



shaping the future
of payment technology



An Overview of Contactless Payment Benefits and Worldwide Deployments

Food for thought for US issuers: migrate directly from
“swipe” to “tap”

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1. Executive Summary

There is no question that contactless payment is becoming the new norm pretty much everywhere, with consumers eagerly embracing the speed and convenience of “tap-to-pay” technology. Data show that the current surge in contactless payment adoption will further accelerate in 2016 - and with good reasons.

Contactless payment offers consumers a fast, secure and convenient way to pay, providing merchants with significant opportunities to reduce queuing and improve the in-store payment experience, while offering brands a host of new loyalty opportunities. It also enables a significant reduction in the use of cash, as seen in several early adopting countries. Additionally, contactless payment paves the way to multi-application, as the same device (card, mobile handset or wearable) can also be used for transit or access control.

In this paper we explore the growing value of contactless payment markets across the globe, taking a look at the latest data on international adoption and usage figures.

We also examine the benefits of contactless payment for consumers, merchants and issuers, and review the use cases and form factors that make it possible for merchants, brands and financial services providers to target new cardholder segments, or boost customer acquisition and retention.

Finally, with EMV adoption powering ahead in the US, we explore how US issuers are in a unique position to make the jump directly from ‘swipe’ to ‘tap’ to everyone’s benefit: customers, merchants and them as well.

And, with US consumers embracing mobile payment options like Apple Pay, issuers will be in an ideal position to capture this growing appetite for convenient contactless payment by leveraging their EMV infrastructures to enable a new generation of enticing payment opportunities for users.

2. What’s driving mass market uptake of contactless payment?

There are a number of factors influencing the growth of contactless payment. First and foremost is the sustained growth of smart payment cards that are being shipped with on-board contactless technologies; in some territories, like North Asia, tap-and-go functionality is now present on [82% of cards shipped by the SPA](#).

Similarly, the number of contactless-enabled terminals is increasing. POS schemes mandating the activation of contactless functionality for cards and other devices are proliferating around the world – and paving the way for the next-generation of digital and mobile payments.

But just as relevant is the value and convenience that contactless enables for consumers, merchants and issuers alike.

2.1. Benefits for consumers

- ▶ Fast, easy and secure payment for low value purchases – eradicating the need to carry cash, count change, or stress about having enough cash to make a purchase
- ▶ No requirement to sign, or enter a PIN – ideal for time-pressed consumers
- ▶ ‘Tap and go’ convenience for public transport, tolls, parking facilities, gas stations and pharmacies
- ▶ No need to queue when making everyday purchases – quick service food and drink outlets, entry tickets to entertainment venues, convenience store purchases
- ▶ Can use mobile wallet on a mobile device to make transactions

2.2. Benefits for merchants

- ▶ Faster transaction times move customers more quickly through the payment process – generating potential for increased sales volumes in busy
- ▶ Transforms the checkout experience for customers
- ▶ Reduced cash handling
- ▶ Streamlined payment processes reduce operating costs and improve operational efficiency
- ▶ Increased customer spending, increased frequency of purchases, increased loyalty – adds up to increased revenue – tappers spend more than those that pay with cash; those who tap with cards are more likely to tap with a smartphone
- ▶ No obligation to provide a receipt for transactions with no CVM (Cardholder Verification Method)

2.3. Benefits for issuers

- ▶ High levels of consumer satisfaction
- ▶ Low value transactions below the Cardholder Verification Limit do not require to sign or enter a PIN
- ▶ Capture transactions typically made using cash
- ▶ Competitive differentiation with innovative new form factors that enhance consumer loyalty and retention – leading to higher spend on the contactless card
- ▶ Branding and co-branding opportunities with payment partners – wearables, fobs, and standard cards are all highly visible; contactless EMV brings your card ‘top of wallet’, leading to higher spend on that card
- ▶ Leverage the existing payments infrastructure – relative ease of implementation

2.4. Contactless technology is secure

Whenever contactless card payment is launched in a new country, questions inevitably arise in relation to the security of this technology – with stories in the press about “contactless pickpocketing” cases.

Yet, time and again, contactless payment technology performs impressively when it comes to fraud. According to figures from the [UK Cards Association](#)¹, fraud losses on contactless cards in the UK remain consistently low, representing just 0.02% of all card fraud during January to June 2015.

Similarly, according to [Visa](#)², tap-and-go card fraud in Australia is half the rate of conventional (non-contactless) card fraud, despite the fact that 45% of all face-to-face card transactions in the country are now contactless.

The SPA’s paper, [‘Contactless Payment: Investigating the myths and realities of contactless payment fraud’](#) examines the security angle in detail. The paper highlights how, while some organizations have shown it is theoretically possible to access contactless card data in research lab conditions – doing the same in the real world is rather more challenging. Furthermore, should fraudsters be able to retrieve card data using ‘digital pickpocketing’, this in itself would not be sufficient to perform a face-to-face or card not present transaction.

