must accept contactless payments (31/12/2019).
- **2020**: All POS terminals in Europe must include contactless functionality as a standard offer.*

*unless a different date has been announced at country level.
Mandate Mastercard Europe

Document

- “Europe Region Operations Bulletin No. 1: “MchipAdvance to become the standard for **Dual Interface** card Issuance in Europe”
- Emitted 2 January 2015
- Apply to Issuers for Europe – except UK
  - For UK a separate Mandate has been issued

Effective Dates for Issuance

- **1 January 2016 (UK: 1st July 2015)** — all new dual interface card issuance programs for the European region must be implemented using an M/Chip Advance product.
- **1 January 2018 (UK: 1st Jan 2017)** — all issuers in the Europe region that have already begun issuing dual interface cards using a previous version of M/Chip (such as PayPass M/Chip 4) must migrate to a product that supports M/Chip Advance.
CONTACTLESS PAYMENT TRENDS

Wearables
A Look Into New Opportunities

Growing Opportunities

- Serve Cashless environments
- Events/Sports/Music
- Promote Contactless
- Day-To-Day Payment

WEARABLE

Services/Benefits

- Access
- Transport
- Social Media
- Payment Everywhere
bPay - Barclays

10K Users – As initial promotional rollout (Summer 2014)
Available to everyone in the UK
Prepaid card that can be credited up to 200£

Used for entry and buy food and drink inside festivals and everywhere around the city
Pulsera Contactless - La Caixa

Launched on Summer 2014

Debit card

15K Wristbands distributed to customers who have made the most use of their contactless cards
PURE: White – Label EMV Contactless solution
PURE is at the crossroads of open and private payment

**International EMV Payment application**
- **EMV generic products**
  - VIS / VSDC
  - M/Chip
  - ExpressPay

**Domestic EMV Payment application**
- **EMV specific products for domestic features**
  - CB
  - Seccos

**White-Label EMV application**
- **Products based on EMVCo™ specifications**
  - CPA
  - PURE

**Non-EMV proprietary products**
- MPCOS

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**Leveraging on EMV payment network and available infrastructure**

- Open-Loop

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**100% private payment network**

- Open-Loop or Private network
PURE : the concept

- PURE is an independent payment application that complies with EMV™ standards.
  - “Copyright free”: No need of business agreement with banking schemes
  - EMV is the international standard for security and interoperability for chip-based payments cards

- PURE is designed for any private payment network willing to use the benefits of EMV standards for their own payment solution
  - Issue quickly and efficiently chip-based secure payment cards
  - Cost effective solution that leverages on existing infrastructure
### PURE product features

<table>
<thead>
<tr>
<th>Pure in contact</th>
<th>Pure in contactless</th>
</tr>
</thead>
<tbody>
<tr>
<td>✰ EMV Co. certified chip (EAL4+)</td>
<td>✰ Uses <em>same set of command</em> as standard EMV contact transaction flow.</td>
</tr>
<tr>
<td>✰ Supports all generic EMV commands</td>
<td>✰ Implement standard <em>EMV contactless communication protocol</em></td>
</tr>
<tr>
<td>✰ Supports all Data Authentication:</td>
<td>✰ <strong>Fast transaction:</strong></td>
</tr>
<tr>
<td>=&gt;SDA, DDA, CDA, no data authentication</td>
<td>=&gt;Contactless transaction &lt; 500ms (card processing time &lt; 400ms)</td>
</tr>
<tr>
<td>✰ Support all Cardholder Verification Methods:</td>
<td>✰ Advanced <strong>risk management and offline capability:</strong></td>
</tr>
<tr>
<td>=&gt;Online PIN, offline plain text or ciphered PIN, signature, no CVM</td>
<td>=&gt;Separate counters for contactless risk management (incl. CVM limit)</td>
</tr>
<tr>
<td>✰ Large secure data-storage capacity to support a range of functions: credit/debit, prepaid, gift cards, fuel cards, loyalty cards.</td>
<td>✰ Support a <strong>large range of functions:</strong></td>
</tr>
<tr>
<td>✰ <strong>Advanced offline risk management</strong></td>
<td>credit/debit, prepaid, gift cards, fuel cards, loyalty cards.</td>
</tr>
<tr>
<td>=&gt; limits set according to the transaction environment (CVM, amount, time/area restrictions etc.)</td>
<td></td>
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A scalable product portfolio

- PURE is a flexible application that benefits from a clear and well-defined roadmap for an **easy adaptation** to the needs of private networks.