2.5. Contactless technology innovations

From new form factors such as phones and watches, to new acceptance locations – like vending machines – contactless payment technology is fueling innovation in the payments industry. Issuers and payment brands have introduced a variety of form factors including fobs, mini cards, stickers, mobile phones and wearables (jewellery, wristwatches and wristbands) – all enabled with contactless payment.

As a result, consumers now view contactless as an established payment method for low value general retail transactions, ticketing and transport, and toll or parking transactions.

And contactless is happening on the mobile in a big way. Already available in the US, Canada and Australia, Apple Pay – Apple’s mobile payment and digital wallet service – will soon launch in China, Hong Kong, Singapore and Spain. Apple is not alone. Google, Samsung and others are looking at extending contactless mobile payment to their users. Indeed, Samsung is taking things further with plans to extend service beyond payment to transit passes, coupons and membership cards – an approach also possible on today’s multi-application contactless payment cards.

Similarly, alongside health applications, the contactless payment potential in the emerging wearables sector is being explored. In February 2016, for example, MasterCard and WISeKey announced a partnership to enable contactless payments on select luxury brand watches and wearables, enabling consumers to securely shop with their favorite watch or wearable. Barclaycard’s bPay wristband has also proved popular at music festivals and other major public events.

¹ http://www.chequeandcredit.co.uk/files/candc/c&ccc/press_releases/2015/2015_h1_fraud_figures_release_-_final.pdf

² <http://www.smh.com.au/it-pro/security-it/tapandgo-card-fraud-in-australia-low-financial-institutions-20140603-zrvzt.html>

3. Contactless payment: the state of the global market

The last 12 months proved another positive year for the EMV smart payment card standard. [Data collated by the SPA](#) reveals more than 2.6 billion total EMV cards were shipped in 2015, and demand for 'tap and go' contactless payment across the world continued to grow. SPA analysis of smart payment card shipments reveals that contactless technology represented 48% of total smart card shipments globally in 2015 (excluding the US).

Let's take a look at some growth statistics by country/region.

3.1. Europe

[SPA data](#) reveals that 53% of all cards shipped in Europe in 2015 were contactless. Meanwhile, the latest data from [Visa Europe](#)³ shows that across Europe, there are now more than 130 million contactless cards accepted at more than 3 million contactless terminals. More than €16.1 billion was spent on contactless Visa cards in the 12 months to June 2015 – a 335% increase on the previous year – this equated to more than 1.4 billion transactions in a year.

On its side, [MasterCard](#)⁴ announced recently that contactless transactions in Europe passed the one billion milestone in 2015 – an increase of 150% on the previous year – with total spend on contactless transactions up 183%. There are now 10 countries with over 5 million contactless cards or devices in circulation, and contactless cards or devices can now be used at over 4 million merchant locations worldwide. Acceptance will be further stimulated by the mandate applicable from 1 January 2016 that all newly deployed and upgraded POS terminals in Europe be contactless enabled. By 2020, all POS terminals must be contactless enabled.

There's already a particular "appetite" to pay contactless in Eastern Europe. In **Czech Republic**, 77% of in-store transactions processed by MasterCard were contactless in 2015. In **Poland**, the figure was 55%, 40% in **Hungary** and 38% in **Slovakia**.

Poland and **Spain** can be seen as particular leaders in the mobile payment space, recording several HCE projects and the first Samsung Pay implementations in Europe. This can certainly be explained by the fact that in both countries more than 70% of POS terminals are already contactless-enabled.

The **UK** is one of the most contactless-ready countries in the world. According to the [UK Card Association figures](#)⁵, in 2015 UK shoppers using 81.5 million contactless-enabled cards made more than 1bn contactless purchases on credit and debit cards, and used the technology for almost one in eight of all card transactions in December, leading to spending up by 233% over the year, to £7.75bn. The average value of contactless payment was up too: from £6.60 in January 2015 to £8.15 in January 2016.

³ <https://www.visaeurope.com/newsroom/news/1-billion-visa-contactless-purchases-made-in-last-year>

⁴ <https://www.finextra.com/newsarticle/28488/mastercard-contactless-transactions-in-europe-pass-one-billion-milestone-in-2015>

⁵ http://www.theukcardsassociation.org.uk/contactless_contactless_statistics/

Those impressive figures were facilitated by a growing awareness of the technology by consumers, by the [decision](#)⁶ in September 2015 to increase the upper limit for contactless transactions from £20 to £30 for more convenience and due to very low fraud levels with the technology, and by huge efforts from acquirers to deploy acceptance included in London transports. According to [Tfl](#)⁷, a quarter of pay as you go customers use contactless payment already because it is so quick and easy and there have been more than 250 million journeys made using cards from over 80 countries. The UK is also a territory of choice for contactless payment with mobile phones and wearables. The country was the first in Europe to see Apple Pay launched, while issuers (including Barclaycard) were quick to propose contactless payments stickers, keyrings and wristbands as convenient “companions” to the card.