Support **online and offline transaction** that can be performed in an EMV compliant environment.

Support **contactless transactions** in an EMV™ framework.

The next steps...

Mobile NFC
With contactless on new form factors: contactless stickers, secure elements (iCarte, SIM and micro-SD)

December 2011

TODAY

Tomorrow
Steps for implementing PURE

1. Definition of the business model
   - Main actors, ecosystem, acquisition network.
   - Key management rules
   - Operating mode (offline, online or partially offline).

2. Payment Scheme Certification Authority’s definition.
   - Gemalto can provide services of Payment Scheme Certification Authority’s requirements.

3. Gemalto delivers the PURE specifications and PURE card platform.

4. Application identification number needs to be deployed in the EMV™ compatible terminals.
   - Back-end servers needs to be upgraded, if not EMV™ compliant
     - Acquiring host needs to EMV™ compliant
     - Authorization host needs to be CCD (Common Core Definitions) compliant
     - Risk management rules need to be updated in the authorization host.

5. Profile definition and scripting services

6. Gemalto can deliver card manufacturing and card personalization services
CONTACTLESS PAYMENT TRENDS

Gemalto approach in NFC – Trusted Service HUB
Gemalto Unveils the Most Comprehensive Hub Service to Accelerate the Roll-out of Mobile Payment and other Secure Services on Mobile

Amsterdam, September 8, 2014—Gemalto (Euronext NL0000400653 GTO), the world leader in digital security, today introduces its **Allynis Trusted Services Hub**, a turnkey business service that enables financial institutions, enterprises, transport operators and more generally all digital service providers to benefit from a single connection in order to securely deploy their value-added and mobile payment services across a comprehensive portfolio of smartphones and mobile networks around the world.

Through Gemalto’s **Allynis Trusted Services Hub** customers get a one-stop and immediate access to the largest user base using NFC smartphones already equipped with Secure Elements. Over 1.5 billion mobile users worldwide are covered by Gemalto-contracted Trusted Services Management (TSM) platforms, with over a hundred million high-end “multi-tenant” SIM cards already in place to protect and manage sensitive application credentials.

Ready today to handle a large number of future configurations, including Embedded Secure Elements (eSE) which are becoming available in some handsets and Trusted Execution Environment (TEE) that will be running inside next-generation mobile devices, as well as the emerging tokenization standards, the **Allynis Trusted Services Hub** provides a simple way to deploy their services, and mobile operators and handset makers are investing in more security capabilities. Gemalto is carefully matching these needs and capabilities, addressing service providers’ desire to...

Gemalto Trusted Services Hub

"Plug in once and deploy everywhere"
SP TSM Hub Characteristics

- **Agnostic & Future-proof**
  - Supports all available security frameworks: UICC, eSE, TEE, uSD, HCE
  - Solution compatible with tokenization standards

- **Simple & Seamless**
  - Single point of engagement for both commercial offer & technical integration
  - Simplified integration with MNOs & SEIs for faster deployment

- **Connected & Scalable**
  - Already connected to MNOs & SEIs worldwide, giving access to a broad subscriber base
Gemalto TSH – Complete Offer for Banks

TRUSTED SERVICE HUB

BANK 1
BANK 2
BANK 3
BANK 4
BANK 5

Tokenization Service Provider

Cloud Provisioning Service

SP TSM Hub

MNO TSM Hub

MNO
OEM
TEE PROVIDER

HCE