Merchants’ acceptance plays a key role in the development of contactless. In Europe Schemes have mandated that from 1st January 2016, newly deployed and upgraded POS terminals must be contactless-enabled as a standard acceptance method, contactless functionality must be activated, POS Terminals must accept Cards and Access Devices, EMV-based chip technology and contactless magnetic stripe technology (Starting 1st Jan 2017 for Sweden, Lithuania, Estonia, and Latvia). From 1st January 2020, all existing POS terminals must be contactless-enabled.

3.2. Canada

In Canada, where the government’s commitment to a cashless society is gaining traction, almost all payment cards are contactless-enabled. This is also the case for 75% of major retailers now accepting contactless payments. Visa says contactless transactions represented 12.1 % of all store purchases made by cardholders in June 2014. That number was approaching nearly a quarter of purchases on Visa cards in June 2015. At MasterCard, which has been quicker to roll out tap-enabled cards, 27% of in-store purchases were contactless as of September 2015.

Since 17 October 2014, Schemes have mandated that newly deployed and upgraded POS terminals must be contactless-enabled as a standard acceptance method.

3.3. Asia Pacific

Historically, Asia Pacific has been a powerhouse for contactless payment. Indeed, the [SPA’s figures](#) confirm that 70% of all smart payment cards shipped in 2015 in the Asia Pacific Region featured contactless technology.

Contactless POS terminals have been mandated in Australia since October 2014 and contactless transactions can be made without PIN up to AU\$100 (\$74 / €67). The RFi Group’s recent NFC Payments Evaluation Study⁸ found Australia, Singapore and Taiwan led the world in adoption – with 53%, 45% and 41% of citizens respectively having made a contactless payment.

⁶ <http://www.theukcardsassociation.org.uk/news/contactlesslimitrise2015news.asp>

⁷ <https://www.finextra.com/news/fullstory.aspx?newsitemid=28326>

⁸ NFC World, May 2015

According to a recent MasterCard survey⁹, 66% of Australians say contactless payment is now their preferred payment method. And, according to Visa Australia's figures, over 95 million Visa payWave transactions are now made each month with 65% of face to face Visa transactions being contactless. Indeed, the 16% decline in cash usage in Australia is being credited to the contactless payment phenomenon¹⁰.

Several Australian banks have launched mobile payment offers based on HCE technology, and Australia will see the first Android Pay launch soon.

3.4. China

In 2015 China continued its steep EMV issuance path to achieve record shipments near the 850 million mark¹¹; 90% of all newly issued cards are contactless. According to the SIMalliance, in 2014 China emerged for the first time as a key NFC SIM market, with reported shipment volumes reaching 25 million units. The ramp up in NFC phone shipments resulted in Chinese consumers conducting \$8 billion worth of contactless-mobile payments in 2014.

4. So what now for the US?

EMV migration in the US has ramped up quickly with SPA shipments hitting 577 million units in 2015. When it comes to contactless payment, however, the US lags behind the rest of the world, with just 9% of citizens having made a contactless payment.

This is a surprisingly low figure, considering the millions of contactless-enabled payment cards that were issued by US banks between 2009 and 2013. However, the disinclination of the acceptance base resulted in contactless-enabled POS terminals representing just 2% of the country's 12 million terminals. As a result, customer adoption failed to take off, leading banks to decide to stop issuing contactless cards mid-2013 and almost immediately start focusing on EMV.

But fast forward to 2016, and things are changing rapidly.

The launch of several mobile "Pay" wallets (Apple Pay, Samsung Pay and more recently Android Pay) in the US first – and prior to expansion in other countries around the globe – is helping to rapidly drive consumer uptake of contactless payment.

All this has been made possible by a rapid expansion of the acceptance base, with US merchants welcoming the opportunity to undertake mobile contactless transactions and upgrading their equipment to do so. When Apple first launched Apple Pay in September 2014, it announced that 200,000 locations were ready to accept it. By February 2016, however, the firm [announced](#)¹² that this number had reached 2 million!

⁹ MasterCard survey conducted by Galaxy Research, December 2015

¹⁰ APSCA Study Page 26

¹¹ ABI research

¹² <http://www.bloomberg.com/news/articles/2016-02-04/apple-pay-locations-reach-2-million-with-chick-fil-a-to-come>

For US banks looking at payment trends and movements in their domestic market, and further afield to gain inspiration from what's happening abroad, this should be a clear signal to start seriously considering adding contactless as a systematic feature to their new EMV cards. Especially as US consumers are now proving eager adopters of wearable tech – which will open up a whole new vector of contactless payment opportunities.

Today's consumers want fast and convenient payment options. And US issuers are in a great position to leverage EMV infrastructures and make the leap direct to contactless, especially as chip and PIN is yet to become entrenched in the psyche of US consumers.

China has already demonstrated how leapfrogging direct to contactless has proved a game-changing approach that's been whole heartedly embraced by consumers. The US market now has an unprecedented opportunity to do the same and enable US consumers to experience the benefits of contactless payment that millions of cardholders, merchants and banks already enjoy everywhere else in the world.